# A Profile of Texas  21st Century Community Learning Centers 2006-2007

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**Submitted to *Texas Education Agency***
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Executive Summary

The primary purpose of this report is to provide an overview of the characteristics and attributes of 21$^{st}$ CCLC grantees and their centers in Texas that were funded by the Texas Education Agency (TEA) under the auspices of the 21$^{st}$ CCLC program and that operated during the 2006-07 school year. The Texas 21st CCLC administrative data system contains a wealth of program data, including structural features and characteristics that can inform discussions of program quality. In particular, data captured in relation to grantee characteristics and maturity, program activities, operations, staffing, and student attendance all have relevance to the quality of after-school programming. Each of these areas was explored in greater depth.

*Grantee Characteristics*

Grantees play an integral role in the provision of 21$^{st}$ CCLC programming. As the recipients of the grant monies from the TEA, grantees act as fiscal agents and each fiscal agent may oversee up to five centers. Grant recipients are predominately school districts (80%) with intermediate education agencies comprising an additional 9%. Community-based organizations (CBOs) and nationally affiliated non-profit associations (NANPAs) comprise only four percent of all grantees.

*Mature* grantees—those that were in their third year of implementation in the 2006-2007 school year—comprise the largest group of grantees (61%), while *Sustaining* grantees, in their fourth year and receiving reduced funding levels from the state, comprised 23% of grantees. The remaining 16% of grantees were *New* and in their first year of implementation. It is notable that the vast majority of grantees (84%) will be in the sustaining phase of their grant during the 2007-2008 school year. The majority of grantees (68%) had no previous experience as a 21$^{st}$ CCLC grantee at the receipt of their grant while 32% had previous experience.

The median number of centers operated by a grantee was five and the median grant amount per center was $162,213. Intermediate education agencies and school districts commonly operate the maximum number of five centers. Not surprisingly, charter school grantees operate one center, while CBOs and NANPAs typically operate four and three centers respectively.

Grantees often look to other funding sources to supplement their 21$^{st}$ CCLC grants. Of the most commonly cited additional funding sources, almost all grantees (93%) indicated that local school districts supplement their 21$^{st}$ CCLC monies, while 92% indicated that Title I funds

were used. Other federal sources (87%) and other state sources (86%) were also commonly used in conjunction with the 21st CCLC grant.

*Program Activities*

Based on activities data, it appears that the relative emphasis centers give to different activities can be utilized to effectively classify centers into six primary program clusters:

1. Centers mostly providing recreational activities
2. Centers providing mostly enrichment and tutoring
3. Centers providing mostly enrichment and SES
4. Centers providing mostly enrichment activities
5. Centers providing mostly career/job training, leadership, and recreational activities
6. Centers providing mostly enrichment and recreation activities

When these program clusters are considered with other grantee and center level characteristics, a number of interesting findings result. For example, centers that serve elementary students are more apt to emphasize academic enrichment programming while centers that serve secondary students are more apt to emphasize recreational programming. This may suggest that centers serving older youth find it necessary to offer more recreation activities in order to attract and retain students in after-school programming.

In addition, when program cluster is considered both as a function of the relative maturity of the grantee (i.e. *New*, *Mature*, or *Sustaining*) and the total number of participation hours offered at a given site, there is some evidence that over time centers may move increasingly move toward an enrichment model of program delivery irrespective of program cluster, and they may be less dependent on recreational and homework help activities to fill their programming slate.

*Operations*

In terms of center operation during the 2006-07 reporting period, a number of findings are worthy of note. Of interest is the fact that almost all centers offered programming after school and that centers serving middle and high school students were most likely to offer programming before school and on weekends. While a series of differences emerged in terms of operations among centers based on grantee maturity, of particular note was the lower percentage of *Sustaining* centers providing before school programming relative to their *New* and *Mature*

counterparts. This finding was especially interesting in light of the further finding that the percentage of *Sustaining* centers providing before school programming has grown during both the 2005-06 and 2006-07 school years. A similar finding was found to be associated with *Mature* centers between the 2005-06 and 2006-07 school years. It appears that both *Sustaining* and *Mature* grantees increasingly offered before school programming, while centers associated with *New* grantees started at a higher percentage of centers offering programming before school. This may suggest there is a general increase in the percentage of centers offering programming before school across the board.

*Staffing*

Staffing data revealed several interesting findings as well. School day teachers constitute the largest single group of staff employed by 21st CCLCs and the majority of program staff is paid. The number of staff is greater during the school year than during summer, likely attributable to an overall increase in operating hours and higher student attendance during the school year. School day teachers by far represent the largest number of staff working in 21st CCLCs across each term examined, and there are some minor differences across terms in the percentage of total staff made up by school day teachers. This is especially noticeable between summer staffing levels and those associated with the school year, where school day teachers are more apt to represent a higher percentage of total staff during the latter timeframe.

In terms of grantee maturity, of particular interest was the finding that though college students composed approximately 10% of all staff for all terms when all centers are considered collectively, centers associated with *Sustaining* grantees reported that over 22% of all summer staff were college students, in contrast to 11% of all staff for centers associated with *Mature* grantees. Finally, a number of differences were found to be associated with centers falling within the six program cluster types in terms of the percentage of different types of staff used to deliver programming.

*Student Attendance*

Among the more notable findings in this section concerned the higher attendance rates in all core and non-core subject areas by students attending centers affiliated with school-based grantees as compared to non-school-based grantees, with the exception of mentoring where non-school-based grantees were only slightly more apt to provide this type of activity. Another

attendance finding relates to the negative relation between center maturity and the attendance rate in programming during the school year. In terms of the attendance rate in programming related to core academic subject areas, *New* grantees showed the highest attendance rates, followed by *Mature* grantees, and finally those *Sustaining* grantees. This was not the case, however, when the institutional experience of a grantee was considered where grantees with prior experience demonstrated a higher attendance rate than those without experience.

In efforts to compare program cluster membership and attendance patterns, there seems to a preponderance of evidence that centers in the *Mostly Enrichment* cluster had both the highest absolute number of days attended and the highest attendance rate in core academic and non-core activities.

Attendance results also suggest that overall there is a negative relationship between the attendance rate in 21st CCLC programming and the grade level of students, so as centers seek to serve older students, the attendance rate is likely to decline. In terms of center level variance in student attendance, the student grade level variable was found to account for almost 15% of the center-level variance in attendance levels, a modest amount.

In addition, both a greater degree of grantee maturity and a higher percentage of hours dedicated to academic enrichment are also likely to have a positive impact on the student attendance rate when controlling for other variables included in the model, including student grade level. However, collectively, these variables provided relatively little value in explaining the variance across centers in terms of the student attendance rate, accounting for roughly 6% of the center variance in average student attendance.

Finally, grantee maturity as measured by months since grant award also was found to moderate the relationship between student grade level and the attendance rate, suggesting that on average more mature grantees are less likely to witness a decline in the student attendance rate as the grade level of students increases as compared to their less mature counterparts. Here again, however, the percentage of variance in the relationship between student grade level and student attendance accounted for by the grantee maturity variable was quite small (roughly 4%).

*Summary and Conclusions*

The primary purpose of this report is to provide an overview of the programmatic characteristics associated with 21st CCLCs operating in Texas during the summer of 2006 and

the 2006-07 school year. In providing this overview, particular attention was given to exploring grantee characteristics; the role and nature of center activities, operations, staffing; and student attendance. In addition, analyses explored how certain program characteristics differed across key grantee and center subgroups. Given the findings of this endeavor, future directions for further research should be targeted at exploring how programs evolve over time by relying on more cross year comparisons of program operations at the center and grantee levels, an undertaking that will prove increasingly feasible as the TEA data collection system used to support these analyses becomes more mature and refined and as survey data is employed to augment this effort.

A Profile of Texas 21<sup>st</sup> Century Community Learning Centers, 2006—2007

*Introduction*

For the past four years, 21st Century Community Learning Centers (21st CCLC) across the state of Texas 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 provide an overview of the characteristics and attributes of 21st CCLC grantees and their centers in Texas that were funded by the Texas Education Agency (TEA) under the auspices of the 21st CCLC program and that operated during the 2006-07 school year.[1] Using data collected directly from 21st CCLC grantees via a web-based data collection tool maintained by TEA, this report explores how these Texas 21st CCLC grantees structured their programs, details what services and activities were provided by 21st CCLC grantees during this period, explores facets of center operations and staffing, describes the make-up of the student population that attended grant-fund activities at the centers, and assesses the extent to which students participated in 21st CCLC activities. It is important to point out that this report is meant to be a purely descriptive look at the 21st CCLC program in Texas.[2] It is intended that the information presented here will provide a greater understanding of the nature of the 21st CCLC program from a statewide perspective.

*Intersection of Grantee Characteristics and Issues of Program Quality*

In the time that has elapsed since the inception of the 21st CCLC program, both individual 21st CCLC programs and the after-school field in general have matured in many respects, especially in terms of further uncovering what constitutes quality after-school programming and determining what impact after-school programs can realistically have on the academic achievement of students attending these programs. In particular, recent efforts in the field have been predominantly focused on identifying the common features of high-quality after-school programs and on the development of quality assessment tools designed to help programs better understand (1) what constitutes quality programming, (2) how well the programs measure up to these criteria, and (3) what steps can be taken to modify programming so as to enhance the

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[1] It is important to note that most of the grantees active during the course of the 2006-07 school year also operated programming during the summer of 2006. Where appropriate, we have opted to report on summer 2006 operational information as well.

[2] In many of the sections that follow, bar charts will be used to convey much of the descriptive data highlighted in this report, and many of the findings identified will be predicated on a visual inspection of subgroup differences depicted in the charts in question. In this regard, for the most part, inferential statistics have not been employed to test for statistical significance in subgroup differences.

quality of their approaches and offerings (Granger, Durlak, Yohalem, & Reisner, 2007; Little, 2007; Wilson-Ahlstrom & Yohalem, 2007; Vandell et al., 2005; Yohalem & Wilson-Ahlstrom, 2007). While there is a growing consensus on those constructs that warrant the greatest attention in quality assessment and improvement efforts (e.g., strong linkages to the school day, supportive relationships, positive social norms, opportunities for meaningful youth involvement, etc.), there continue to be some lingering questions around how issues of program quality may be differentially influenced by where a given program falls in each of the following subgroups:

- The location of the grantee in the grant life cycle (e.g., first year program as opposed to a program in their last year of 21st CCLC funding);
- The target population served by a program, especially in terms of the grade level served;
- The program model employed by the grantee (e.g., mostly tutoring and homework help as opposed to an emphasis on offering arts enrichment);
- The institutional experience of an organization running a 21st CCLC-funded program (i.e., the organization has had more than one 21st CCLC grant);
- The type of organization managing the 21st CCLC program, especially when comparing school districts with non-LEA grantees.

A significant goal of this report is to explore how the 145 21st CCLC grantees and 587 centers in operation during the 2006-07 school year varied across each of these subgroups while also considering various operational characteristics and attributes. While not addressed directly in this report, part of the objective in this approach is to identify which combination of grantee and center characteristics may prove most useful when exploring academic achievement outcomes of students participating in these after-school programs.

Toward this end, another useful framework that we leverage to explore issues of after-school program quality has been put forward by Vandell et al. (2004) who posited that there are two primary facets that warrant attention when assessing after-school program quality: (1) structural and institutional features and (2) process and content attributes.

Structural and institutional features refer to the context and setting in which after-school services are provided and include features like staffing, the physical environment, hours of operation, center maturity, financial resources, and community partnerships. These features can impact both the quality of the after-school programming offered and the extent to which students are likely to form positive relationships with peers and center staff.

On the other hand, process and content attributes refer to the practices and procedures employed by a center to deliver their after-school activities and services. These attributes include program content, the breadth of services and activities provided, the linkages between the after-school program and school day instruction, the intentionality of program design, and the processes for providing students with the types of support and opportunities that are likely to cultivate positive youth development. Process and content attributes get to the heart of how student attendees experience and are engaged by the activities and services provided by the center.

Both the structural and institutional features and the process and content attributes of a given center impact and are affected by the nature of the students targeted for after-school and related services. To understand how responsive a center is to the needs of its students and what impact a center has on cultivating student behavior and academic achievement outcomes, it is important to understand the characteristics of students targeted versus attending after-school programs. Understanding these characteristics is critical to most accurately assess the effectiveness of center recruitment, staff retention, and activity provision strategies.

Overall, many of the facets of after-school program quality that have been given the greatest attention in recent research include elements of program delivery that can only be assessed in a review of organizational procedures and the nature of the social processes at the point of service delivery (e.g., relationships between the adult activity leader and the youth participating in the activity, the quality of interactions among youth, etc.). However, some of the quality constructs receiving attention in recent efforts, especially those referenced in a recently completed scan of 44 tools oriented at measuring the quality of after-school and youth serving programs completed by the Harvard Family Research Project (HFRP) (Little, 2007), include structural features and program characteristics that can be informed, at least in part, by data contained in Texas' 21st CCLC data system. Specifically, data captured in relation to grantee characteristics and maturity, partnerships, program activities, operations, staffing, and attendance all have some relevance to one or more categories related to the assessment and measurement of the quality of after-school programming. Each of these areas will be given attention in this report.

*Composition of 21st CCLC Grantees in Texas*

Grantees play an integral role in the provision of 21st CCLC programming. As the recipients of the grant monies from the TEA, grantees act as fiscal agents. Each fiscal agent may oversee up to five centers. The following section details characteristics of 21st CCLC grantees and defines grantee categorizations employed throughout the following profile of 21st CCLC grantees and centers in Texas.

According to the 21st CCLC evaluation report conducted by the TEA for the 2004-05 school year, the following guidelines are in place to govern the administration of the grant program:

> *Grants are awarded through a competitive application process administered by the Texas Education Agency (TEA). Grants are awarded for a period of three years, with up to two additional years of continuation funding available. Grantees may fund up to five centers, at a maximum funding level of $175,000 per center. Eligible entities include local education agencies (LEAs), community-based organizations, other public or private entities, and consortia of two or more agencies, entities, or organizations. Awards are given only to applicants that will primarily serve students who attend schools with high concentrations of economically disadvantaged students (i.e., schools with a student population greater than 40% economically disadvantaged).[3]*

Given that framework for eligibility and administration of 21st CCLC grants in Texas, the following sections describe grantees by type, grant cycle and previous experience, additional funding sources, and centers per grantee.

*Grantee Organization Type*

As mentioned previously, many types of organizations can apply for 21st CCLC grants. Because of the charge issued to 21st CCLCs—"to provide academic enrichment activities to economically disadvantaged and other students in at-risk situations"—one can envision a variety of school- and community-based models for program provision (TEA, 2007, p.6). The centers are also expected to provide a range of other services and activities, including drug and violence prevention, arts and recreation, and character education. Underlying all of these efforts is the expectation that 21st CCLCs provide a safe place in the out-of-school time. Because of the

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[3] Texas Education Agency. (2007). *21st Century Community Learning Centers: Evaluation of Projects Funded For the 2004-2005 School Year*. Austin, TX: Author. (Available from: http://www.tea.state.tx.us/opge/progeval/OutOfSchoolLearning/21cclc_02-07_FinalReport.pdf)

variety of activities and services provided by a 21$^{st}$ CCLC, and the provisions governing grantee eligibility, several types of organizations meet the criteria, including YMCAs and Boys and Girls Clubs, in addition to schools.

That said, grant recipients are predominately school districts (80%) with intermediate education agencies comprising an additional nine percent. Table 1 depicts the composition of grantees by organization type. Community-based organizations (CBOs), charter schools, nationally affiliated non-profit associations (NANPAs), and other entities make up between two and four percent of all grantees. CBOs and NANPAs comprise only four percent of all grantees.

Table 1. *Composition of Grantees by Type*

| Grantee Type | Percentage of Total Grantees |
|---|---|
| School Districts | 80% |
| Education Agencies | 9% |
| Charter Schools | 4% |
| Other | 3% |
| CBOs | 2% |
| NANPAs | 2% |

*Note*. Based on 145 grantees reporting.

Grantee type will serve in subsequent investigation of differences in center- and student-level variables to determine whether there is notable variation based on grantee type. It is clear from Table 1 though that the vast majority of grantees are school districts, education agencies, and individual charter schools (93%).

*Grant Cycle and Institutional Experience*

It is important to note that 21$^{st}$ CCLC funds are administered and distributed in cycles. The TEA awarded in 2003 approximately $23 million annually in 21$^{st}$ CCLC funds to 33 grantees for Cycle 1. The 2003-2004 school year (i.e., grant period July 1, 2003 to June 30, 2004) constituted the first year of implementation for grantees and centers in Cycle 1. In 2004, the TEA awarded approximately $61 million annually to an additional 89 grantees for Cycle 2 and Cycle 3, which means that Cycle 2 and Cycle 3 grantees were in their first year of implementation (i.e., grant periods June 1, 2004 to May 31, 2005 and September 1, 2004 to August 31, 2005 respectively) in the 2004-2005 school year. In 2006, 23 grantees comprising Cycle 4 were awarded approximately $14 million annually. The 2006-2007 school year (i.e.,

grant period July 1, 2006 to June 30, 2007) was the first year of implementation for Cycle 4 grantees.

Grants are awarded for three years, with possible continuation funding for an additional two years. As noted above, the program year begins in the summer and operates through fall and spring of the school year. In the 2006-2007 program year, Cycle 1 grantees were in their fourth year of implementation, Cycle 2 and Cycle 3 grantees were in their third year of implementation, and Cycle 4 grants were in their first year of implementation, as previously mentioned.

The year of implementation in which grantees found themselves in 2006-2007 is of particular note because of the funding structure employed in Texas. Grants are awarded for three years and, though funds are available for up to two additional years, grantees receive reduced funding levels based on a formula in the fourth and fifth years of implementation. In the 2006-2007 school year, Cycle 1 grantees were in their fourth year of funding and experienced reduced funding levels relative to the prior three years. For those grantees, sustainability is a more pressing matter as of the 2006-2007 school year. Cycle 2 and Cycle 3 grantees will experience reduced funding in the 2007-2008 school year.

Because of the reduced funding aspect of the 21st CCLC grant program in Texas, grantee cycle is a central consideration in this report. For the purposes of this analysis, and throughout this report, the three points in grantee cycle are defined as *Sustaining* for Cycle 1 grantees, *Mature* for Cycles 2 and 3, and *New* for Cycle 4 grantees. Grantees in Cycles 2 and 3 were collapsed into a single group because they received their grant funds within a few months of each other and during the same school year.

As illustrated in Figure 1, mature grantees comprise the largest group of grantees (61%), while sustaining grantees comprised the smallest group of grantees (23%). It is notable that the vast majority of grantees (84%) will be in the sustaining phase of their grant during the 2007-2008 school year.

**Figure 1: Composition of Grantees by Grantee Cycle**
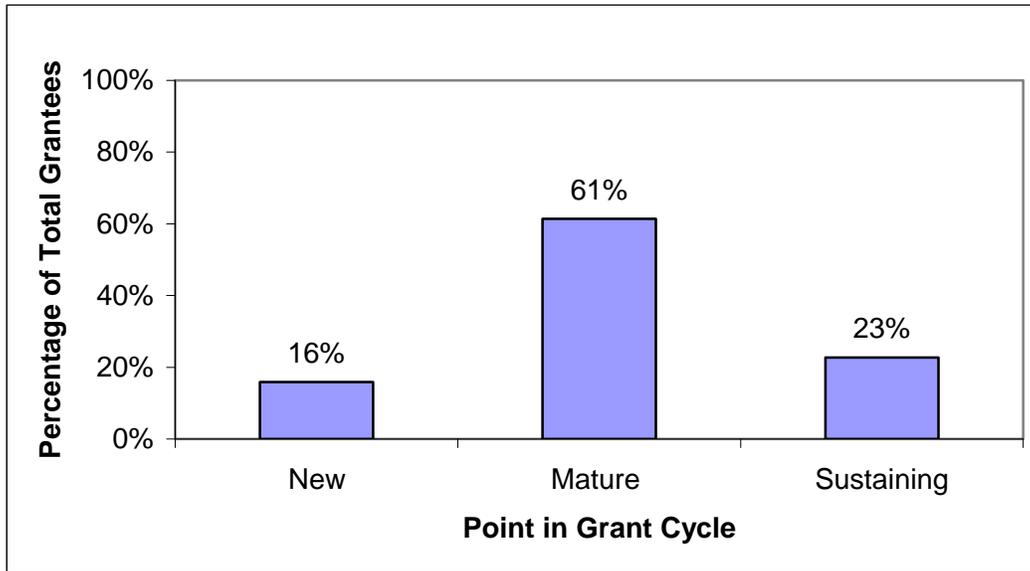


*Note*. Based on 145 grantees reporting.

While this section simply describes the composition of the 145 21st CCLC grantees in Texas, these grantee subgroups based on grant cycle will be employed at the center and student levels throughout this profile. Another important categorization, employed only descriptively here, but used throughout the center- and student-level analyses is grantee experience.

To determine whether a grantee's previous experience with the 21st CCLC grant program is an influential predictor of grantee and center characteristics, an institutional experience variable was created. Grantees were considered by cycle, and grantees from Cycles 2 and 3 were again considered as a single group. This variable was coded simply to reflect grantees that had versus had not received a 21st CCLC grant during a previous grant cycle. For example, a grantee who received grants in Cycles 1 and 4 would have "no experience" for the Cycle 1 grant and would have "previous experience" for the Cycle 4 grant. While grantees in Cycle 1 cannot be experienced by this definition, grantees in the second, third, and fourth cycles can receive the "previous experience" label if they received a 21st CCLC grant in a previous cycle. Based on 145 grantees reporting, the majority of grantees (68%) had no experience at the receipt of their grant while 32% had previous experience.

Not surprisingly, there is overlap between the variables of institutional experience and cycle, though it is not entirely conflated. Of course, none of the 33 sustaining programs had previous experience because they were awarded grants during the first grant cycle. Of the 89

mature grantees, 36 (40%) had institutional experience. Of the 23 new grantees, 11 (48 %) had institutional experience. To the extent that there is "learning by doing", a grantee's institutional experience may result in efficiencies and economies of scale in program provision, and it may have positive effects on student outcomes. Such variation will be explored, employing the grant cycle and institutional experience categories, in subsequent sections of this report.

*21st CCLC Grantee Funding in Texas*

In addition to grantee type, cycle, and institutional experience, amount of funding is an important component of the 21st CCLC grantee's situation and is affected by the grantee's year of implementation. The following section of the report explores funding levels, numbers of centers by grantee, funding per center, and additional sources of funding.

Table 2 provides basic descriptive statistics for both the initial and current funding levels, by cycle and for all grantees. Initial funding refers to the annual grant amount in each of the first three years of a grant cycle. Current funding reflects the annual grant amount in the 2006-07 school year, and thus reflects the drop-down funding levels for *Sustaining* grantees. Notably, the high end of the range captures the $175,000 cap per center as well as the five center maximum per grantee.

Table 2. *Descriptive Statistics: 21st Century Community Learning Centers Grant Amounts*

|  | Median | Mean | Range |
|---|---|---|---|
| Cycle 1: Initial Annual Funding | $794,205 | $705,306 | $175,000—$875,000 |
| Cycle 1: Current (2006-2007 School Year) Funding | $635,364 | $564,245 | $140,000—$700,000 |
| Cycle 2: Initial Annual Funding | $699,950 | $632,085 | $118,000—$875,000 |
| Cycle 2: Current (2006-2007 School Year) Funding | $699,950 | $632,085 | $118,000—$875,000 |
| Cycle 3: Initial Annual Funding | $729,086 | $702,861 | $160,070—$875,000 |
| Cycle 3: Current (2006-2007 School Year) Funding | $729,086 | $702,861 | $160,070—$875,000 |
| Cycle 4: Initial Annual Funding | $747,825 | $610,300 | $150,000—$750,000 |
| Cycle 4: Current (2006-2007 School Year) Funding | $747,825 | $610,300 | $150,000—$750,000 |
| All Grantees: Initial Annual Funding | $750,000 | $670,675 | $118,000—$875,000 |
| All Grantees: Current (2006-2007 School Year) Funding | $699,996 | $638,434 | $118,000—$875,000 |

*Note*. Based on data from 145 grantees reporting.

The initial and current annual funding levels are the same for *Mature* (Cycle 2 and Cycle 3) and *New* (Cycle 4) programs because they were within the first three years of their grants in the 2006-2007 school year. *Sustaining* programs had higher initial annual grant amounts, a median of nearly $800,000, than their current median annual funding of approximately $635,000. Also of interest, *Sustaining* programs have the highest initial funding levels, followed by *New* programs with a median initial grant amount of nearly $750,000 and *Mature* programs with a median initial grant amount of $700,000.

When discussing 21st CCLC program funding, it is important to note that large differences exist in the number of centers operated by each grantee. Therefore, funding at the center level may more accurately reflect program funding. To investigate this issue, grantee funding was divided by the number of centers they operated (see Table 3).

Table 3. *Descriptive Statistics: Grant Amount Per Center Operated by Grantee*

|  | Median | Mean | Range |
|---|---|---|---|
| Cycle 1: Current (2006-07 School Year) Funding/ Number of Centers | $139,999 | $132,902 | $93,644—$140,000 |
| Cycle 2: Current (2006-07 School Year) Funding/ Number of Centers | $174,991 | $167,918 | $109,079—$175,000 |
| Cycle 3: Current (2006-07 School Year) Funding/ Number of Centers | $174,959 | $169,233 | $82,251—$175,000 |
| Cycle 4: Current (2006-07 School Year) Funding/ Number of Centers | $150,000 | $149,581 | $142,149—$150,000 |
| Current (2006-07 School Year) Funding/ Number of Centers | $162,213 | $156,543 | $82,251—$175,000 |

*Note*. Based on data from 140 grantees operating at least one center.

Of 145 grantees reporting funding data, five had no centers associated with them in the center-level profile data, so they are excluded from these analyses. The median number of centers operated by a grantee is five, ranging from one to five, and the median grant amount per center is $162,213. As Table 4 displays, intermediate education agencies and school districts commonly operate the maximum number of five centers. Not surprisingly, charter school grantees operate one center, while CBOs and NANPAs typically operate four and three centers respectively.

Table 4. *Median Number of Centers by Grantee Type*

| Grantee Type | Median Number of Center Per Grantee |
|---|---|
| Education Agencies | 5 |
| School Districts | 5 |
| CBOs | 4 |
| Other | 4 |
| NANPAs | 3 |
| Charter Schools | 1 |

*Note*. Based on data from 140 grantees operating at least one center.

Accounting for the number of centers operated by a grantee, Figure 2 reflects similarities in center funding by organization type. Other organization types have the highest median funding, at nearly $175,000 per center. NANPAs receive just under $145,000 per center, which is the lowest funding amount.

**Figure 2: Median Funding Per Center by Grantee Type**
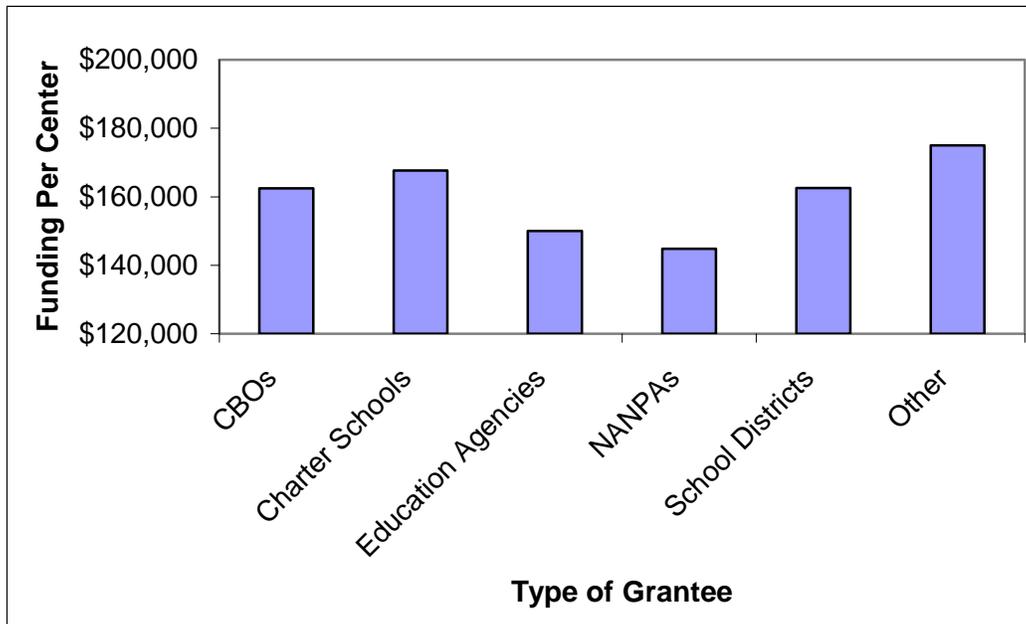


*Note*. Based on data from 140 grantees operating at least one center.

*Additional Funding Sources for 21st CCLC Grantees in Texas*

At the grantee level, additional funding sources were also explored to understand what resources are brought to bear in the provisioning of 21st CCLC programming. Only one of 145 grantees reported being purely funded by the 21st CCLC grant from the TEA. The remaining 144 grantees are all hybrid-funded. For those grantees utilizing additional sources of funding, the median number of additional funding sources is four.

Table 5 provides a snapshot of the most commonly cited additional funding sources. Almost all grantees (93%) indicated that local school districts supplement their 21st CCLC grant, while 92% indicated that Title I funds were used. Other federal sources (87%) and other state sources (86%) were also commonly used in conjunction with their 21st CCLC grant.

Notably, only one percent of grantees indicated that supplemental education services funding, school dropout prevention program funds, and the safe schools/healthy students grant provided program funding (not included in table). Because these funding sources are commonly mentioned in the discussion of out-of-school time program funding, it is interesting that they do not appear to play a major role for Texas grantees.

Table 5. *Grantees' Other Sources of Program Funding*

| Funding Source | Percentage of Grantees Using Additional Funding Source |
|---|---|
| Local School District(s) | 93% |
| Title I | 92% |
| Other Federal Sources | 87% |
| Other State Sources | 86% |
| Safe and Drug-Free Schools | 23% |
| Other | 22% |
| Migrant Education Program | 17% |
| Even Start | 12% |
| Foundation | 10% |
| Early Reading First | 6% |
| Gear Up | 5% |

*Note.* Based on 144 grantees reporting an additional source of funding. Only those funding sources selected by five percent or greater of all grantees are included in the table.

While 21st CCLC grantees in Texas clearly utilize other funding sources, these data do not capture the magnitude or relative importance of those additional funds. It is difficult to ascertain the composition of overall program funding though it is evident that grantees rarely rely solely on 21st CCLC funds for their programs. As sustainability issues loom large for *Mature* grantees and already exist for *Sustaining* grantees, reliance on other funding sources will likely become even more important.

As noted in the preceding sections, 21st CCLC grants can be made to several types of organizations, and subsequent analyses explore whether important differences in operational characteristics exist based on grantee organization type. In addition, grant cycle and institutional experience are taken into account in center- and student-level analyses to determine whether previous receipt of a 21st CCLC grant explains variation in center and student attributes and

characteristics. It is to such center- and student-level analyses that the following sections now turn.

*Activities*

The mission of the 21st CCLC program is to provide academic and other enrichment programs that reinforce and complement the regular academic programs offered at participants' schools. Using information obtained from the Texas 21st CCLC data system concerning operations undertaken at centers during the 2006-2007 school year, an effort was made to both assess the breadth of programming provided by the centers and the relative emphasis centers gave to providing certain type of activities.

When reporting information about the activities a center offered during the 2006-2007 school year, respondents classified 21st CCLC programming using the following list:

- Enrich: Academic enrichment learning programs

- Tutor: Tutoring

- Homework: Homework help

- Mentor: Mentoring

- Rec: Recreational activities

- CareerYouth: Career/job training for youth

- Drug: Drug and violence prevention, counseling, and character education programs

- Lib: Expanded library service hours

- Suppl: Supplemental educational services

- CommServ: Community service or service-learning programs

- Lead: Activities that promote youth leadership

- YouthOth: Other activity targeting youth

In terms of activities provided during the school year, almost all centers offered activities classified as academic enrichment (97%) and recreation (92%) and a majority of centers also offering tutoring (51%) and homework help (53%). During the summer, both enrichment and

recreational activities were still predominant, with 93% and 78% of centers providing these types of activities respectively. Not surprisingly, the percent of centers offering tutoring and homework help activities during the summer dropped substantially from levels witnessed during the school year. Of some interest in Figure 3 is the finding that the proportion of centers offering a given category of activity during the summer was lower across all categories in comparison to the proportion of centers offering that activity during the school year. This may suggest that Texas centers offer fewer categories of activities on the whole during the summer as compared to their school year programming.

**Figure 3: Percentages of Centers Providing Programming by Category, School Year and Summer**
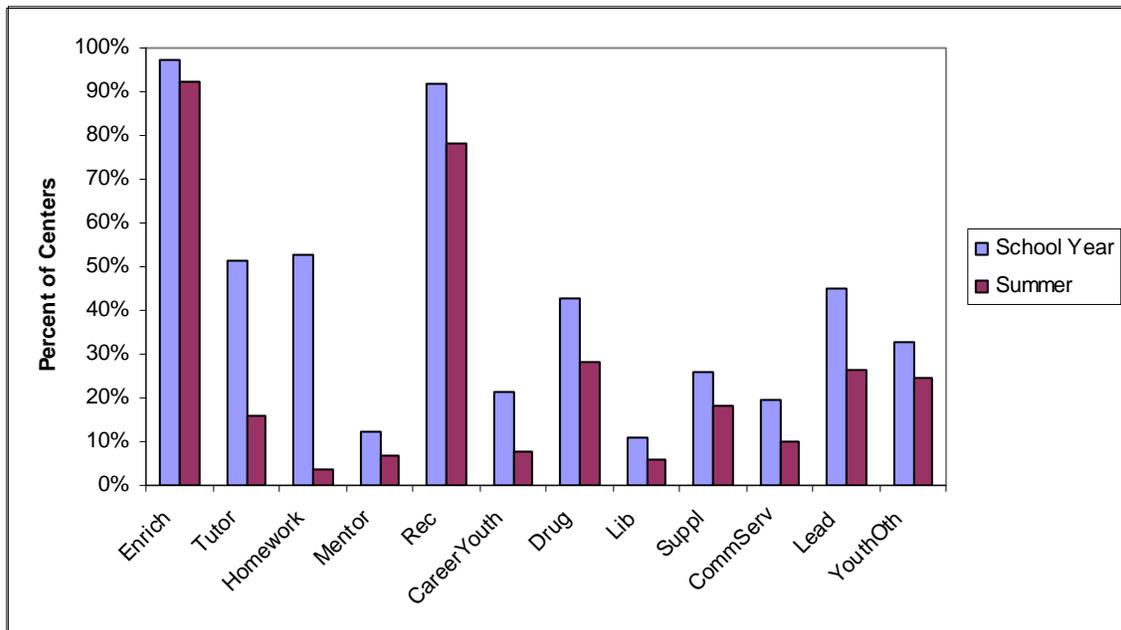


*Note.* Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006.

In addition, centers identified whether any of the following content areas were intentionally embedded in one or more of the activities they offered:

- Read: Reading/literacy education activities
- Math: Mathematics education activities
- Science: Science education activities
- Arts: Arts and music education activities

- Bus: Entrepreneurial education programs

- Tech: Telecommunications and technology education programs

- Culture: Cultural activities/social studies

- Health: Health/nutrition-related activities

Figure 4 represents the extent to which centers implemented activities to intentionally cultivate skills in one or more academic content area. Over 80% of the centers provided activities focusing on reading, mathematics, science, art and music, and health during the school year. Similarly, most of these same subject areas were also predominant during the summer.

**Figure 4:** **Percentages of Centers Providing Programming by Subject Area, School Year and Summer**
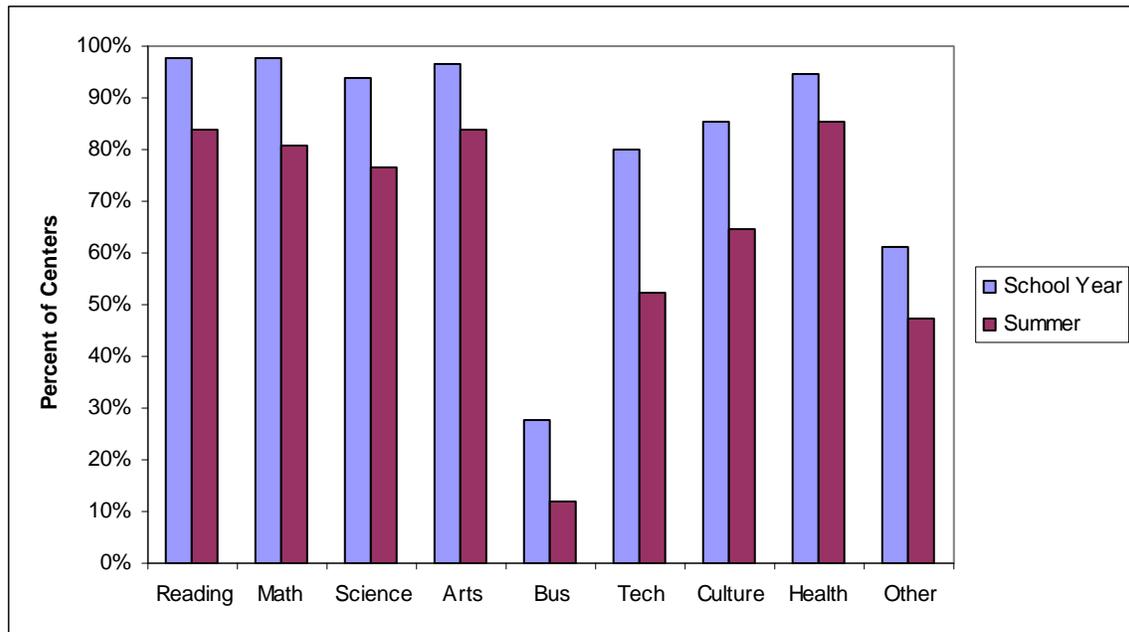


*Note.* Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006.

While the information outlined in Figure 3 and 4 provides some insight into how centers structured their programs, these figures do not describe the relative emphasis programs gave to one form of activity over another. For example, from the information presented in the previous figures, there is no way to tell if a center spent a greater number of total activity hours on tutoring than on enrichment or the reverse.

In order to explore these differences among programs, an attempt was made to identify a series of "program clusters" based on the relative emphasis given to providing certain categories of activities (e.g., academic enrichment, tutoring, service learning, etc.). To do this clustering, 21st CCLC activity data were used to calculate the percentage of total hours of center programming allocated to each of the 12 activity categories (as outlined in Figure 3). This was done by multiplying the number of weeks an activity was provided by the number of days per week it was provided by the number of sessions provided per day by the number of hours provided per session. These products were then summed by activity category for a center. These center-level summations by category were then divided by the total number of hours of activity provided by a center to determine the percentage of hours a given category of activity was offered. From these calculations we can answer the question, what percentage of a center's total activity hours were dedicated to academic enrichment, tutoring, homework help, etc? Separate calculations were performed for school year and summer activities.

In Table 6, the mean numbers of hours dedicated to each category of activity and the mean percentages each category represented in terms of total hours offered are outlined for the 2006-07 school year and summer 2006 separately. During both timeframes, the largest percentage of activity hours were dedicated to academic enrichment activities (41% for the school year and 47% for summer), followed by activities identified as recreation (23% and 27% respectively). It is important to note that the figures represented in Table 6 are at best estimates and will not reflect variation in a center's schedule from one week to the next that is likely to have taken place. In any event, while there is undoubtedly some error represented in the numbers and percentages in Table 6, these data provide a useful representation of the relative emphasis centers placed upon the provision of different categories of activities.

Table 6. *Mean Number of Hours and Percentages of Total Center Activity Hours Dedicated to a Given Activity Type by Timeframe*

| Activity Category | School Year 2006-07 (N=586 centers) | | Summer 2006 (N=453 centers) | |
|---|---|---|---|---|
| | Mean Total Hours the Activity Category was Provided* | Mean % of Total Hours Dedicated to the Activity* | Mean Total Hours the Activity Category was Provided* | Mean % of Total Hours Dedicated to the Activity* |
| Academic Enrichment | 665 | 41% | 175 | 47% |
| Tutoring | 151 | 10% | 11 | 4% |
| Homework Help | 119 | 7% | 2 | 1% |
| Mentoring | 12 | 1% | 3 | 1% |
| Recreation | 386 | 23% | 96 | 27% |
| Career/Job Training | 25 | 2% | 4 | 1% |
| Drug/Violence Prevention | 54 | 3% | 12 | 5% |
| Extended Library Hours | 14 | 1% | 3 | 1% |
| Supplemental Educational Services | 54 | 4% | 17 | 4% |
| Service Learning | 15 | 1% | 3 | 1% |
| Youth Leadership | 81 | 4% | 14 | 4% |
| Other | 67 | 4% | 14 | 4% |

*Mean total hour and mean percentage calculations *included* centers where the number of hours reported for the category was zero.

While potentially informative, the data in Table 6 still fail to capture the diversity of programmatic approaches employed by Texas 21st CCLCs. In order to further examine this programmatic diversity, K-Means cluster analysis was employed using the center-level percentages for each category of activity. Cluster analysis is typically employed to combine cases into groups using a series of variables as criteria to determine the degree of similarity between individual cases. Cluster analysis is particularly well-suited when there is a desire to classify a large number of cases into a smaller domain of discrete groupings. In this case, employing cluster analysis resulted in the identification of six primary program clusters defined by the relative emphasis centers found in that cluster gave to *offering* one or more programming areas during the course of the 2006-07 school year. A separate six cluster solution was also run

for activities offered during the summer of 2006.  As shown in Figure 5, the 586 centers operating during the 2006-07 school year (SY) and the 453 centers operating during the summer of 2006 (Sum) were classified exclusively into one of the following six primary clusters:

1. Centers mostly providing recreational activities (SY = 101, Sum = 100);
2. Centers providing mostly enrichment and tutoring (SY = 99, Sum =28);
3. Centers providing mostly enrichment and Supplemental Education Services SES[4] (SY = 43, Sum = 39);
4. Centers providing mostly enrichment activities (SY = 168, Sum = 166);
5. Centers providing mostly career/job training, leadership, and recreational activities (SY = 14, Sum = 1);
6. Centers providing mostly enrichment and recreation activities (SY = 161, Sum = 119).

**Figure 5: Primary Program Clusters Based on the Hours of Activity Offered in a Given Category, School Year and Summer**
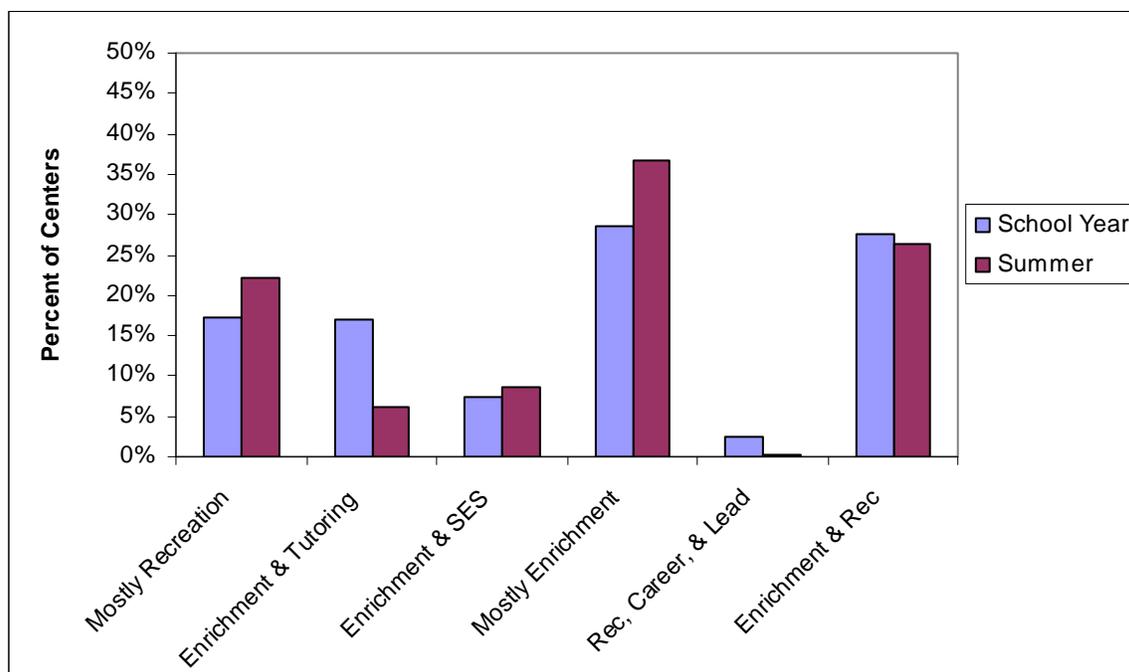


*Note.*  Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006.

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[4] It is unclear exactly how grantees are interpreting the term Supplemental Education Services when reporting activities information. While this term has a very specific meaning under the auspices of NCLB, no guidance is provided within the TEA data collection system regarding the meaning of this term, which may have lead to inconsistent usage across grantees when identifying a given activity as SES.

In Table 7, the average percentages of total activity hours dedicated to a given category of activity are outlined for each of the six primary center clusters highlighted in Figure 5. The purpose of Table 7 is to show how the average percentage of activity hours dedicated to a given type of activity varies by cluster and timeframe. For example, among the 101 centers comprising the school year, *Mostly Recreation* cluster, these centers on average spent 52% of their total activity hours providing recreational activities. By comparison, the 99 centers comprising the school year, *Enrichment and Tutoring* cluster on average only dedicated 17% of their total activity hours to offering recreational activities. In this regard, Table 7 helps outline how different each of the six clusters are in terms of the average percentage of activity hours dedicated to a given category of activity.

It is also worthwhile to note that across clusters there was significant variation in the degree to which the average center focused on the activity type(s) that defined each cluster. For example, among centers in the *Mostly Enrichment* cluster for the summer, the average percentage of total activity hours dedicated to enrichment was 76%; by contrast, for the *Mostly Recreation* cluster for the school year, the average percentage of total activity hours dedicated to recreation activities was 52%. In this regard, centers making up the summer, *Mostly Enrichment* cluster can be described as being more homogeneous relative to the category of activity that defined the cluster (in this case enrichment activities) as compared to the school year, *Mostly Recreation* cluster where a larger percentage of activity hours were dedicated to non-recreation-based activities. Percentages relied upon to define a given cluster appear in blue, bolded font in Table 7.

Table 7. *Mean Percentages of Activity Hours Dedicated to Given Activity Type by Cluster, School Year and Summer*

| Activity Category | Mostly Recreation | | Enrichment & Tutoring | | Enrichment & SES | | Mostly Enrichment | | Recreation, Career, & Leadership | | Enrichment & Recreation | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SY | Sum | SY | Sum | SY | Sum | SY | Sum | SY | Sum[*] | SY | Sum |
| Enrichment | 26% | 22% | **22%** | **31%** | **33%** | **30%** | **67%** | **76%** | 16% | 0% | **39%** | **38%** |
| Tutoring | 04% | 3% | **34%** | **48%** | 5% | 1% | 2% | 1% | 4% | 0% | 7% | 2% |
| Homework Help | 5% | 0% | 8% | 0% | 7% | 2% | 5% | 0% | 2% | 0% | 12% | 1% |
| Mentoring | 0% | 0% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 2% |
| Recreation | **52%** | **64%** | 17% | 15% | 11% | 8% | 13% | 12% | **26%** | 0% | **22%** | **26%** |
| Career/Job Training | 1% | 1% | 2% | 1% | 0% | 3% | 1% | 1% | **22%** | 0% | 1% | 2% |
| Drug/Violence Prevention | 2% | 2% | 3% | 2% | 5% | 18% | 3% | 2% | 5% | 0% | 4% | 6% |
| Extended Library Hours | 1% | 0% | 1% | 0% | 2% | 2% | 1% | 1% | 0% | 0% | 1% | 1% |
| Supplemental Educational Services | 1% | 2% | 2% | 0% | **30%** | **32%** | 2% | 2% | 0% | 0% | 1% | 2% |
| Service Learning | 1% | 0% | 1% | 0% | 1% | 1% | 1% | 1% | 1% | **100** | 1% | 1% |
| Youth Leadership | 3% | 2% | 4% | 1% | 4% | 2% | 2% | 2% | **22%** | 0% | 6% | 9% |
| Other | 2% | 2% | 4% | 1% | 2% | 2% | 3% | 3% | 2% | 0% | 6% | 11% |

*The summer cluster solution failed to yield a cluster that could be called recreation, career, and leadership. What appeared instead was a single case cluster where 100 percent of the offered activity hours were dedicated to service learning. We reported this result here simply out of convenience. *Note.* Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006.

At this juncture, it is believed that program cluster membership among centers can serve as a useful framework for exploring other facets of center operation, including staffing, attendance, grade levels served, etc. For example, this framework allows questions to be answered like how does staffing or program attendance look different in a center that focuses mostly on recreation activities as compared to one that focuses mostly on academic enrichment?

However, while we feel the six clusters identified in Figure 5 and Table 7 provide us with an enhanced capacity to explore differences among 21st CCLCs, it is also important to note that other approaches could have been employed in performing the cluster analyses highlighted

above. For example, in calculating the percentage of total hours of programming at a center estimated to be accounted for by each of the 12 categories of activities, we could have included information regarding the average number of students participating in an activity per day. In this regard, we would have calculated the total number of hours an activity was provided by multiplying the number of weeks an activity was offered by the number of days per week it was provided by the number of hours provided per session by *the average number of students that attended that activity per session per day*. The figures resulting from such an approach could best be described as representing the total number of participation hours dedicated to a given category of activity. If these figures were utilized to construct percentages akin to those represented in Table 7, the resulting figures would represent the percentage of hours dedicated to providing a given category of activity weighted by the number of students participating in that activity per day. By comparison, the metrics used to undertake the aforementioned cluster analysis were predicated only on the total number of hours a given activity was offered by the center in question without accounting for the number of students participating in the activity per day.

In order to assess if within a given cluster there was a meaningful difference in the mean percentage of hours in which an activity was offered as compared to the mean percentage of participation hours associated with a given activity type, the mean participation hours among centers within a given cluster were calculated and compared with the mean hours a given category was offered among centers represented in that cluster. The results of this comparison are shown in Table 8 for activities provided during the school year. As shown in Table 8, there is very little difference in the percentage of hours an activity was offered (Off) and the average participation hours for that activity category (Part), a result that helps to further establish the stability of the six clusters we have defined so far.

Another finding worthy of note outlined in Table 8 is that for five of the six clusters the percentage of participation hours associated with homework help activities is larger than the average percentage with which centers within that cluster offered that activity. While not accounting for huge amounts of time in terms of hours offered or participated in, these results would seem to suggest that homework help on the whole is provided to a slightly larger number of participants at a given center when it is offered. Our hypothesis in this regard is that many centers have a mandatory homework help time for all students attending the center on days when this category of activity is offered.

While not shown, similar relationships to those highlighted in Table 8 were found to be associated with activity hours offered by category during the summer and summer participation hours by category. While not employed to support the cluster analyses highlighted above, the concept of the percentage of participation hours dedicated to a given category of activity is an interesting one that will be relied upon in upcoming analyses to explore further the differences among programs.

Table 8. *Mean Percentages of School Year Activity Hours Offered and Participate In by a Given Activity Type and by Cluster*

| Activity Category | Mostly Recreation | | Enrichment & Tutoring | | Enrichment & SES | | Mostly Enrichment | | Recreation, Career, & Leadership | | Enrichment & Recreation | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off | Part | Off | Part | Off | Part | Off | Part | Off | Part | Off | Part |
| Enrichment | 26% | 25% | **22%** | **21%** | **33%** | **37%** | **67%** | **63%** | 16% | 16% | **39%** | **36%** |
| Tutoring | 4% | 5% | **34%** | **33%** | 5% | 5% | 2% | 3% | 4% | 4% | 7% | 9% |
| Homework Help | 5% | 9% | 8% | 10% | 7% | 8% | 5% | 9% | 2% | 2% | 12% | 14% |
| Mentoring | 0% | 0% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% |
| Recreation | **52%** | **50%** | 17% | 19% | 11% | 10% | 13% | 13% | **26%** | **27%** | **22%** | **22%** |
| Career/Job Training | 1% | 1% | 2% | 2% | 0% | 0% | 1% | 1% | **22%** | **21%** | 1% | 1% |
| Drug/Violence Prevention | 2% | 2% | 3% | 3% | 5% | 4% | 3% | 3% | 5% | 5% | 4% | 4% |
| Extended Library Hours | 1% | 1% | 1% | 1% | 2% | 1% | 1% | 0% | 0% | 0% | 1% | 1% |
| Supplemental Educational Services | 1% | 1% | 2% | 2% | **30%** | **27%** | 2% | 2% | 0% | 0% | 1% | 1% |
| Service Learning | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| Youth Leadership | 3% | 3% | 4% | 4% | 4% | 4% | 2% | 2% | **22%** | **21%** | 6% | 5% |
| Other | 2% | 1% | 4% | 3% | 2% | 2% | 3% | 3% | 2% | 2% | 6% | 5% |

*Note.* Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006.

*Examining Program Clusters in Relation to Other Center Characteristics and Attributes*

Building from the cluster analyses performed in the previous section, it also seemed worthwhile to explore how cluster membership may vary depending upon certain characteristics associated with Texas grantees and centers in operation during the 2006-07 school year. Given that the bulk of 21st CCLC operations took place during the school year and the fact that grantees represented in the *New* group based on program maturity did not have the opportunity to provide programming during the summer of 2006, we chose to focus the next set of analyses on operations associated with the 2006-07 school year only. In particular, we were interested in exploring how cluster membership would vary across subgroups formed from each of the following areas:

1. The grade level served by the center
2. The type of organization serving as the grantee
3. The maturity of the grantee in question (i.e., *New*, *Mature*, or *Sustaining*)
4. The institutional experience of the grantee

Again, it is important to note that these four areas were not chosen randomly and represent an emerging domain of ideas about possible sources of variation in the quality of after-school programming by 21st CCLCs. The idea here is that quality assessment strategies and program improvement efforts may need to be varied to some extent to account for differential characteristics of programs in each of these areas.

*Program Cluster by Grade Level Served*

A topic garnering increasing attention on the federal stage relates to the role grade level plays both 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 via performance indicator systems. Using student-level data about the grade level of students attending a center, centers were classified as: 1) *Elementary Only*, defined as those centers serving students up to Grade 6; 2) *Elementary/Middle*, defined as those centers serving students up to Grade 8; 3) *Middle Only*, defined as centers serving students in Grades 5 to 8; 4) *Middle/High*, defined as centers serving students in Grades 5 to 12; and 5) *High Only* centers serving students in Grades 9 to 12. A sixth *Other* category includes centers that do not fit one of the other five categories. The *High Only* category is especially important to analyze since after-school programming for older children often looks considerably different from an elementary or

middle school program (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 extra-curricular activities. Figure 6 illustrates the grade level breakdown of centers operating during the 2006-07 reporting period, and the percentages of students that attended each type of center.

**Figure 6: Percentages of Students in Centers Serving Various Grade Levels**
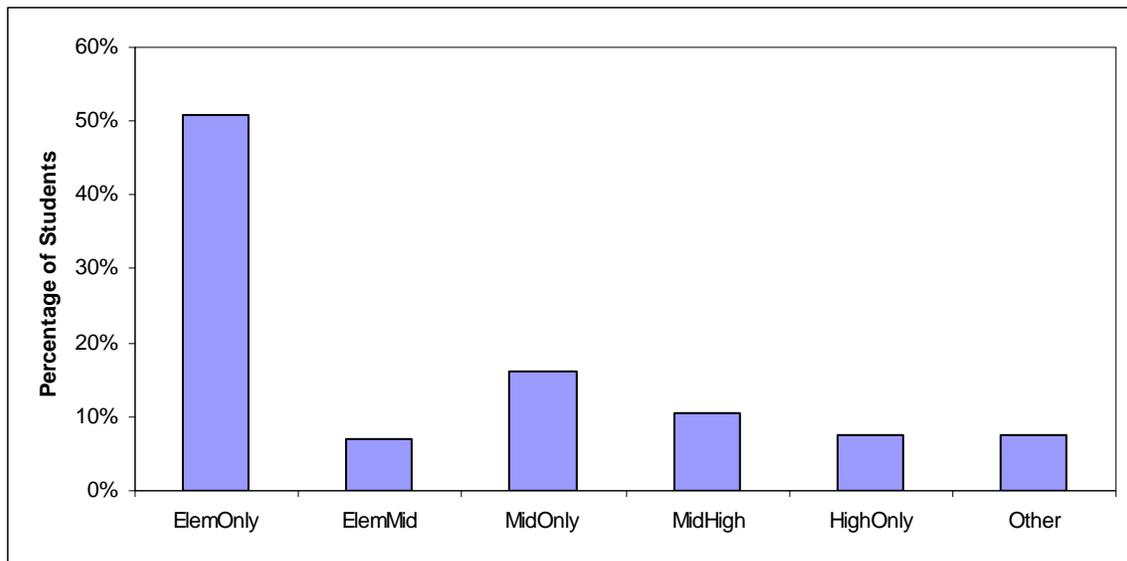


*Note.* Based on 133,611 students in 587 centers.

*Elementary Only* centers provided programming for the largest percentage of students, accounting for 51% of student attending centers. *Middle Only* centers served 16% of the students, followed by *Middle/High* centers, providing programming to 11% of students. *High Only* and *Other* centers served 8% of students, and finally, *Elementary/Middle* centers were attended by 7% of students.

In terms of grade level (using the grade level categories outlined in the previous chart) and program cluster, as shown in Figure 7, a plurality of centers serving *Elementary Only* and *Elementary/Middle* students fall within the *Mostly Enrichment* cluster; however, among those centers serving *Middle Only* youth or *Middle/High* youth, there was a greater likelihood that these centers fell either in the *Mostly Recreation* or the *Mostly Enrichment* and *Recreation* clusters. In addition, a plurality of centers that serve *High Only* students exclusively fell within the *Enrichment and Recreation* cluster. Also not surprisingly, centers exclusively serving *High*

*Only* students also were more likely to be represented in the *Recreation, Career, and Leadership* cluster than centers serving younger students. Taken together, these results may suggest that the provision of recreational programming is somewhat more characteristic of centers serving secondary students and may reflect strategies centers adopt to attract and retain older students in after-school programming.

**Figure 7:** **Primary Program Clusters Based on the Hours of Activity Offered in a Given Category During the School Year by Grade Level Served**
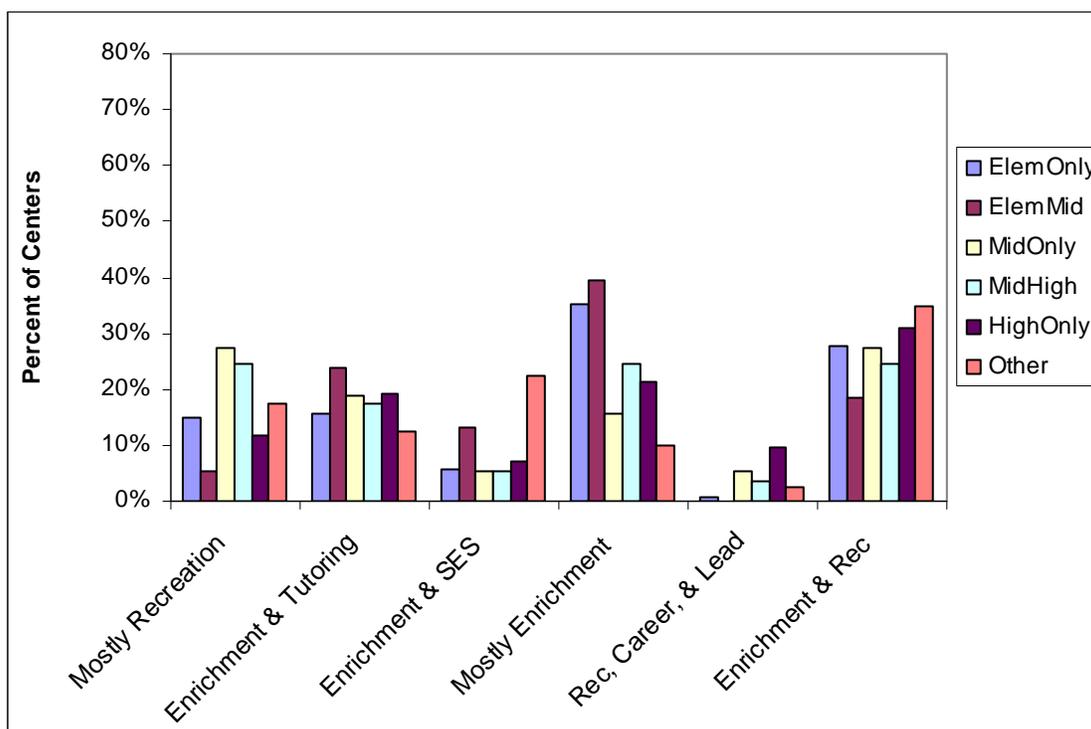


*Note.* Based on 586 centers reporting for the 2006-2007 school year.

*Program Cluster by Grantee Organization Type*

Cluster membership was also examined based on the type of organization that served as the fiscal agent for the 21st CCLC grant during the 2006-07 school year. While it is somewhat difficult to draw comparisons across cluster membership by grantee type given the small number of non-school district grantees, generally, centers associated with school districts were most likely to fall within the *Mostly Enrichment* (32%) and the *Enrichment and Recreation* (26%) clusters based on the emphasis given to offering various types of activities. By comparison, centers associated with grantees identified as community-based organizations and nationally

affiliated nonprofit agencies were more apt to fall within the *Enrichment and SES* cluster (42% and 50%, respectively), although a fairly large minority of CBOs were also represented in the *Mostly Enrichment* cluster (33% of CBOs). Finally, centers associated with intermediate education agencies (IEAs) serving as grantees were more apt to fall within the *Mostly Recreation* and *Enrichment and Recreation* clusters (31% and 35% of IEAs, respectively).

*Program Cluster by Grantee Maturity*

One element of how 21$^{st}$ CCLC programs function that is increasingly receiving attention in terms of exploring issues related to program quality relates to how programs evolve during the grant period both to enhance the likelihood they are able to sustain their program after the grant period is over while also adjusting to a step down in grant funding as they mature. For example, grantees may find themselves needing to emphasize some elements of their program while reducing or eliminating others in response to changes in the students served or to changes in funding levels.

As mentioned previously, efforts were also undertaken to classify grantees into three groups based on how long they had been a grantee as of the 2006-07 reporting period: (1) *New*; (2) *Mature*; and (3) *Sustaining*. In Figure 8, cluster membership of centers is examined based on the relative maturity of the grantee. Of some interest in Figure 8 is the finding that centers associated with *Sustaining* grantees are slightly more apt to fall within the *Enrichment and Tutoring* cluster and slightly less likely to fall within the *Mostly Enrichment* cluster than centers associated with *New* or *Mature* grantees.

**Figure 8: Primary Program Clusters Based on the Hours of Activity Offered in a Given Category During the School Year by Grantee Maturity**
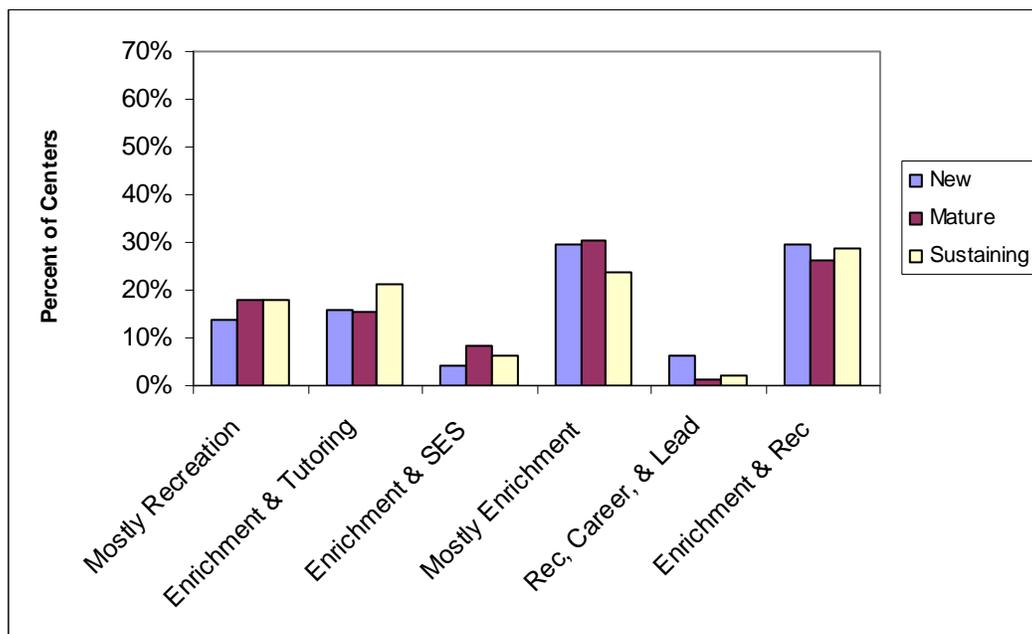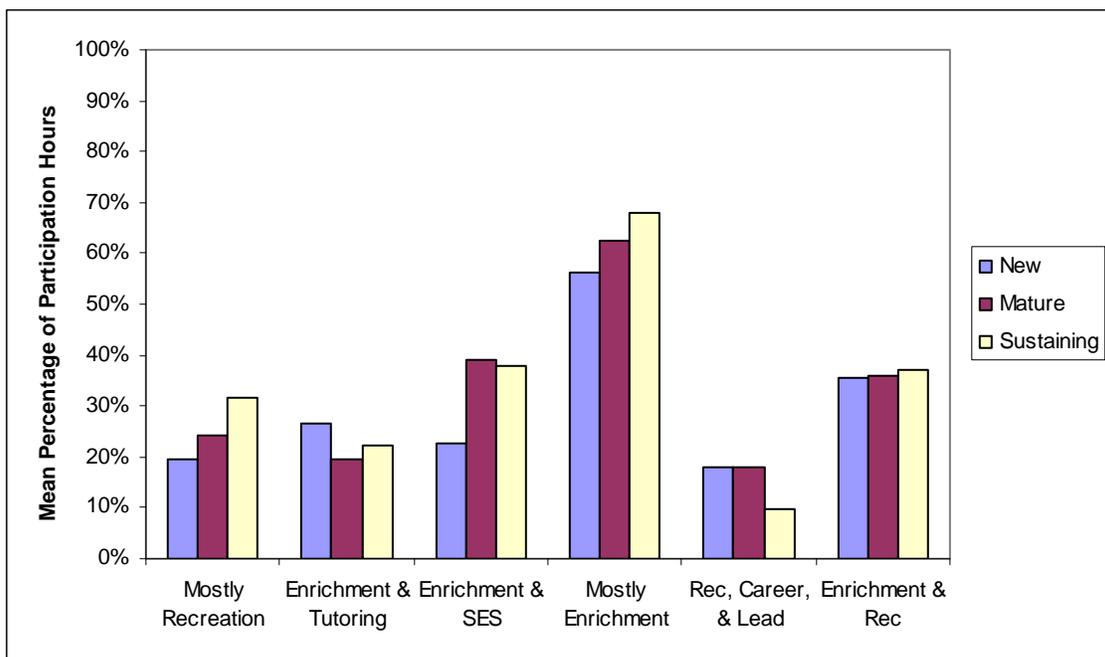


*Note.* Based on 586 centers reporting for the 2006-2007 school year

As outlined previously in greater detail (see Table 8), the relative emphasis a center gives to providing a given category of activity can also be explored by considering the percentage of total participation hours dedicated to a given category of activity. This was done by weighting the total hours an activity was offered by the average number of students attending the activity per day. Given the prevalence of enrichment, recreation, and tutoring activities in terms of defining cluster membership, it was decided to explore how the average percentage of participation hours dedicated to each of these activities looked based on the maturity of the grantee and their cluster membership. In addition, given some evidence that homework help activities are likely to represent a greater proportion of participation hours than hours offered at a center as shown in Table 7 and Table 8, we also opted to explore how participation hours dedicated to homework help may vary by cluster membership and grantee maturity.

In terms of participation hours dedicated to enrichment (see Figure 9), *Mature* and *Sustaining* centers in the *Enrichment and Tutoring* cluster had lower mean percentages of total participation hours dedicated to enrichment than their *New* grantee counterparts. However, this pattern was not observed in most of the other clusters. Centers falling in the *Mostly Recreation*, *Enrichment and SES*, *Mostly Enrichment*, and *Enrichment and Recreation* clusters all had a

greater percentage of total participation hours dedicated to academic enrichment as the centers progressed from *New* to *Mature* and *Mature* to *Sustaining*. These differences may provide some preliminary clues regarding how center programming may evolve over time, how centers negotiate decreases in funding over time, and how efforts may be taken to emphasize certain elements of programming in ways to support the sustainability of programs after 21st CCLC funding expires.
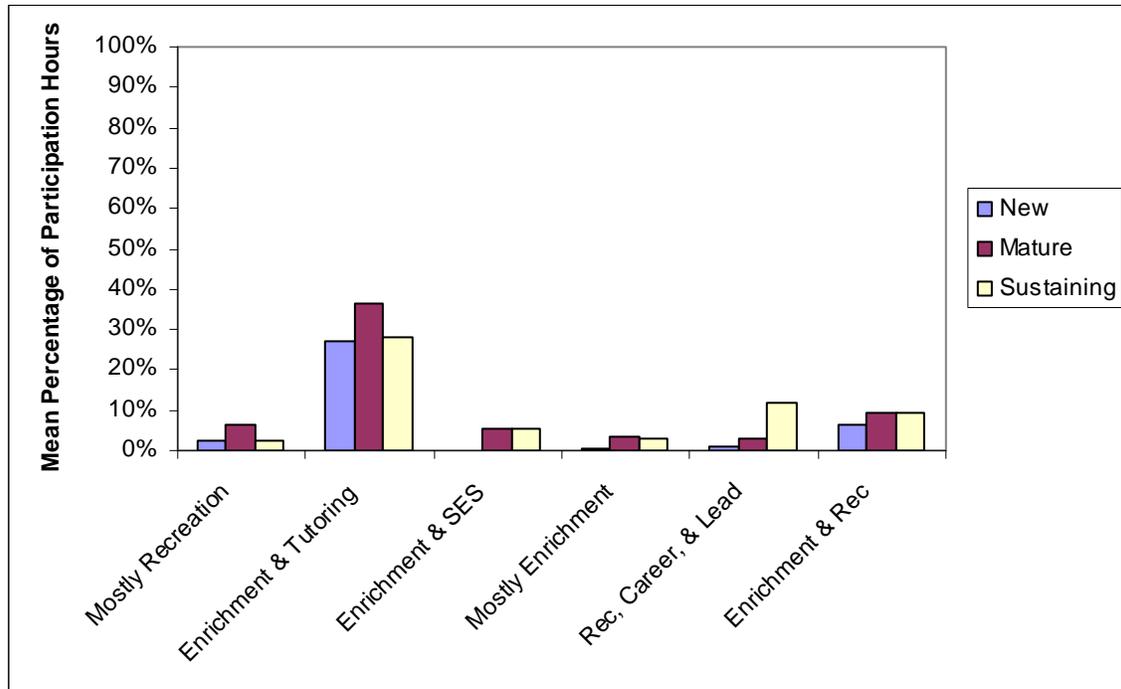
**Figure 9:  Mean Percentages of Total Participation Hours Dedicated to Academic Enrichment During the School Year by Grantee Maturity and Program Cluster**



*Note.* Based on 586 centers reporting for the 2006-2007 school year.

A similar set of analyses were conducted in relation to the average percentage of total participation hours dedicated to tutoring activities across cluster types and grantee maturity status in Figure 10. Unlike enrichment, however, there doesn't seem to be any strong trends between grantee maturity and the percentage of participation hours dedicated to tutoring across the six cluster types.

**Figure 10:  Mean Percentages of Total Participation Hours Dedicated to Tutoring During the School Year by Grantee Maturity and Program Cluster**



*Note.*  Based on 586 centers reporting for the 2006-2007 school year.

Figure 11 shows the average percentages of total participation hours dedicated to recreation activities across program clusters. Of some interest here is the potentially meaningful drop that occurs when comparing centers associated with *New* grantees found in the *Mostly Recreation* cluster with centers associated with *Mature* and *Sustaining* grantees. This may reflect the realization by grantees as they mature that a greater emphasis on academic-related activities is warranted. Similar but weaker drops in the percentage of participation hours dedicated to recreation also occur among centers in the *Enrichment and Tutoring* and the *Enrichment and Recreation* clusters. One cluster where there is an increase in the total percentage of participation hours dedicated to recreation activities as the grantee matures is the *Recreation, Career, and*

*Enrichment* cluster, where centers associated with *Sustaining* grantees spend 36% of their participation hours on recreation as compared to 20% for centers associated with *New* grantees. It should be noted, however, that there are only a total of 14 centers represented in the *Recreation, Career, and Enrichment* cluster, so this result may be an artifact of the small *n* instead of the grantee's maturity.

**Figure 11: Mean Percentages of Total Participation Hours Dedicated to Recreation During the School Year by Grantee Maturity and Program Cluster**
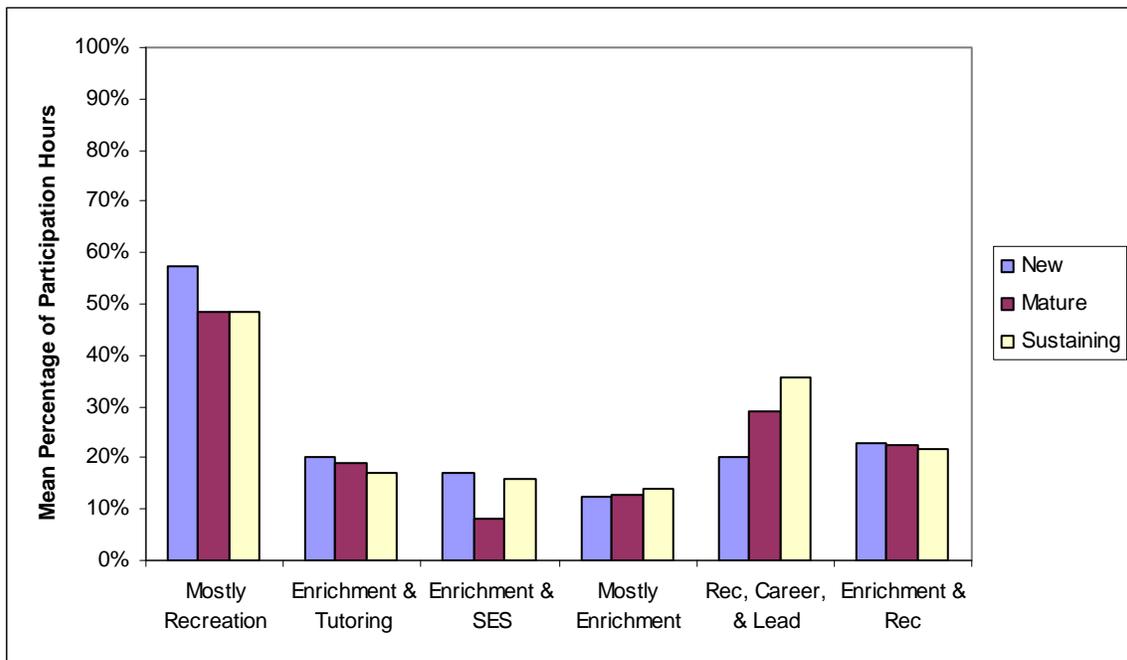


*Note.* Based on 586 centers reporting for the 2006-2007 school year

Finally, in Figure 12, the average percentage of total participation hours dedicated to homework help activities across program cluster is outlined, and like recreation, there is a general drop in the average percentage of participation hours dedicated to homework help among centers that are associated with *Mature* and *Sustaining* grantees. This is especially true among centers found in the *Enrichment and SES* cluster, where new grantees spend 25% of total participation hours on average on homework help as compared to 6% and 7% for *Mature* and *Sustaining* centers respectively. Here again, there are few centers in the *Enrichment and SES* cluster and this may result in unusual variations because of the small *n*.
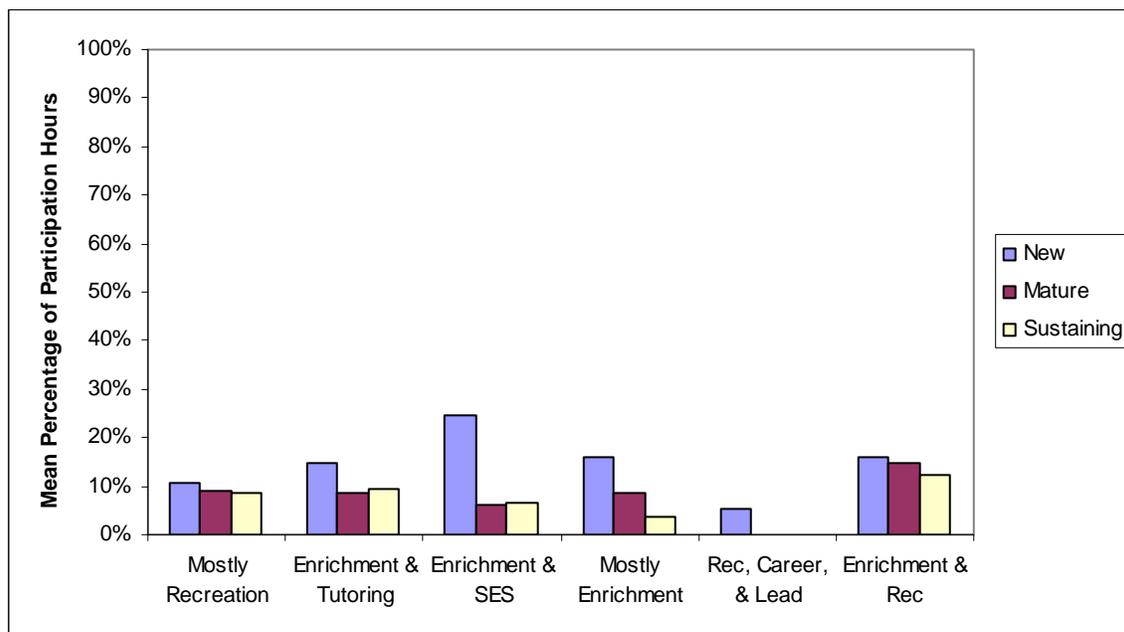
**Figure 12:  Mean Percentages of Total Participation Hours Dedicated to Homework Help During the School Year by Grantee Maturity and Program Cluster**



*Note.*  Based on 586 centers reporting for the 2006-2007 school year


*Program Cluster by Institutional Experience*

Of central concern in this section is the extent to which the operational characteristics of centers vary depending upon whether a grantee has received a 21st CCLC grant previously. The idea here is that an experienced grantee has had the opportunity, through trial and error, to find the operating schema and activity slate that works well for them given their goals and priorities and the unique characteristics of the student population they serve.

In this regard, grantees were classified into one of two groups based on whether they received 21st CCLC grants in more than one grant cycle. In Figure 13, cluster membership based on the relative emphasis placed upon offering a given category of activity is outlined for centers associated with organizations that received a prior 21st CCLC grant and for those centers operated by grantees without any prior experience as a 21st CCLC grantee. As outlined in Figure 13, centers associated with grantees with no previous experience are more likely to fall within the *Mostly Enrichment* cluster than those centers associated with grantees that had prior experience. In similar fashion, grantees having received prior grants were more apt to fall in the *Mostly Recreation*, *Enrichment and Tutoring*, and *Enrichment and Recreation* clusters as compared to their counterparts associated with grantees with no prior 21st CCLC funding.

**Figure 13: Primary Program Clusters Based on the Hours of Activity Offered in a Given Category During the School Year by Prior Grant Awards**
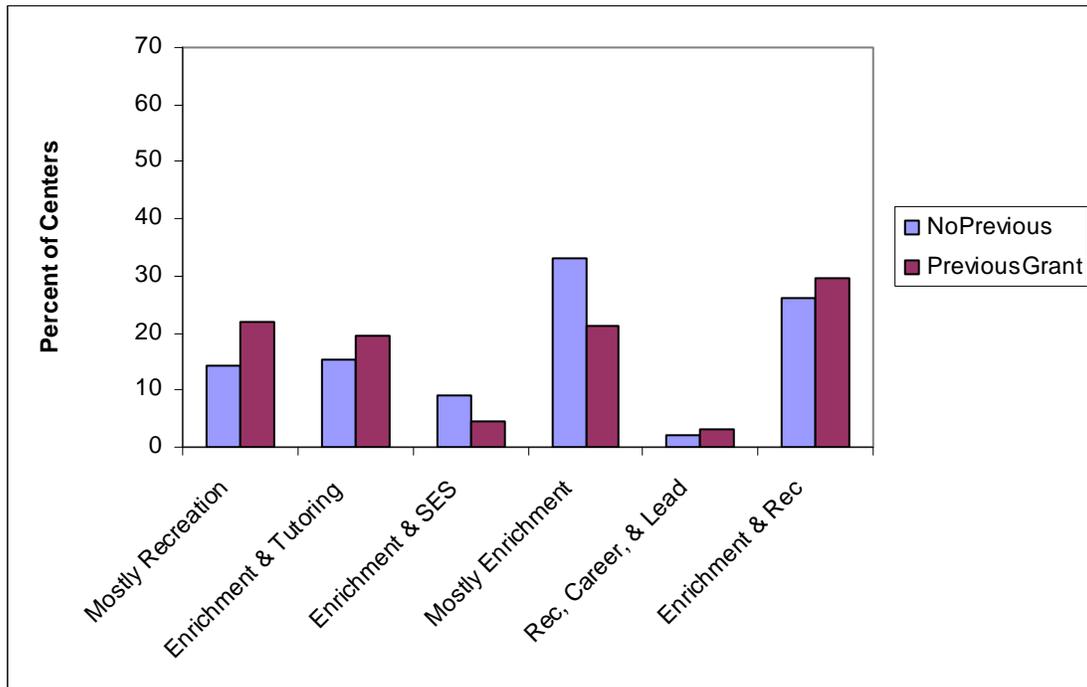


*Note.* Based on 586 centers reporting for the 2006-2007 school year

*Summary of Activities Findings*

A number of findings outlined in this section are worthy of note. First and foremost, it appears that the relative emphasis centers give to different activities can be utilized to effectively classify centers into six primary program clusters. When these program clusters are considered with other grantee and center level characteristics, a number of interesting findings also result. For example, centers that serve elementary students are more apt to emphasize academic enrichment programming while centers that serve secondary students are more apt to emphasize recreational programming. This may suggest that centers serving older youth find it necessary to offer a higher level of recreation activities in order to attract and retain students in after-school-related programming.

In addition, when program cluster is considered both as a function of the relative maturity of the grantee (i.e., *New, Mature,* or *Sustaining*) and the total number of participation hours offered at a given site, there is some evidence that over time centers may move increasingly toward an enrichment model of program delivery irrespective of program cluster, and they may be less dependent on recreational and homework help activities to fill their programming slate.

Why this movement takes place is a matter of speculation at this point, although it would be interesting to explore the extent to which this movement is driven (1) by program monitoring and support strategies employed by TEA and (2) by a realization among center staff of which programs attract and retain students and which help the center meet their desired outcomes.

*Operations*

One of the goals of the 21st CCLC program is to provide students with productive and engaging activities during periods of the day when they may otherwise be without adult supervision and to expand the time youth can participate in activities emphasizing skill building and mastery that ultimately translate into higher academic and related performance. Finding the right schema in terms of hours, days, and weeks of operation is critical to accomplishing these goals effectively. As inspected here, there are four elements that characterize center operations during the two primary timeframes a center operates (i.e., summer and school year): 1) times, 2) hours, 3) days, and 4) weeks. Times refers to the times of the day during which programming is offered by a center (i.e., before the school day, during the school day, after the school day, on weekends, or during the summer). Hours are calculated in terms of the average hours per week, and are intended to portray typical or average operating levels. Days are likewise calculated in terms of days per week, and weeks are calculated in terms of weeks per operational timeframe.

*Times*

Figure 14 presents the percent of centers offering programming before school, during school, after school, on weekends, or during the summer. It is important to note that according to the federal statute authorizing the 21st CCLC program only programming targeting pre-kindergarten children and adult family members of children participating in 21st CCLC programming may take place during regular school hours.

As shown in Figure 14, nearly every center reported operating during after-school hours during the school year. Additionally, nearly 37% of all centers reported operating before the school day during the school year.

Figure 14 also shows that 92% of all centers reported summer operations. It should be noted, though, that centers associated with new grantees were removed from the denominator when performing this calculation given that no grantee designated as falling within the 'new' category had the ability to offer summer programming given when they received their grant award.

**Figure 14: Percent of All Centers Operating at Given Times**
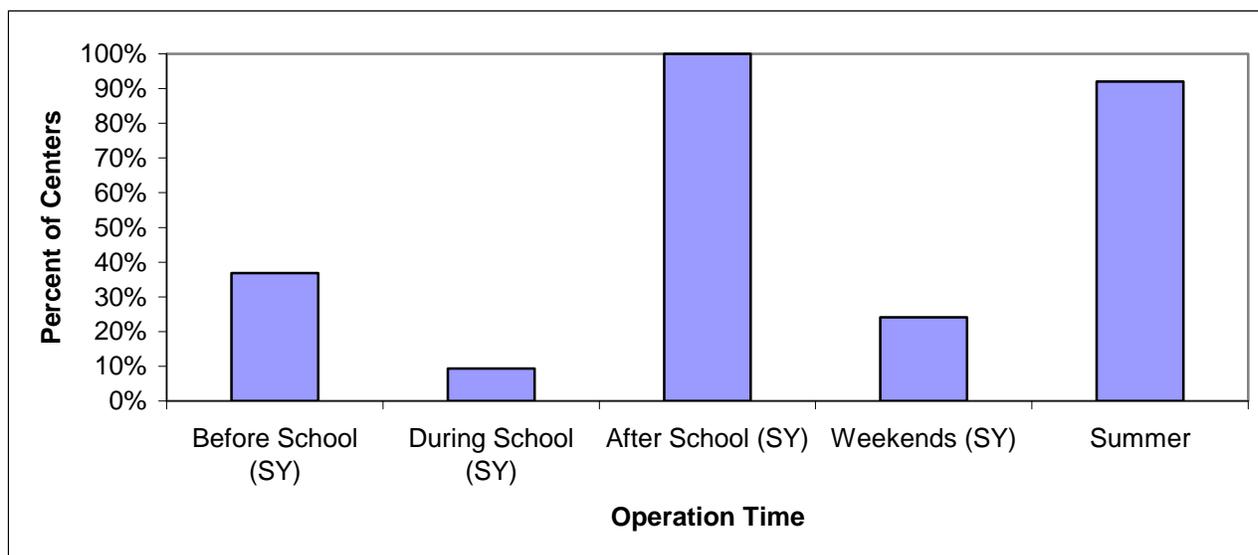


*Note.* Based on 586 centers reporting for the 2006-2007 school year

*Operations by Hours per Week, Days per Week, and Weeks per Term*

The following figures portray the percentage of all centers operating a given number of hours per week (Figure 15), days per week (Figure 16), and weeks per year (Figure 17). The denominator for each percentage is the number of centers operating during the given term (*NB*, percentages across terms do not reflect equivalent numbers of centers).

*Hours per week.* Many of the centers operating during the school year offered exactly 15 hours of programming per week, and there was also a sizeable minority operating exactly 12 hours per week. This is reflected in the groupings portrayed by Figure 15. During the summer, centers tended to be open more hours per week than they were during the school year: over 70 percent of centers operating during the summer were open 20 or more hours a week, and very few centers operating during the summer were open less than 15 hours per week. To better convey these summer operation hours, Figure 16 presents summer operation hours using an extended scale that makes the broad spread of center operating hours during the summer more readily apparent.

**Figure 15: Percent of Centers per Term Open a Given Number of Hours per Week**
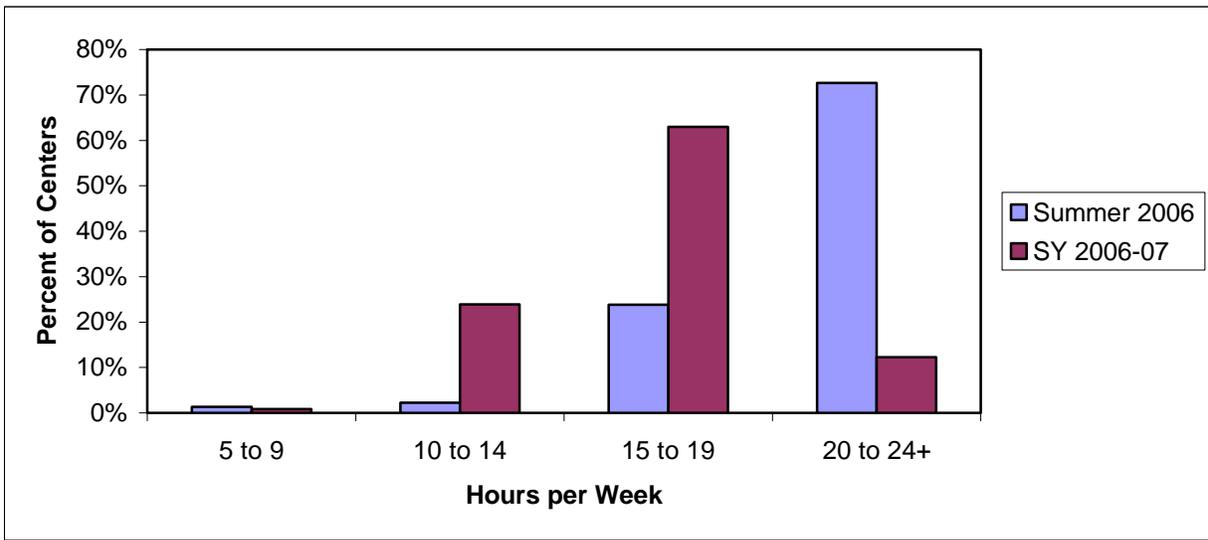


*Note.* Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006

**Figure 16: Percent of Centers Open a Given Number of Hours per Week – Summer 2006 (Alternate Scale to Figure 15)**
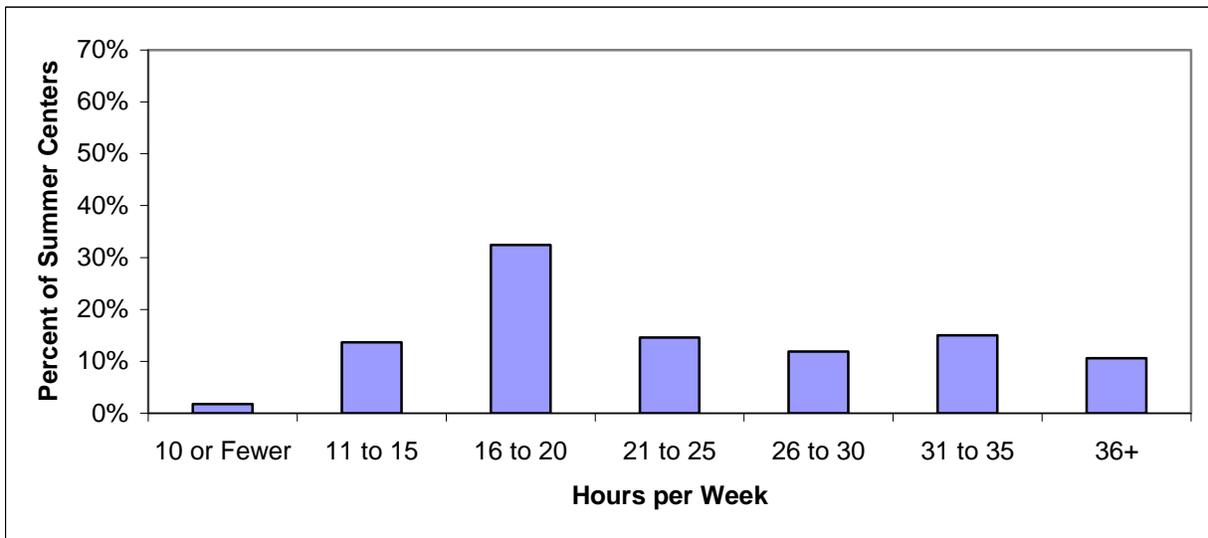


*Note.* Based on 453 centers reporting for summer 2006

*Days per week.* When considering the typical week by each of the three terms (i.e., summer, fall, and spring) associated with the 2006-07 reporting period, slightly under two-thirds of operating centers were open five days per week as shown in Figure 17. For those centers not open five days per week, centers operating during the fall and spring were about equally likely to

be open four or six days a week, while centers operating during the summer were most likely to be open four days a week.

While not shown in Figure 17, in terms of particular days of the week centers were most likely to be open, almost all centers were open at least Monday through Thursday regardless of term. A large majority of centers were open on Fridays, with 66% operating on Fridays during the summer, 76% during the fall, and 79% during the spring. Very few centers were open on Saturdays, with only 3% operating on Saturday during the summer, 19% during the fall, and 22% during the spring. Almost every center was closed on Sunday.

**Figure 17: Percent of All Centers Open a Given Number of Days per Week – by Term**
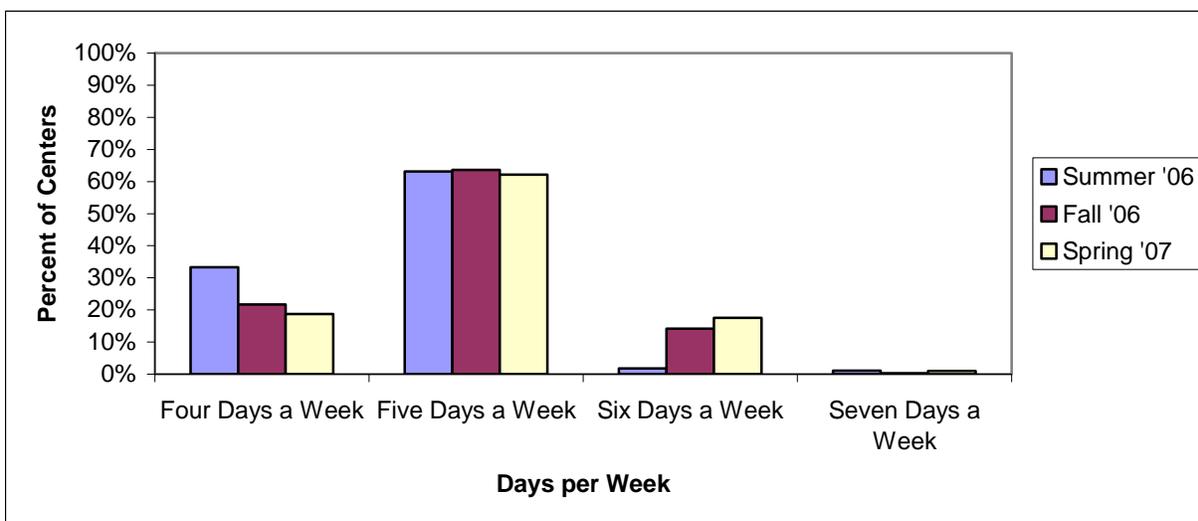


*Note.* Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006

*Weeks per term.* A majority of centers operating during the summer were open for three to four weeks (70%); a majority of centers operating during the fall were open 13 to 15 weeks (67%); and a majority of centers operating during the spring were open 17 to 20 weeks (84%). This indicates an increase in the number of operating weeks from fall to spring, an increase which is clearly depicted in Figure 18. The reasons for this pattern are a matter of speculation. One possibility is that centers are more intensive in their recruitment in the spring in anticipation of standardized testing taking place during this period. Another possibility is that this difference is simply an artifact of the number of weeks schools in Texas are typically operating in the fall and spring terms. A quick, online perusal of school schedules suggests that schools in Texas

have a tendency to operate for approximately 15 weeks in the fall and 20 weeks in the spring, which meshes well with this finding in relation to center operating schedules during these periods.

**Figure 18: Percent of All Centers Open a Given Number of Weeks – by Term**
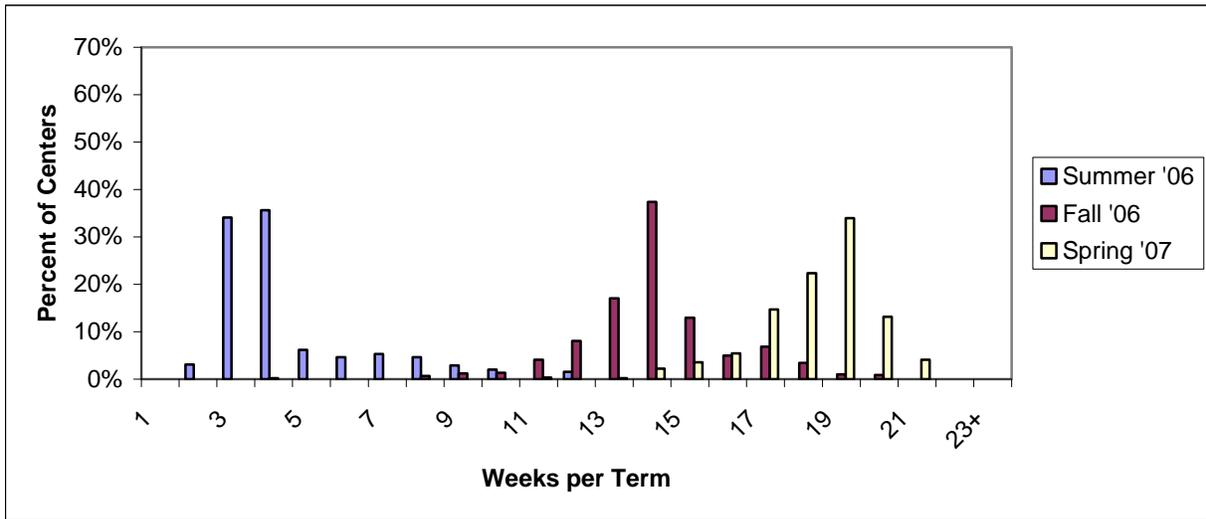


*Note.* Based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006

*Operations by Grade Levels Served*

In this section, we explore how center operations may vary based on the grade levels served by a given center. In order to support these analyses, we used the six grade level categories used previously: *Elementary Only*; *Elementary/Middle*; *Middle Only*; *Middle/High*; *High Only*; and *Other*.

As can be seen in Figure 19, programming offered before school varies among the grade-level groupings, with centers in the *Middle/High* and *Other* groups most likely to offer programming before school (55% and 69%, respectively) and with centers in the *Elementary Only* and *Elementary/Middle* groups least likely to operate before school (25% and 30%, respectively). Centers classified as *High Only* and *Other* were most likely to offer programming on weekends during the school year while centers in the *Middle Only* group were the least likely to operate on weekends. It is important to note that in Figure 19 we have opted not to report the percentage of centers offering programming after-school given that all centers operated during this timeframe. This will also be the case in many of the figures that follow.

**Figure 19:  Operation Times by Grade Level Served**
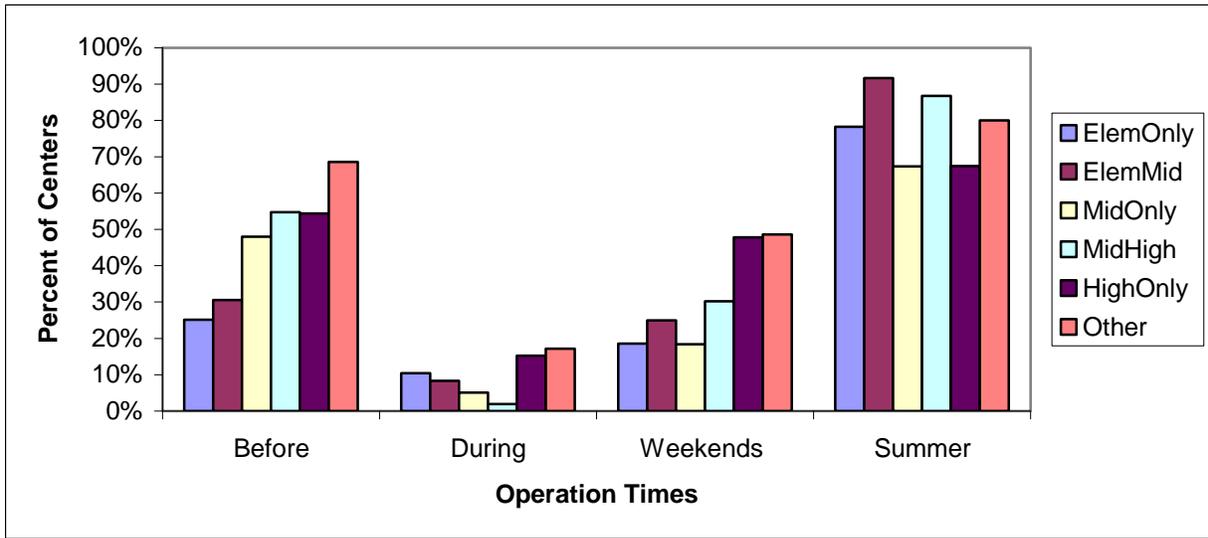


*Note.*  All centers reporting operating during after-school hours (after-school hours are not displayed). The data are based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006. ElemOnly $n$ = 318; ElemMid $n$ = 36; MidOnly $n$ = 98; MidHigh $n$ = 53; HighOnly $n$ = 46; Other $n$ = 35.

*Operations by Grantee Maturity*

This section explores how center operation times, hours, days, and weeks may vary across *New*, *Mature*, or *Sustaining* grantees. As shown in Figure 20, although a majority of centers associated with *Mature* and *Sustaining* grantees offered programming during the summer, *Sustaining* centers were slightly less likely to offer summer programming as compared to their *Mature* counterparts. Also of some interest was the finding that centers associated with *New* grantees were more likely than those associated with *Mature* grantees to offer programming before school, and similarly, centers associated with *Mature* grantees were more likely to offer programming before school than those associated with *Sustaining* grantees. These results may suggest that, over time, centers may find themselves reducing some elements of their operation, progressively focusing resources on after-school operations.

In order to explore this possibility, the operations data for *Sustaining* grantees was obtained for the 2004-05 and 2005-06 reporting periods in order to assess if centers associated with these grantees actually reduced their before school and summer operations during the 2006-07 reporting period. As shown in Figure 21, these hypothesized reductions were not found and two different trends were evident: 1) a year-over-year increase in the percentages of centers

offering programming before the school day; and 2) a large jump from 2005 to 2006 in the number of centers offering programming during the summer (which again is likely to be associated with grants initially awarded during the summer months whereby grantees were unable to begin operations until the fall term in question). While not shown, these two trends are also evident when the same year-over-year comparison is performed for centers associated with *Mature* grantees.

**Figure 20: Operation Times by Grantee Maturity (2007 Data)**
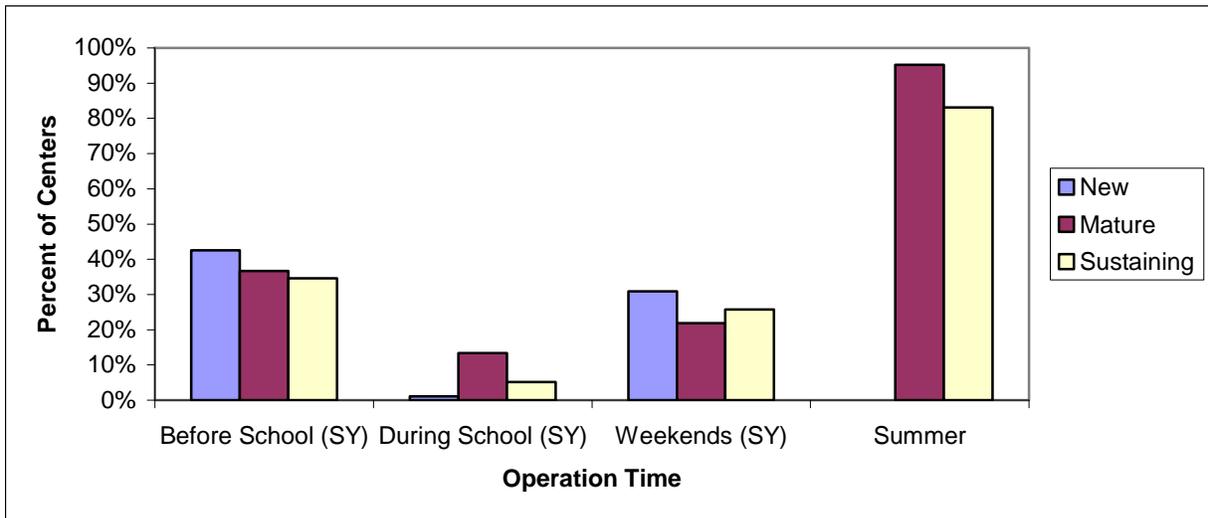


*Note.* All centers reported operating during after-school hours (after-school hours are not displayed). The data are based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006. *New n* = 94 centers; *Mature n* = 352 centers; *Sustaining n* = 136 centers.

**Figure 21:** **Percent of Centers Associated with Sustaining Grantees (as noted for 2007) Operating at Given Times – Year over Year Comparison, 2005-2007**
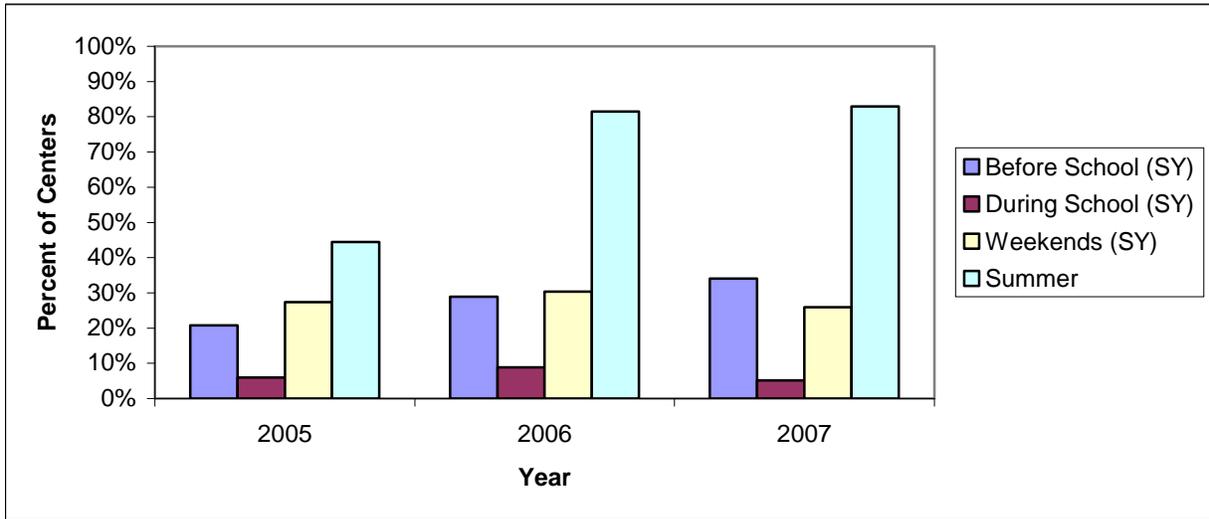


*Note.* All centers reported operating during after-school hours (after-school hours are not displayed). The data are based on 135 centers, the total number of centers associated with *Sustaining* Grantees that had records for 2005, 2006, and 2007.

Turning from operation times to typical hours of operation per week, the median hours of operation per week per term were fairly equivalent for all centers irrespective of grantee maturity. The median number of hours of operation during the summer was 22 for *Mature* centers and 25 for *Sustaining* centers; during the fall and spring the median number of hours of operation was 15 for all cycles. The median number of days per week for all terms for all cycles was five. It should be noted that a comparison of means does not reveal much more, though the mean hours of operation for centers associated with *New* grantees are slightly higher for both fall and spring than either the *Mature* or the *Sustaining* groups. A year-over-year comparison of means for both *Mature* and *Sustaining* groups shows slight fluctuation, with *Mature* being slightly higher than *Sustaining* on average during the school year and *Sustaining* being slightly higher than *Mature* during the summer. The differences are small, generally half an hour to one hour.

The following table presents the percentages of all centers operating on Thursday, Friday, Saturday, and Sunday during each particular term, sub-divided by cycle. Monday through Wednesday are not depicted because there is little cycle variation in operation for these days

within a given term. Thursday can be taken as generally indicative of Monday-Wednesday operation patterns.

Inspection of the percentages highlighted in Table 9 shows—not surprisingly, given data in the preceding section—that nearly all centers were open Monday through Thursday. Additionally, the majority of centers for all cycles across all terms were also open on Friday. A sizeable minority of centers in each cycle was open on Saturday during the school year, though only a few centers associated with *Mature* grantees were open on Saturday during the summer. During the school year, *New* centers were more likely to be open on Saturdays than *Mature* or *Sustaining* centers. Almost no one operated on Sunday. Also of interest in Table 9 is the steady decline in the percentage of centers offering programming on Fridays during the school year as centers become more mature.

Table 9. *Percent of Centers Operating on a Given Day (By Cycle)*

|  | Thursday* | Friday | Saturday | Sunday |
|---|---|---|---|---|
| **Summer '06** | | | | |
| New | ** | ** | ** | ** |
| Mature | 100.0% | 65.7% | 3.9% | 1.4% |
| Sustaining | 100.0% | 69.9% | 0% | 0% |
| | | | | |
| **Fall '06** | | | | |
| New | 100.0% | 87.2% | 30.9% | 0% |
| Mature | 99.7% | 74.7% | 15.3% | 0.6% |
| Sustaining | 99.3% | 68.9% | 19.3% | 0% |
| | | | | |
| **Spring '07** | | | | |
| New | 98.9% | 92.6% | 31.9% | 2.1% |
| Mature | 100.0% | 78.4% | 19.6% | 1.4% |
| Sustaining | 99.3% | 71.9% | 20.7% | 0% |

*Percents for Monday through Thursday are all very similar: percentages portrayed for Thursday are indicative of percentages for Monday through Wednesday.
**There were no *New* grantees associated with the summer term.
*Note.* For summer, *New n* = 0; *Mature n* = 335; *Sustaining n* = 113. For both Fall and Spring, *New n* = 94; *Mature n* = 352; *Sustaining n* = 135.

Finally, the median number of weeks of operation was fairly even across cycles within each term: The median number of weeks of operation during the summer, for both *Mature* and *Sustaining* grantees, was 4; the median number of weeks of operation during the fall was 14 for

all 3 cycles; and the median number of weeks of operation during the spring was 18 for *New* and *Sustaining* grantees, 19 for *Mature*.

*Operations by Institutional Experience*

Of central concern in this section is the extent to which the operational characteristics of centers vary depending upon institutional experience. As shown in Figure 22, there are some notable differences in operations. Centers associated with grantees with institutional experience were less likely to operate before school, on weekends, and during the summer and were more likely to operate during school hours. It is not clear, however, whether these differences are attributable to lessons learned from experience or are simply reflective of program shifts year-over-year.

**Figure 22: Percent of Centers Operating During Given Times by Institutional Experience**
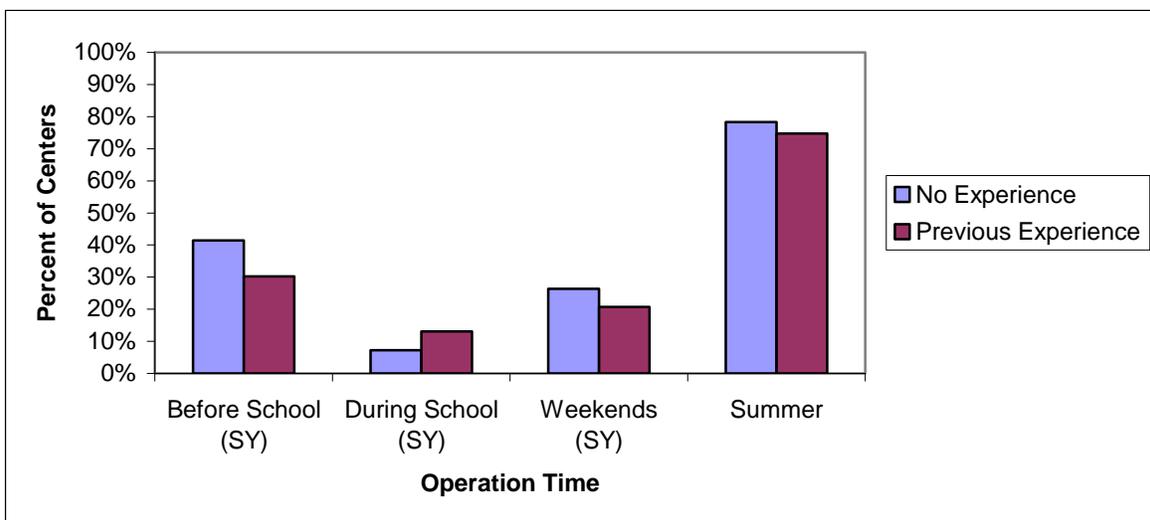


*Note.* All centers reported operating during after-school hours (after-school hours are not displayed). The data are based on 586 centers reporting for the 2006-2007 school year and 453 centers reporting for summer 2006. No Experience *n* = 360, Previous Experience *n* = 222.

In terms of hours of operation per week, Figure 23 presents the percentages of centers operating a particular number of hours per week by institutional experience. During the summer, centers with no experience tended to be open more hours per week than those with experience. For example, a greater percentage of inexperienced centers (58%) operated 21 hours per week or more than centers with previous experience (43%). During the fall and spring a majority of centers operated 12 or 15 hours per week, though a higher percentage of centers operated 15

hours per week than 12, especially among centers associated with grantees with prior 21$^{st}$ CCLC experience.

**Figure 23: Percent of Centers Operating a Given Number of Hours per Week (by Institutional Experience) – Summer 2006, School Year 2006-07**
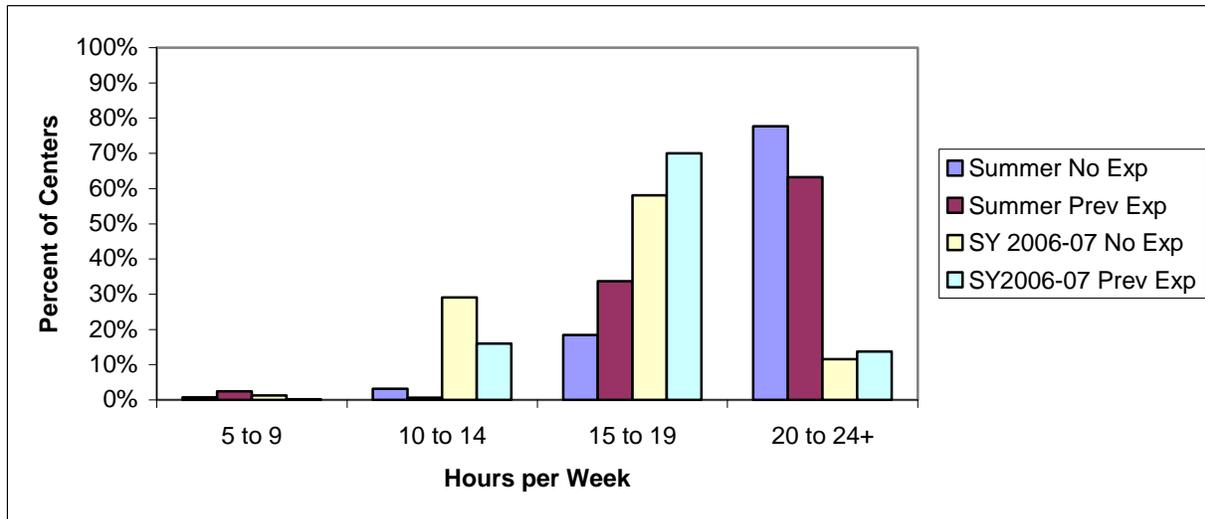


*Note.* For Summer, No Exp *n* = 282; Prev Exp *n* = 166. For Fall, No Exp *n* = 359; Prev Exp *n* = 222. For Spring, No Exp *n* = 359; Prev Exp *n* = 222.

*Operations by Program Cluster*

This section explores the relationship between center operations and program model or cluster, the latter circumscribed by the relative emphasis a center places on particular categories of activities as determined by hours of program offering. In Figure 24, program cluster based on school year operations is considered in conjunction with operational timeframes. Of some interest here are the results that centers in the *Enrichment and Tutoring* cluster were most likely to offer programming before school, followed by centers in the *Recreation, Career, and Leadership* cluster. The propensity of centers to offer programming on the weekends also varied a bit by cluster, with centers falling within the *Mostly Recreation* cluster least likely to offer programming during this timeframe, while centers falling within the *Enrichment and Tutoring* cluster being the most likely to do so.

**Figure 24: Operation Times by Cluster (Based on Programming Offered)**
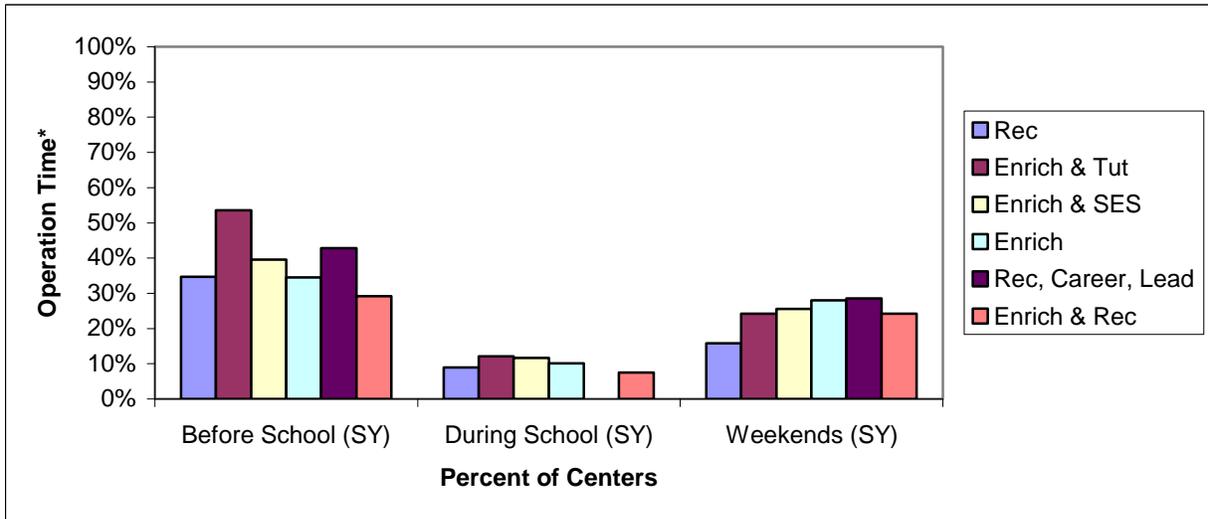


*All centers reported operating during after-school hours (not displayed).
*Note.* Based on 586 centers reporting for the 2006-2007 school year. The *n* values for each cluster group are as follows: Rec = 101; Enrich & Tut = 99; Enrich & SES = 43; Enrich = 168; Rec, Career, & Lead = 14; Enrich & Rec = 161.

*Summary of Findings Related to Operations*

In terms of center operation during the 2006-07 reporting period, a number of items are worthy of note. Of some interest were the observations that almost all centers offered programming after school and that centers serving middle and high school students were most likely to offer programming before school and on weekends. It may be of interest to further explore what types of programming are offered during these time periods (e.g., to what extent before school hours are being used to provide tutoring and homework help support, etc.).

Finally, while a series of differences were noted in terms of operations among centers based on grantee maturity (i.e., *New*, *Mature*, and *Sustaining*), of some interest was the lower percentage of *Sustaining* centers providing before school programming relative to their *New* and *Mature* counterparts. This finding was especially interesting in light of the further finding that the percentage of *Sustaining* centers providing before school programming has grown during both the 2005-06 and 2006-07 school years. A similar finding was found to be associated with *Mature* centers between the 2005-06 and 2006-07 school years. In this regard, it appears that both *Sustaining* and *Mature* grantees increasingly offered before school programming, while centers associated with *New* grantees started at a higher level in terms of the percentage of

centers offering programming before school. This may suggest there is a general stepping up across the board in the percentage of centers offering programming before school.

*Staffing*

The quality of center staffing is a crucial factor in the success of after-school programming (Vandell et al., 2004), and many of the approaches being used in the field emphasize the importance of staff for creating positive developmental settings for youth. In this regard, the success of after-school programs is critically dependent on students forming personal connections with the staff, especially for programs serving older students where a much wider spectrum of options are available to these youth in how they spend their time after school (Eccles & Gootman, 2002; Rosenthal & Vandell, 1996).

In Texas, the largest group of staff during the school year was school-day teachers (44%), with the remaining staff consisting mostly of college students (11%), other school staff (11%), center administrators or coordinators (6%), other non-school staff (6%), and parents (6%).  The largest group of staff during the summer was school-day teachers (37%), with the remaining staff consisting mostly of college students (14%), other school staff (12%), center administrators or coordinators (9%), and other non-school staff (7%). Approximately 86% and 83% of the center staff were paid during the summer and school year, respectively.

*Number of Staff*

Figure 25 displays the median number of staff per center, broken down by term and by whether the staff members were paid or unpaid. The calculation of the medians did not include centers reporting no staff of a given type; the *N* values, noted below the table, are therefore pertinent to correct interpretation of the data as presented. *N* values for centers reporting volunteers were, on the whole, significantly lower than those for centers reported paid staff.

**Figure 25:  Median Number of Staff (Paid and Volunteer) per Term**
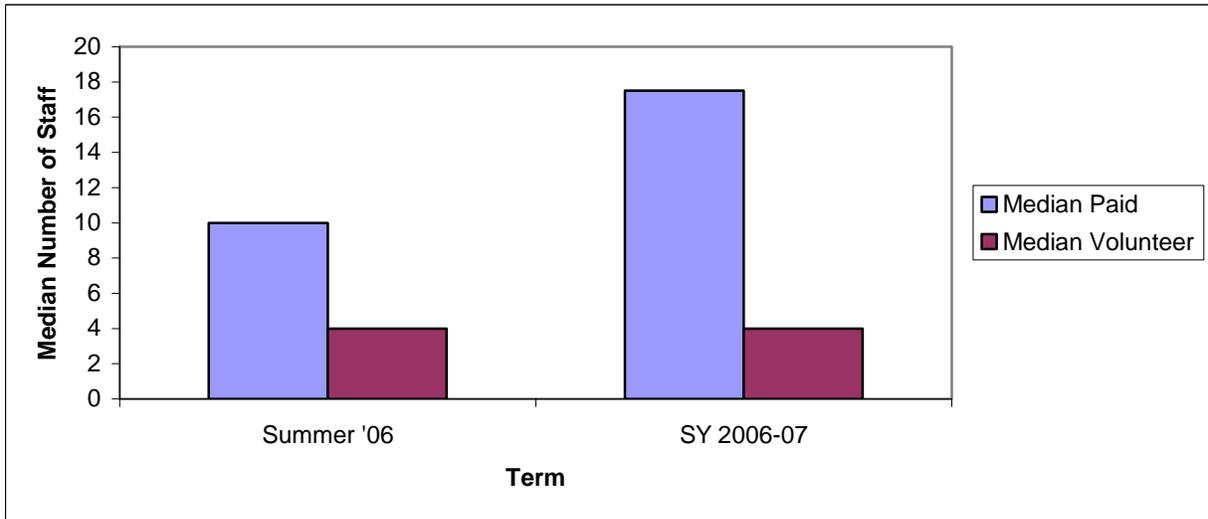


*Note.*  The median for each staff category for each term was calculated after excluding centers reporting 0 for the given staff category. If such cases are included, the medians for volunteers drop to 0. The total number of centers reporting data for the summer was 453, while 586 reported for fall and spring. The total number of centers reporting any data for any term was 586. A total of 453 centers reported having paid staff during the summer, 143 reported volunteers; for the fall, 586 reported paid staff, and 269 reported volunteers; for the spring, 585 reported paid staff, 264 reported volunteers.

The median number of staff members increased from the summer to the school year, with the increase being greater for paid staff. Again, it should be emphasized that only about a third of centers reporting staff for the summer and about half of centers reporting staff for the fall or spring also reported having volunteers. This increase in total number of staff from summer to school year is likely explained by the increase in operations and heavier attendance during the school year.

*Prevalence of Center Staff of Different Types*

Information was obtained on the numbers of 21st CCLC staff of various types that regularly staffed centers during summer 2006 and the 2006–07 school year. Centers also indicated the numbers of each type that were paid, and the number that were volunteers. The following three figures display the 2006–07 data for numbers of staff of each type employed during the summer and school year. Note that the scales on the three figures vary, as each scale is dependent on total number of staff for the given term: there were many more school year staff than summer staff. Staff types in the figures use the following data labels:

- Teachers: School-day teachers

- College: College students

- High School: High school students

- Parents: Parents

- Youth Dev: Youth development workers

- Oth Sch Staff: Other non-teaching school staff

- Other: Other community workers, other non-school staff with some or no college, social workers, nurses, other

- Coordinators: Center administrators and coordinators

As can be seen from Figures 26-27, staffing composition remained relatively consistent across the school year and summer, with school day teachers that were paid for their service making up the vast majority of center staff across both timeframes. Overall, high school students, parents, and community workers were more likely to be volunteers than were other staff types. This remained true during the school year (though, as noted above, the percentage of college students volunteering increased from summer to school year).

Here again, the prevalence of school day teachers is not surprising and is consistent with national staffing trends (Naftzger et al., 2007). The advantage to having so many teachers responsible for delivering programming is that it is likely to help 1) ensure strong linkages with the school day curriculum, 2) enable students to build stronger relationships with their school-day teachers, 3) facilitate communication about student needs with school day teachers not working in the after-school program, and 4) ensure content oriented toward the TAKS is incorporated into after-school offerings. Teachers may also be afforded additional opportunities during the after-school program to work with academically struggling students on a one on one

basis or in small group settings. The potential downside here, however, is the possible propensity for teachers to employ the same instructional practices in the after-school program as they do during the school day, which may prove especially problematic for engaging older youth who are more apt to express a disinterest in more school after school.

**Figure 26: Number of Staff of a Given Type – Summer 2006**
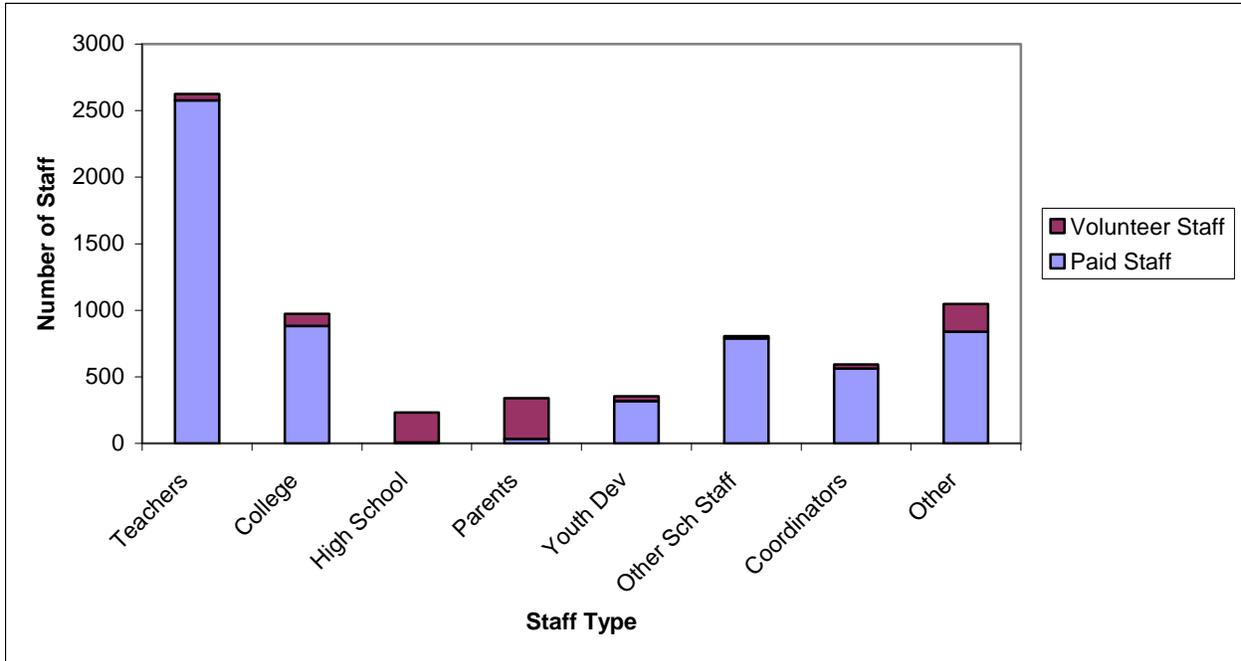


*Note.* Based on 453 centers providing data on 6,967 total staff.

**Figure 27: Average Number of Staff of a Given Type – School Year 2006-07**
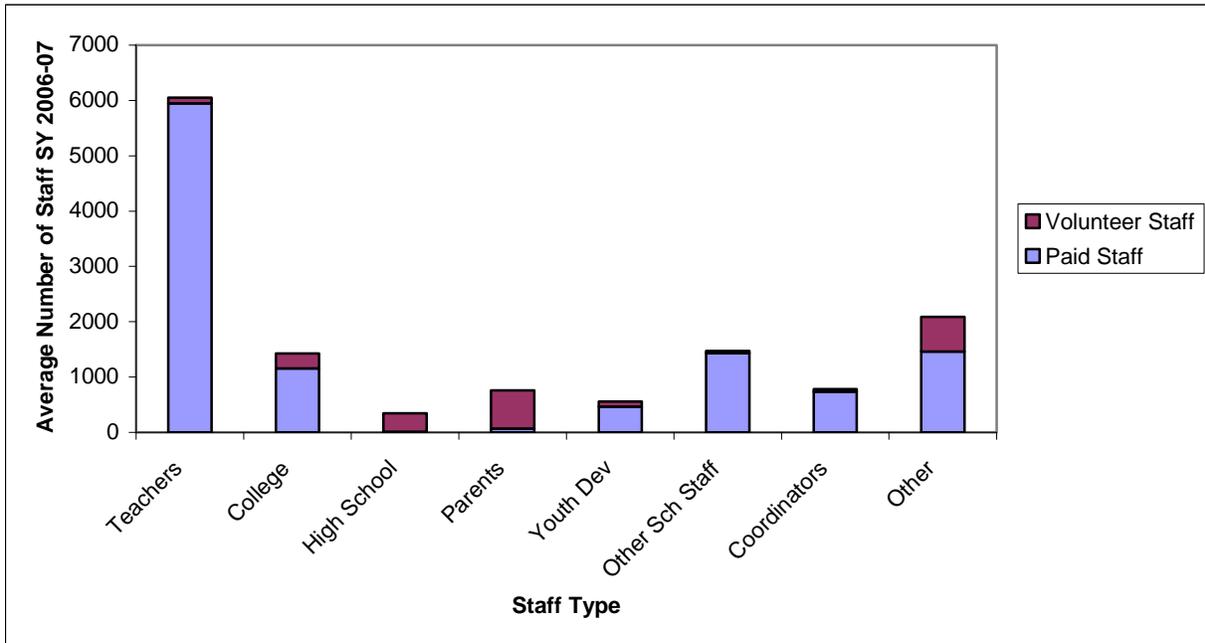


*Note.* Based on 586 centers providing data on 13,494 total staff during the Fall and 13,481 total staff during the Spring. It should also be noted that the percentage of volunteers relative to all staff is slightly higher during the Spring than the Fall (16.9% and 15.7% respectively).

Another way to examine how staff are distributed across centers during both the summer and school year is to compare how the percentages of total staff within a given category varies across term. When staffing composition is viewed in this way, the percentage of staff that were classified as school day teachers increases from 38% of all staff in the summer to 44% of all staff in the fall. In addition, although the number of college students increased from the summer to the school year as demonstrated in Figures 26 and 27, they formed a slightly larger percentage of all staff during the summer (14%) than during either the fall (10%) or spring (11%) semesters.

*Staffing by Grade Level Served*

Because of its importance in program provision, staffing presents a possible source of differences among programs serving different grade levels. The following charts depict staff types in percent of all staff for a given grade level band (i.e., the denominator used in calculating each staff type percentage was the total number of staff associated with the grade level band in question). A few things are clear from Figures 28–29. Of particular interest is that school day teachers represent a higher proportion of total staff in programs serving middle and high school students as compared to their counterparts serving elementary students in some capacity. In addition, while it has been noted elsewhere that college students formed a slightly larger percentage of all staff during the summer than they did during the school year, the below outlined charts show that this trend was more pronounced for centers classified as serving elementary and middle school students or students associated with centers with an *Other* classification.

**Figure 28: Staff Types by Grade Level Served – Summer 2006**
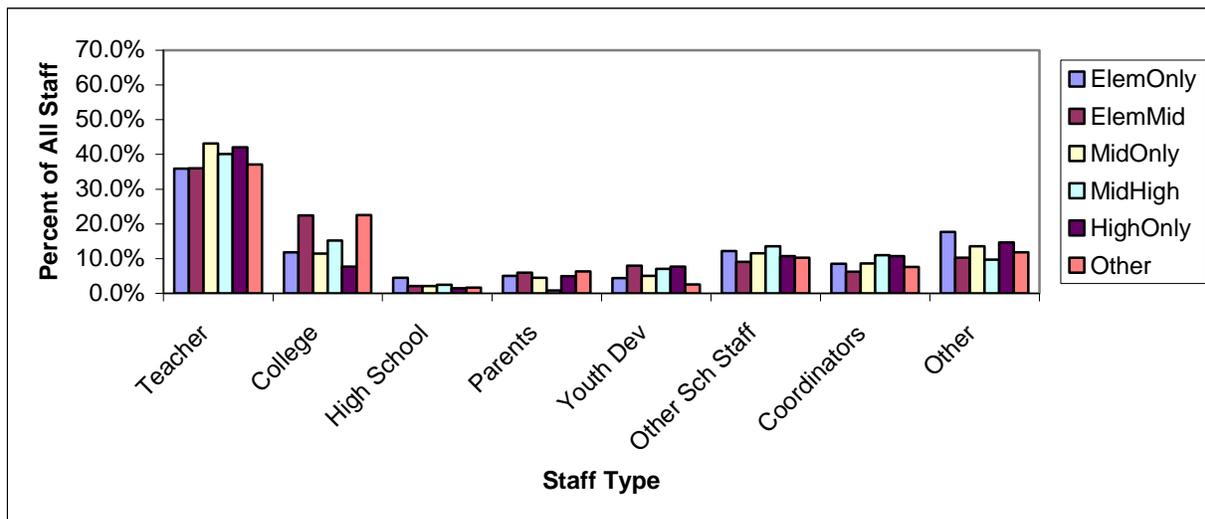


*Note.* Based on 453 centers reporting for summer 2006

**Figure 29:  Staff Types by Grade Level Served – School Year 2006-07**
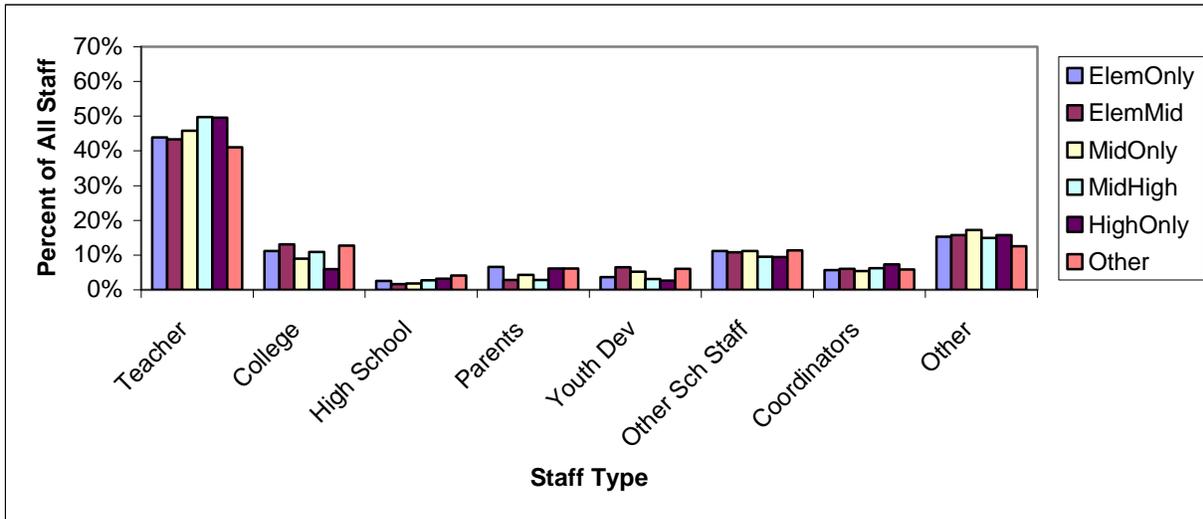


*Note.*  Based on 586 centers reporting for the 2006-07 school year. Percentages are based on average staff numbers across Fall and Spring.

*Staffing by Grantee Maturity*

Differences in staffing among centers associated with *New*, *Mature*, and *Sustaining* grantees within a given term were relatively minor, but a few items are notable.  During the summer, *Sustaining* centers reported that over 22% of their staff was college students, whereas *Mature* centers reported that 11% of their staff was college students.  Also during the fall, *Sustaining* centers had a higher percentage of other community workers (10%) compared to *New* and *Mature* centers (5% each).

Some of these findings in relation to the staffing patterns associated with *Sustaining* centers are of particular interest and may be indicative of intentional changes in program delivery in light of funding cuts and a desire to maintain a consistent level of programming by finding more economical ways to carry out programming. Future efforts in this regard should draw more cross year comparisons among centers currently classified as *Sustaining* to assess how their staffing model has changed over time. In addition, obtaining additional insights from programs directly regarding what strategies were embarked upon to mitigate the loss of grant funding would be quite appropriate and potentially enlightening.

*Staffing by Institutional Experience*

Figure 30 and Figure 31 depict staffing type percentages for grantees with and without previous experience. Each set of bars, those for 'No Experience' and those for 'Previous Experience,' sum to 100%. That is, the charts depict percentage comparisons, where the denominator used in calculating each staff type percent was the total number of staff for the given grantee category (no previous experience or previous experience).

When staffing configurations are considered by institutional experience, a few clear trends emerge. Grantees with prior experience administering 21st CCLC grants were more apt to staff their centers with school day teachers than grantees without previous experience, a finding consistently found to characterize both school year and summer operations. Additionally, grantees with previous experience were found to have relatively fewer college students and parents working as staff, especially during the summer.

**Figure 30:  Staffing Types by Grantee Experience – Summer 2006**
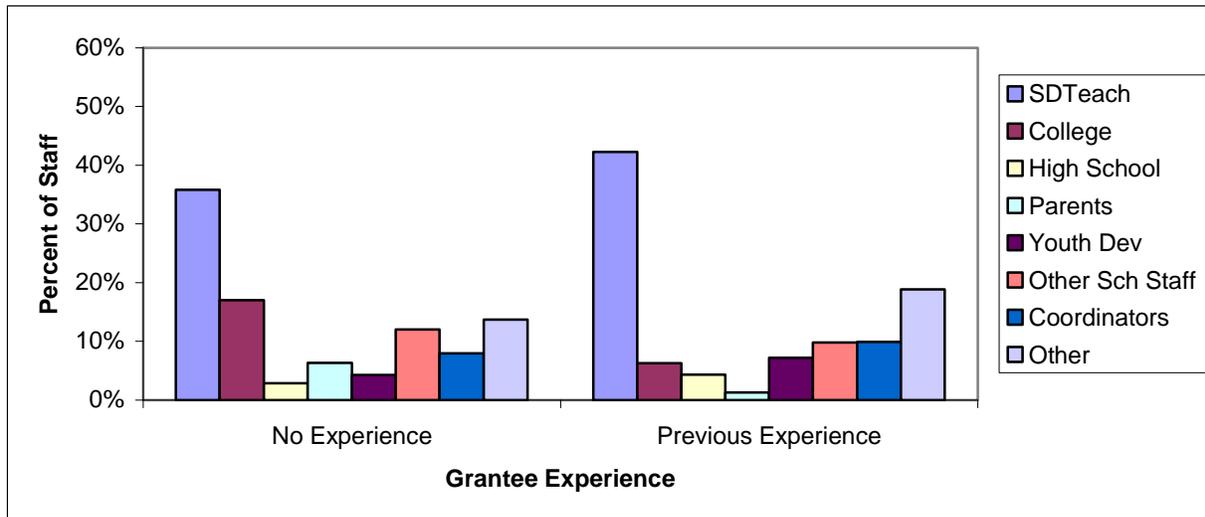


*Note.*  Based on 453 centers reporting for summer 2006. *n* for centers with No Experience = 286 (staff *n* = 4923); *n* for centers with Previous Experience = 169 (staff *n* = 1977).

**Figure 31:  Staffing Types by Grantee Experience – School Year 2006-07**
**(Combined Fall and Spring\*)**
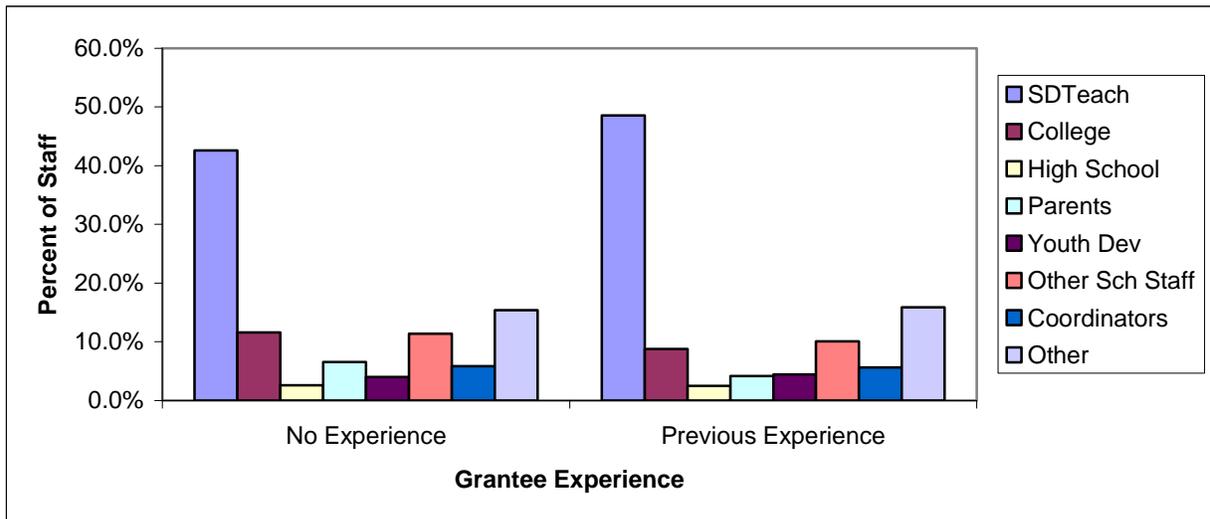


\*'Grantee Experience' categories reflect combined data from fall and spring.
*Note.*  Based on 586 centers reporting for the 2006-2007 school year. The Fall *n* value for
centers with No Experience = 360 (staff *n* = 8180); for centers with Previous Experience *n* =
222 (staff *n* = 5249). The Spring *n* value for Centers with No Experience = 359 (staff *n* = 8319);
*n* for centers with Previous Experience = 222 (staff *n* = 5100).


*Staffing by Program Cluster*

It might be expected that the staffing model employed by a given center would vary
depending upon the relative emphasis the center in question gives to providing different
categories of activity, resulting in widely varying experiences for students depending upon the
type of program they are participating in after school. For example, offerings among centers
providing mostly tutoring services and that largely employ school-day teachers are likely to be
qualitatively different than those in centers focusing mostly on recreation and that employ a
larger proportion of youth development workers and students drawn from area high schools and
colleges as staff. In an attempt to further explore these issues, in Figure 32 we have highlighted
the percent of each staff type represented within a given cluster solution defined by the relative
emphasis centers represented in the cluster in question give to offering certain types of activities.
The total number of staff within a particular cluster was used as the denominator when
determining percentages: the bars within a particular cluster grouping sum to 100%.

As shown in Figure 32, centers falling within the *Mostly Enrichment and Tutoring* cluster
had the highest percentage of their staff made up of school day teachers (52%), while the

*Enrichment and SES* and *Enrichment* clusters had the lowest percentages in this (33% and 39% respectively). By comparison, centers found in the enrichment cluster were more likely to rely upon college students and other non-teaching school day staff to staff their programs than their counterparts represented in the other five cluster types, while the centers in the *Enrichment and SES* cluster demonstrated a higher reliance collectively on staff classified as youth development workers (10%); parents (9%); and other non-teaching school day staff (9%).

**Figure 32: Staff Type by Cluster (Programming Offerings) – SY 2006-07 Aggregate**
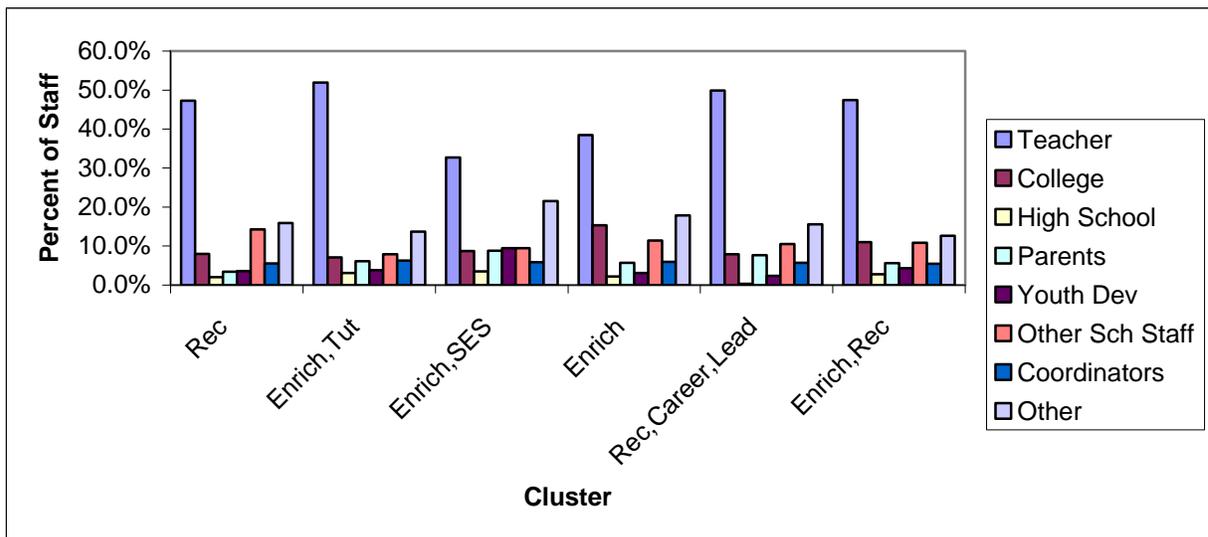


*Note.* Based on 586 centers reporting for the 2006-2007 school year. The *n* values for the cluster groups are as follows: Rec = 101; Enrich,Tut = 99; Enrich,SES = 43; Enrich = 168; Rec,Career,Lead = 14; Enrich = 161.

*Summary of Findings Related to Staffing*

Among the results highlighted in this section, a number of items are worthy of note:

- School day teachers constitute the largest single group of staff employed by 21st CCLCs.
- Most staff is paid.
- The number of staff is greater during the school year than during summer, likely attributable to an overall increase in operating hours and higher student attendance during the school year.
- School day teachers by far represent the largest number of staff working in 21st CCLCs across each term examined, and there are some minor differences across terms in the percentage of total staff made up by school day teachers. This is especially noticeable

between summer staffing levels and those associated with the school year, where school day teachers are more apt to represent a higher percentage of total staff during the latter timeframe.

- In terms of grantee maturity, of particular interest was the finding that though college students composed approximately 10% of all staff for all terms when all centers are considered collectively, centers associated with *Sustaining* grantees reported that over 22% of all summer staff were college students, in contrast to 11% of all staff for centers associated with *Mature* grantees. Future analyses may be warranted to determine if this difference seems to be associated with the step down in funding witnessed by grantees as they near the end of their grant.

Finally, a number of differences were found to be associated with centers falling within the six program cluster types in terms of the percentage of different types of staff used to deliver programming. Such results may further bolster the case that quality assessment approaches may need to account for the program and staffing models being employed. For example, one would expect that the constructs emphasized in assessing program quality among centers providing mostly tutoring services and that largely employ school-day teachers would likely be qualitatively different than those in centers focusing mostly on recreation and that employ a larger proportion of youth development workers and students drawn from area high schools and colleges as staff.

*Student-Level Analyses*

One way of examining the reach of the 21st CCLC program is to examine the participation of students with different needs and backgrounds. The following section highlights the attributes associated with students participating in Texas 21st CCLC programs, including demographic information and attendance patterns across the various enrichment activities offered during the 2006-07 reporting period (Summer 2006 through Spring 2007).

*Demographic Information*

Figure 33 illustrates the ethnic background of students who attended 21st CCLC programming during the 2006-07 reporting period in Texas. In terms of students' ethnicity, the majority of students were of Hispanic descent (67%). African American students comprised the second largest ethnic group (22%), followed by White, non-Hispanics (10%), Asian-Pacific Islanders (1%) and Native American students (0.2%).

**Figure 33: Percentages of Students of Various Ethnic Backgrounds Served
During the Summer of 2006 and the 2006-07 School Year**
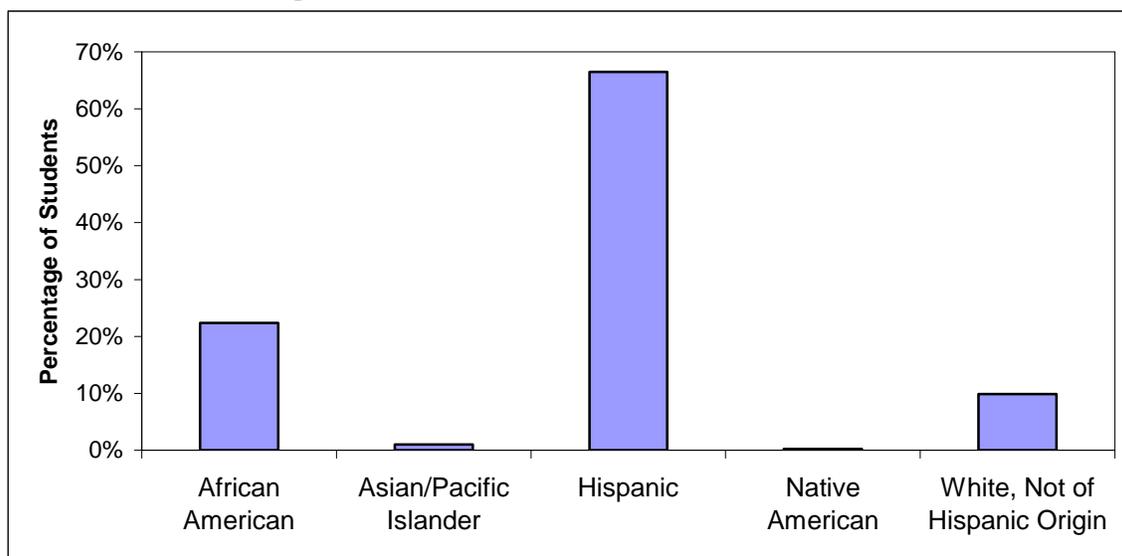


*Note.* Based on 134,066 students.

In terms of gender, male and female students were equally represented in the 21st CCLCs in Texas. Across the summer, fall, and spring terms during the 2006-07 reporting period, females accounted for 50.1% of participating students and males accounted for 49.9%.

*Student Participation by Center Locale*

The context within which 21st CCLC programming is delivered can vary significantly from one community to another, ranging from urban centers characterized by high levels of poverty to fairly isolated rural communities characterized by few opportunities for youth to participate in structured activities outside the regular school day. In light of these differences, a series of analyses were performed to examine how attendance patterns varied across rural, suburban, and urban communities. Since the available data do not necessarily indicate which centers could be classified in each of these categories, feeder school locale was used as a proxy for center locale. In this case, a feeder school is defined as any public school attended by a student during the school day that participates in 21st CCLC programming at a given center. Feeder schools in Texas were matched with the Common Core of Data (CCD) to determine the locale (rural, suburban, or urban) of each school. The CCD is a database maintained by the U.S. Department of Education on public elementary and secondary education, which includes

descriptive information about schools, districts, students, staff, and fiscal data, including revenues and expenditures. Consequently, the center associated with a given feeder school was assigned that same locale category. Those centers that served feeder schools in different categories (e.g., urban and suburban feeder schools) were assigned to a group labeled "combination."

As shown in Figure 34, the vast majority of students attended centers in an urban area (63%). Suburban centers served 17% of students, rural centers served 15%, and Combination centers served 5% of Texas 21st CCLC students.

**Figure 34:  Percentages of Students Attending Centers by Locale**
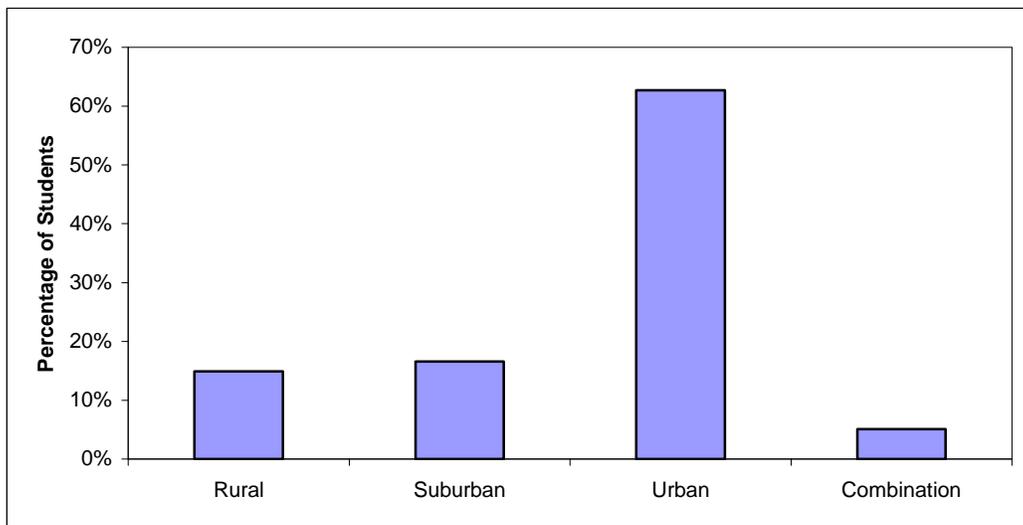


*Note.*  Based on 133,111 students in 587 centers.

*Attendance*

Attendance is an intermediate outcome indicator that reflects the potential breadth and depth of exposure to after-school programming. In this regard, attendance can be considered both in terms of (1) the total number of students who participated in the center's programming over 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 utilized 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.

Across all centers in Texas in the 2006-07 reporting period, 21st CCLC programming was offered an average of 101 days. Broken down by term, centers were open an average of 22 days in the summer, 63 days in the fall, and 81 days in the spring.

Attendance was also calculated in terms of the percentage of days a student attended programming. The summer term had the highest percentage of attendance with students attending programs an average of 73% of the days centers were open, followed by the fall (57%) and spring terms (55%). Across the entire reporting period, students attended, on average, 61% of the days 21st CCLC programming was offered at a given site.

*Activity Attendance*

Consistent with the purposes of the 21st CCLC program, centers offered a variety of activities in core academic content areas (Reading, Math, Science, Social Studies) and other non-core subject areas and activities (Fine Arts, Physical Education, Health, Youth Development, Technology Tool, Technology Skill, and Mentoring). In order to explore the extent to which students attended different types of activities, student activity attendance in a give type of activity was calculated relative to the number of days that student attended any 21st CCLC programming. The following formula illustrates how this percentage was calculated:

<u>Total # of days a student participated in an activity</u>
Total # of days a student attended 21st CCLC programming

Content areas represented in the figures that follow include the following areas:
- Reading
- Mathematics (Math)
- Science
- Social Studies
- Fine Arts
- Physical education (Physical)
- Health, nutrition, and wellness (Health)
- Youth development (Youth Dev)
- Technology as a tool (Tech Tools)
- Technology as a skill (Tech Skills)

- Mentoring  (Mentor)

As shown in Figure 35, students generally had a higher attendance rate during the summer than during the school year. During the summer term, students participated the most in physical education activities (59%), followed by fine arts programs (50%), and then reading activities (46%). The activity attendance rate was slightly different during the school year (Fall 2006 and Spring 2007), in which students participated the most in reading activities (36% of days attended), followed by physical education activities (34%), and math activities (31%). When examining the reporting period as a whole, the highest attendance rate was for physical education activities (44% of days attended) followed closely by reading activities (43%t).

**Figure 35:  Percentages of Activity Participation Based on Total Number of Days Students Attended Programming**
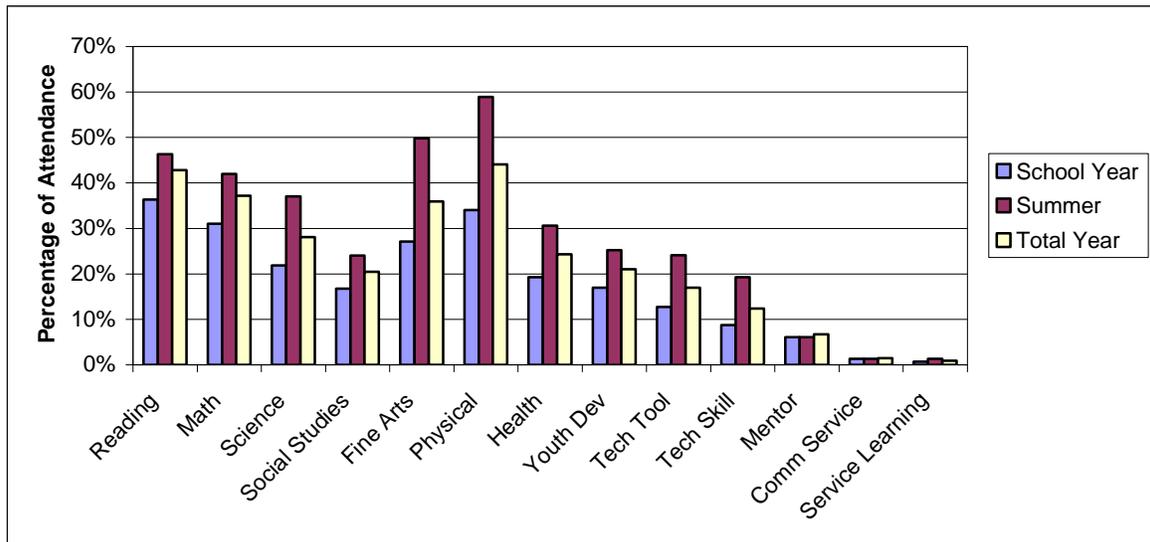


*Note.* Based on 113,919 students during the school year; 33,904 students during the summer; and 133,140 students during the total year.

*Tutorials*

Tutorials are an important component of 21st CCLC programming in Texas, representing time set aside to support core academic subject areas. All centers are expected to dedicate a meaningful amount of operational time to the provision of such activities. The following analyses represent the percentage of core subject tutorials students attended across both the summer and school year. Similar to the patterns found for activity attendance, students were most apt to participate in reading-related tutorials during the school year, attending on average

17.8% of offered tutorials as shown in Figure 36. During the summer term, on average students attended Reading and Math tutorials 11.3% and 11.4% of the time, respectively.

**Figure 36: Percentages of Core Subject Tutorials Attended Each Term**
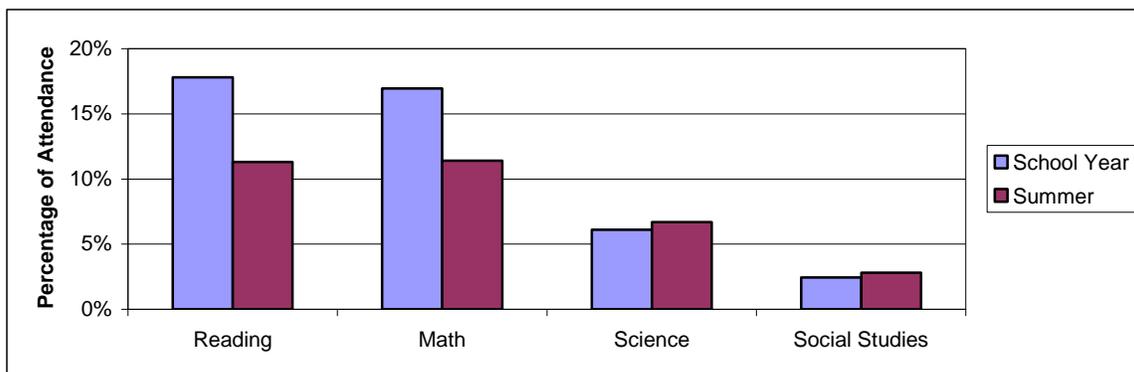


*Note.* School Year represents average of Fall 2006 and Spring 2007 attendance rates. Based on 90,138 students in the Fall 2006 term; 86,788 students in the Spring 2007 term; and 33,904 students in the Summer 2006 term.

*Attendance by Key Subgroups*

This next section provides information about students and the centers they attend, including the grade levels and locations of schools served by 21st CCLCs in Texas, as well as further information regarding attendance patterns broken down by activity, center locale, grantee type, grantee cycle, and institutional experience. It should be noted that the attendance analyses below utilized the metric in which students' activity attendance was calculated relative to their own overall attendance at centers.

*Attendance by Grade Level Served*

The following discussion provides an overview of analyses conducted on student activity data based on the grade level served by the center. Figure 37 shows the attendance rates at core subject area activities by the grade level served by the centers, whereas Figure 38 shows attendance rates for non-core subject area activities. Both figures are based on attendance during the school year (fall and spring terms).

As illustrated in Figure 37 older students (particularly those attending *Middle/High* and *High Only* centers) participate in core subject area activities at a lower rate than younger students. This is consistent with earlier findings that centers serving older students are more

likely than centers serving younger students to be categorized in the *Mostly Recreation*; *Mostly Enrichment and Recreation*; or *Recreation, Career, and Leadership* clusters. Students at *Elementary Only* centers had the highest attendance rate at the four core subject area activities (45% for reading, 37% for math, 27% for Science, and 20% for Social Studies).

**Figure 37:** **Core Subject Activity Attendance by Grade Level Served (School Year)**
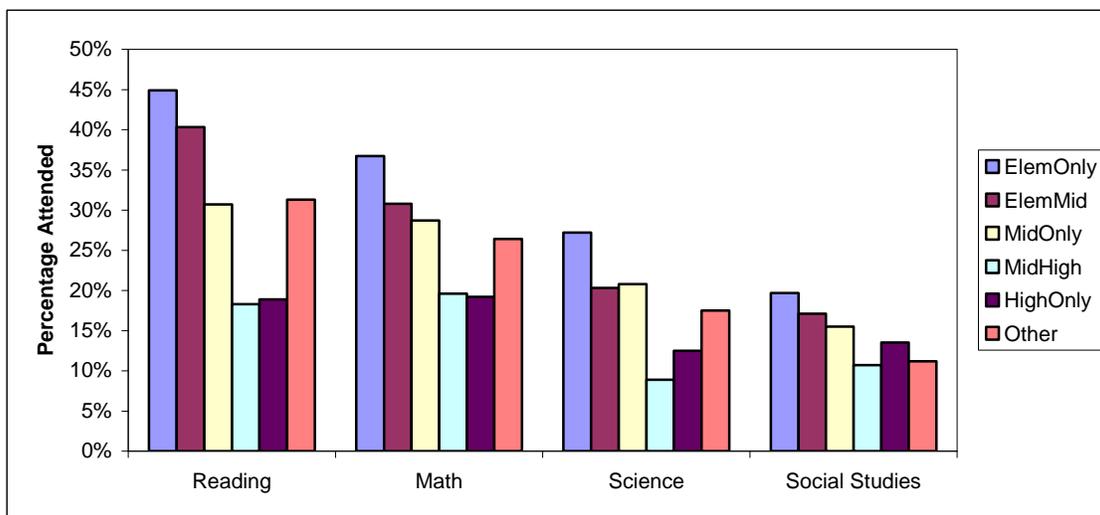


*Note*. Based on 113,919 students (after listwise deletions[5]).

When examining the non-core subject areas, as illustrated in Figure 38, a similar pattern exists for fine arts activities as with core subject area activities, with younger students' attendance rates being higher than older students'. However, for physical education and health-related activities, although *Elementary Only* centers witnessed the highest attendance rates (39% and 22%, respectively), older students also had relatively high attendance rates (for physical education activities, 31% for both *Middle Only* students and *Middle/High* students; for health-related activities, 20% for *Middle/High* and 18% for *High Only* students). For Youth Development activities, students attending *Middle/High* and *High Only* centers had the highest attendance rates, both at 21%, followed closely by *Middle Only* and *Other* centers, both witnessing 19% attendance. Student attendance at technology activities (both tool and skill) and mentoring activities were relatively even across grade levels.

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[5] A listwise deletion is an approach to addressing missing data, in which cases that do not have data on all variables being tested are eliminated, and analyses are only run on data that are complete.

**Figure 38: Non-Core Subject Activity Attendance by Grade Level Served (School Year)**
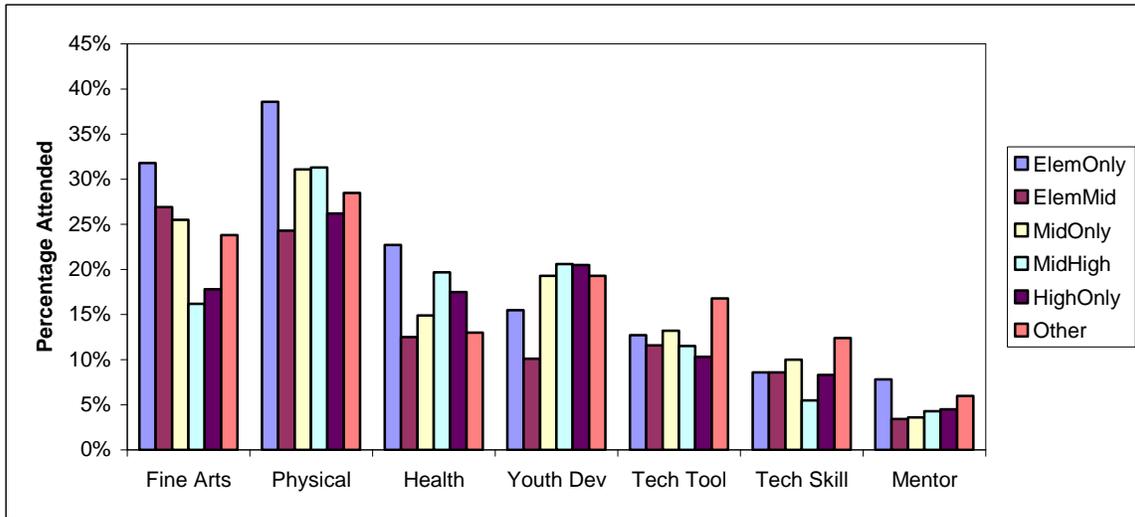


*Note.* Based on 113,919 students (after listwise deletions).

Figure 39 illustrates how the rate of school year attendance declines as the grade level served by centers increases. In contrast, the rate of attendance was found to be relatively consistent during the summer across grade levels. Not only is attendance more consistent during the summer, but it is also apparent that students attend higher percentages of activities offered during the summer than during the school year.

**Figure 39: Student Attendance by Grade Level Served and School Term**
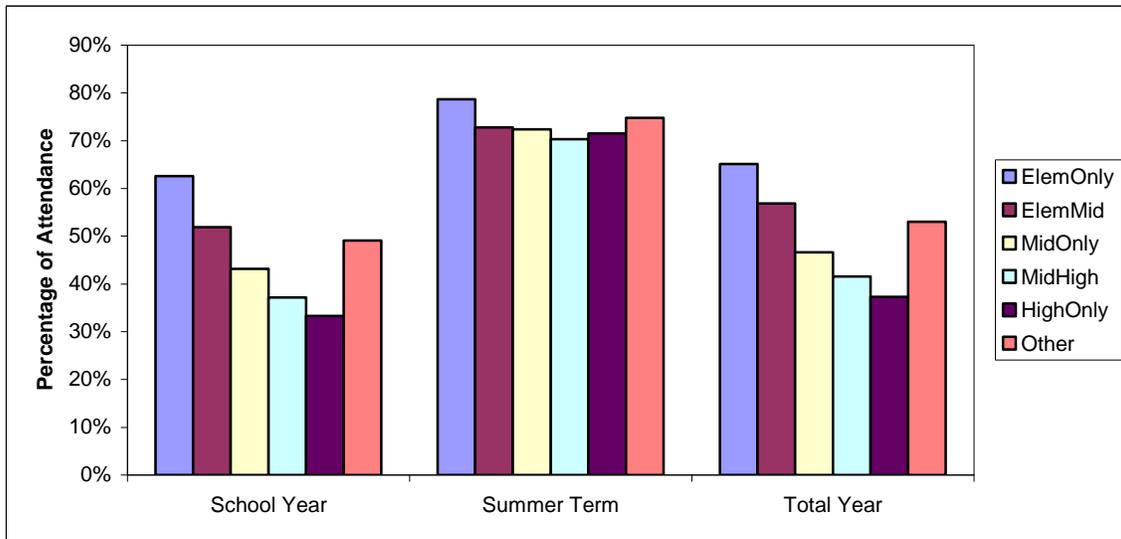


*Note.* Based on 113,872 students during the school year; 34,203 students during the summer; and 132,752 students during the total year (after listwise deletions).

*Attendance by Grantee Type*

Attendance of activities was also examined based on the type of grantee with which centers were affiliated. School-based grantees include school districts and charter schools, whereas non-school-based grantees included community-based organizations (CBOs), intermediate education agencies, nationally-affiliated non-profit agencies (NANPAs), and other grantees. As shown in Figure 40, students attending centers affiliated with school-based grantees have higher attendance rates during the school year in activities associated with all four core academic subject areas (55% for reading, 53% for math, 39% for science, and 42% for social studies) compared with centers affiliated with non-school-based grantees (33% for reading, 28% for math, 19% for science, and 13% for social studies).

**Figure 40:  Core Subject Activity Attendance by Grantee Type (School Year)**
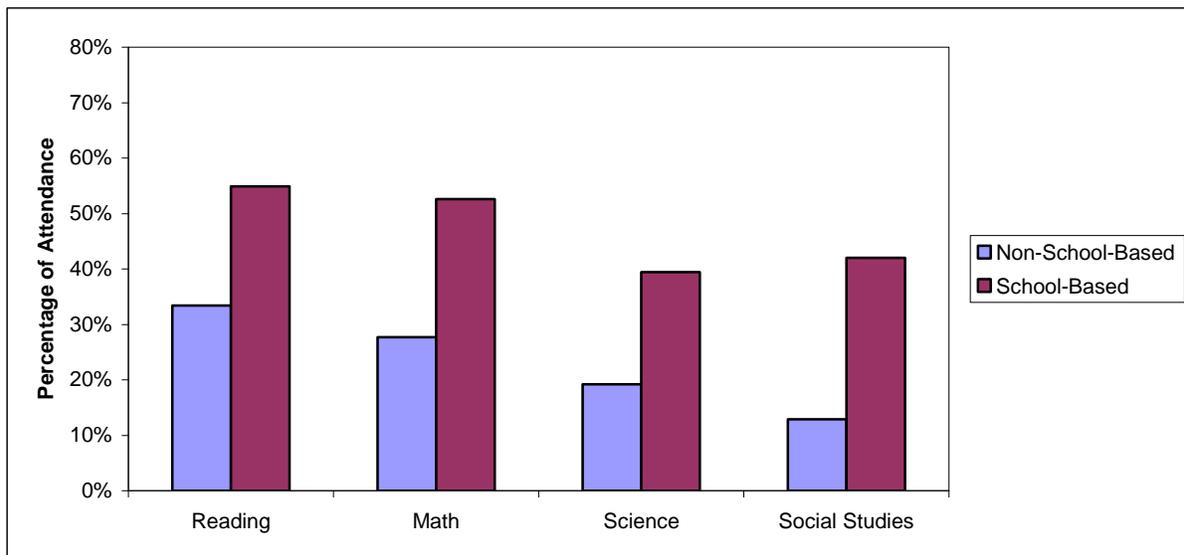


*Note*.  Based on 17,499 students in centers affiliated with school-based grantees and 116,567 students in centers affiliated with non-school-based grantees.

With the exception of mentoring activities, students attending centers affiliated with school-based grantees also had higher attendance rates in non-core subject area activities, as illustrated in Figure 41.

**Figure 41: Non-Core Subject Activity Attendance by Grantee Type (School Year)**
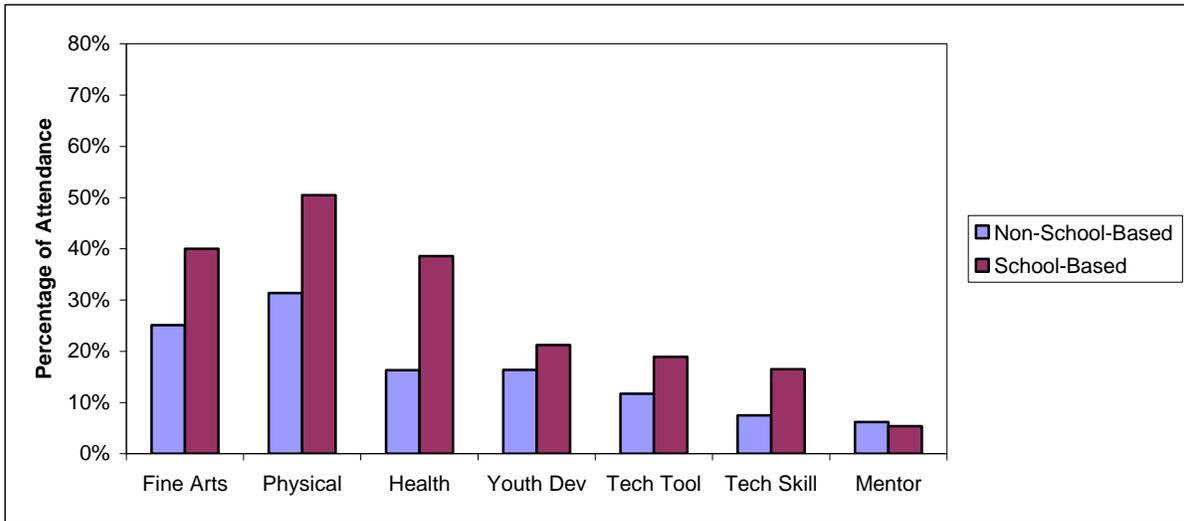


*Note*. Based on 15,293 students in centers affiliated with school-based grantees and 98,626 students in centers affiliated with non-school-based grantees (after listwise deletions).

*Attendance by Grantee Maturity*

As noted previously, Texas 21st CCLC grantees were classified as *New*, *Mature*, or *Sustaining*. During the school year, students attending centers affiliated with *New* grantees had the highest attendance rates in the four core academic subject areas (46% for reading, 40% for math, 34% for science, and 25% for social studies) compared to students attending centers affiliated with *Mature* or *Sustaining* grantees, as shown in Figure 42.

**Figure 42: Core Subject Activity Attendance by Grantee Maturity (School Year)**
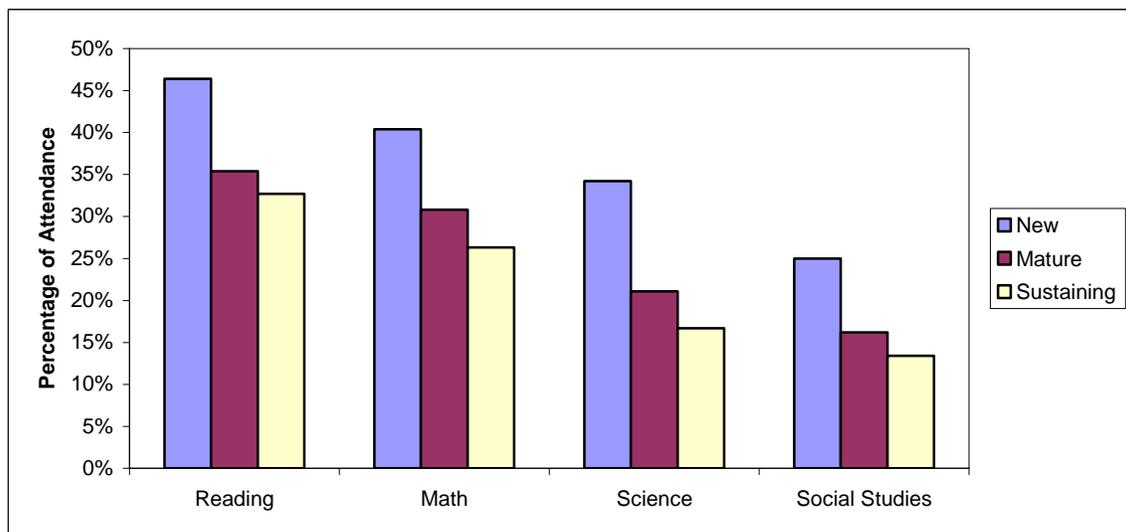


*Note*. Based on 16,471 students in centers of *New* grantees; 83,455 students in centers of *Mature* grantees; and 34,150 students in centers of *Sustaining* grantees.

Regarding non-core subject area activities, students affiliated with *New* grantees also had the highest attendance rates in fine arts, health, youth development, technology skill, and mentoring activities. The only activities in which students affiliated with *New* grantees did not have the highest attendance rates were in physical activities, in which students affiliated with *Mature* and *Sustaining* grantees had higher attendance rates; and technology tool activities, in which students affiliated with *Mature* grantees had slightly higher attendance rates, as shown in Figure 43.

**Figure 43:** **Non-Core Subject Activity Attendance by Grantee Maturity (School Year)**
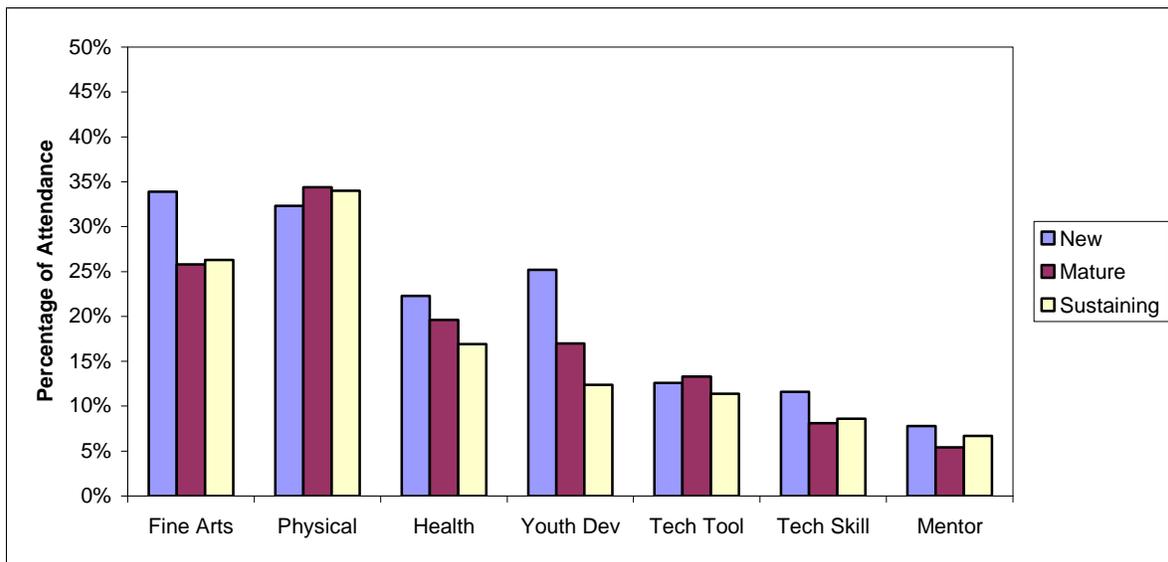


*Note*. Based on 16,471 students in centers of *New* grantees; 83,455 students in centers of *Mature* grantees; and 34,150 students in centers of *Sustaining* grantees.

*Attendance by Institutional Experience*

Texas 21st CCLC grantees were divided by institutional experience, as before. The following analyses examine any activity attendance rate differences between students attending centers affiliated with these two groups. Figure 44 shows that students attending centers affiliated with grantees with previous experience had slightly higher attendance rates at reading and math activities than students attending centers affiliated with grantees with no experience. This difference in attendance rates was even greater for science and social studies activities. Generally, students attending centers affiliated with experienced grantees had higher attendance rates than those attending centers affiliated with grantees without experience.

**Figure 44:** **Core Subject Activity Attendance by Institutional Experience of Grantee (School Year)**
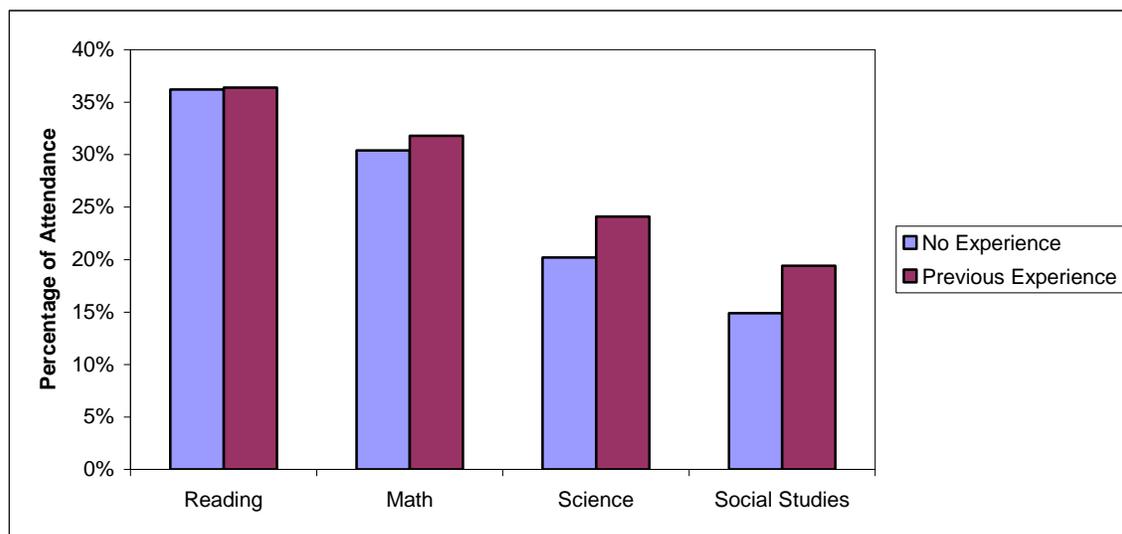


*Note*. Based on 79,029 students in centers affiliated with grantees with no experience; and 55,037 students in centers affiliated with grantees with previous experience.

In non-core subject areas, grantees with previous experience had students with higher attendance rates in fine arts (29%), physical (35%), youth development (19%), and mentoring activities (7%). However, as shown in Figure 45, grantees without experience had students with higher attendance rates in health-related activities (19%), activities in which technology was used as a tool (15%), and activities oriented toward technology skill development (9%).

**Figure 45:** **Non-Core Subject Activity Attendance by Institutional Experience of Grantee (School Year)**
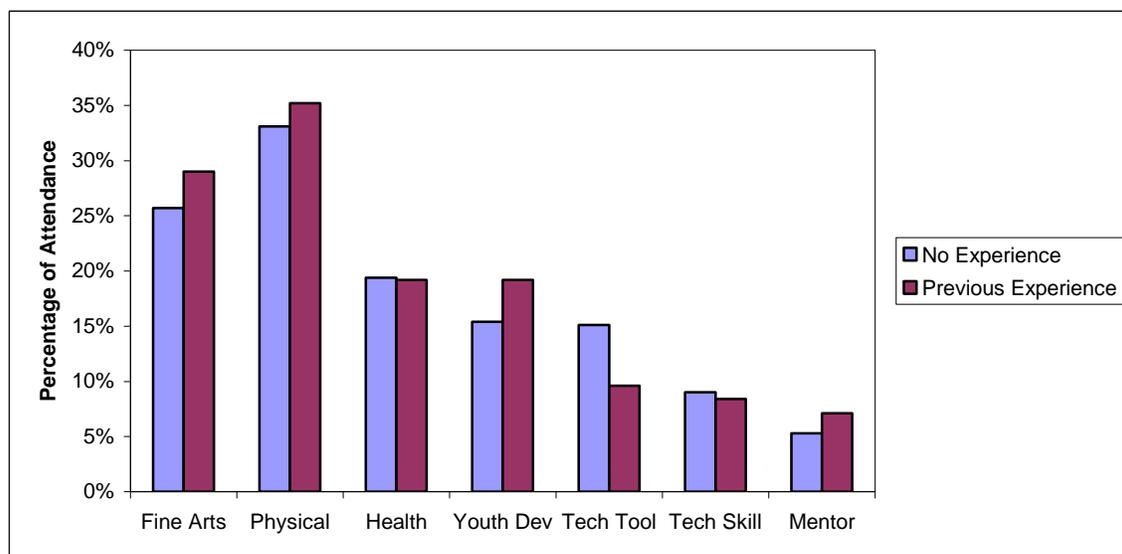


*Note.* Based on 79,029 students in centers affiliated with grantees with no experience; and 55,037 students in centers affiliated with grantees with previous experience.

*Attendance by Program Cluster*

Here again, we were interested in how trends in student attendance during the course of the 2006-07 school year varied across the six primary program clusters defined previously. In particular, we were interested in exploring the relationship between program cluster and student attendance across three primary measures:

1. The average number of days students participated in programming during the school year

2. The average number of days students participated in core academic activities (e.g., reading, mathematics, science, etc.)

3. The ratio of the average number of days students participated in core academic activities at a center to the average number of days a center in a given cluster was open during the 2006-07 school year. This measure provides us with an enhanced ability to understand the relative attendance rate in activities targeting particular subject areas in light of the total average days of operation associated with centers represented in a given cluster.

In Figure 46, the average number of days students attended 21$^{st}$ CCLC programming is outlined by cluster along with the average number of school year days of operation. The most compelling finding outlined in Figure 46 concerns centers in the *Mostly Enrichment* cluster. Not only do centers found in this cluster report the greatest number of operational days on average (119), the ratio of average days attended to average days open is higher than the ratio associated with any other cluster. In this regard, centers in the *Mostly Enrichment* cluster exhibit a ratio of days attended to days open of 0.66 while for centers in other clusters this ratio ranges from 0.50 to 0.57. This difference suggests that students attending centers in the *Mostly Enrichment* cluster on average attended activities more intensively during the course of the school year than students attending centers in other clusters. In some respects, this is likely to be a function of the different grade levels served by centers in the different clusters, since, as demonstrated previously, centers classified as serving only elementary students or a combination of elementary and middle school students were more apt to be in the *Mostly Enrichment* cluster than centers serving other grade levels. Given the hypothesis that many parents are apt to use 21$^{st}$ CCLC programs as custodial care for younger children, it is not surprising that the ratio of days attended to days offered would be higher in a cluster strongly characterized by programs serving elementary students.

**Figure 46:  Mean School Year Days Attended and Mean Number of Days the Center was Open During the School Year by Program Cluster**
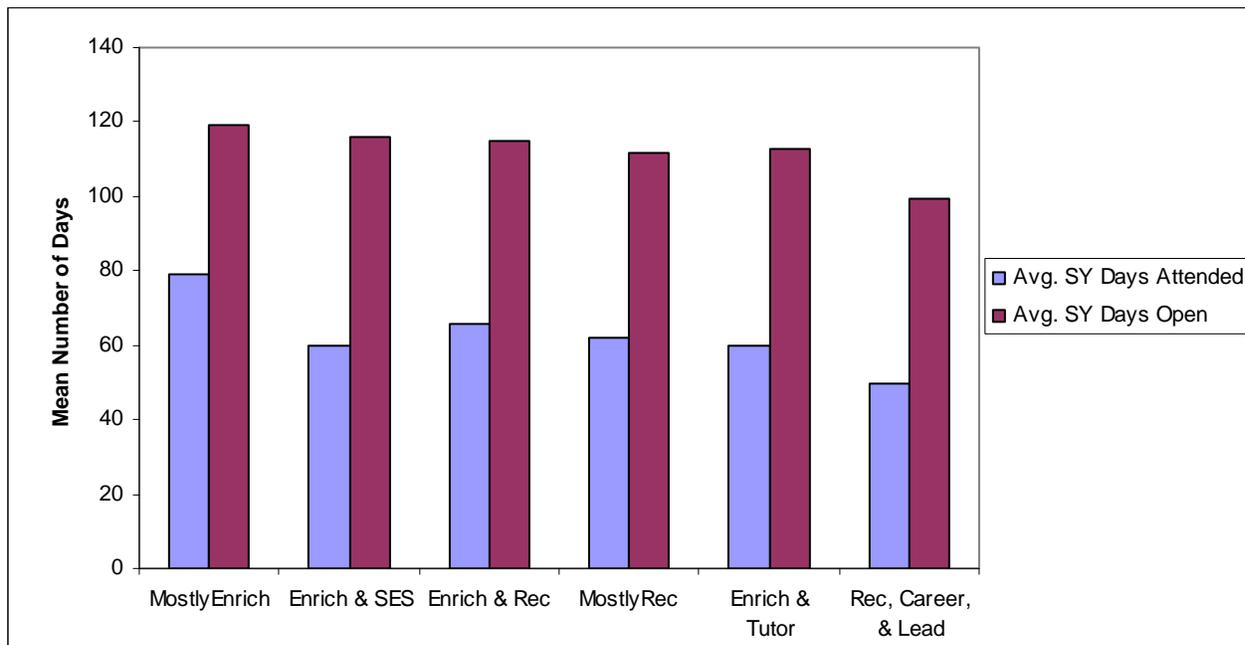


*Note.*  Based on 586 centers reporting for the 2006-2007 school year

Given that the primary goals of the 21st CCLC program are (1) to provide programming focused on academic enrichment in core subject areas like reading, mathematics, and science and (2) to offer students a broad array of additional out-of-school services, programs, and activities designed to reinforce and complement the regular academic instruction of participating students, it also seemed appropriate to examine how average student attendance varied across center clusters in terms of participation in activities that addressed a particular subject area. In Figure 47, the average number of days during the school year that students attending centers associated with a given cluster attended activities that contained reading, mathematics, science, and social studies content is outlined. As shown in Figure 47, students attending centers in the *Mostly Enrichment* cluster demonstrated the highest average number of days of attendance across each of the subject areas in question, followed by students attending centers represented in the *Enrichment and SES* cluster. The lowest average number of days of attendance was associated with centers in the *Enrichment and Tutoring*, and the *Recreation, Career, and Leadership* clusters. The fact that centers in the *Enrichment and Tutoring* cluster demonstrated a relatively low level of average attendance may be of some interest to centers that have opted to adopt this program delivery model given that the average number of days in which centers in this cluster

were open during the school year is largely equivalent with most of the other clusters, as shown in Figure 47.

**Figure 47:** **Mean School Year Days Attended by Academic Subject Area and Program Cluster**
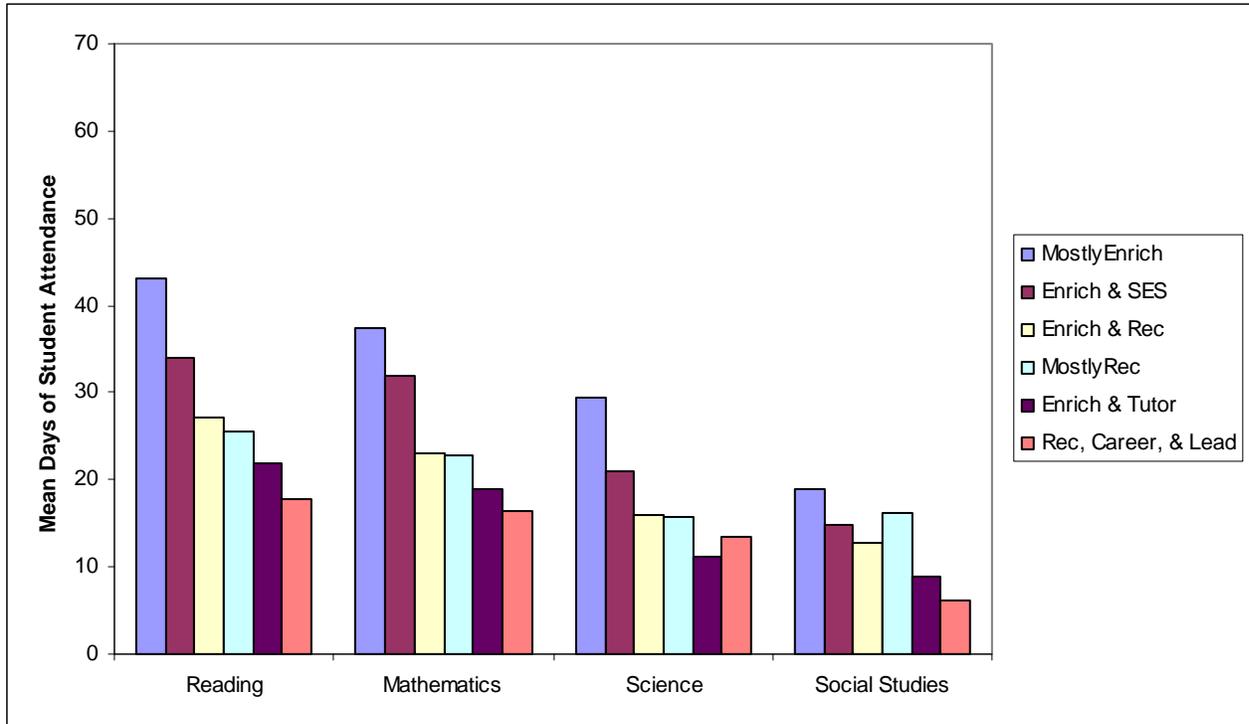


*Note.* Based on 586 centers reporting for the 2006-2007 school year

In Figure 48, the average number of days during the school year that students associated with a given cluster attended non-core academic content activities is outlined. Similar to results highlighted in Figure 47, centers in the *Mostly Enrichment* cluster demonstrated noticeably higher attendance rates in fine arts, physical education, health, and activities where technology is used as a tool than centers in most other cluster types. Also, as might be expected, centers in the *Enrichment and Recreation* and the *Mostly Recreation* clusters also demonstrated higher attendance rates in physical education-related activities than centers in most other cluster types.

**Figure 48:** **Mean School Year Days Attended by Non-Core Academic Subject Area and Program Cluster**
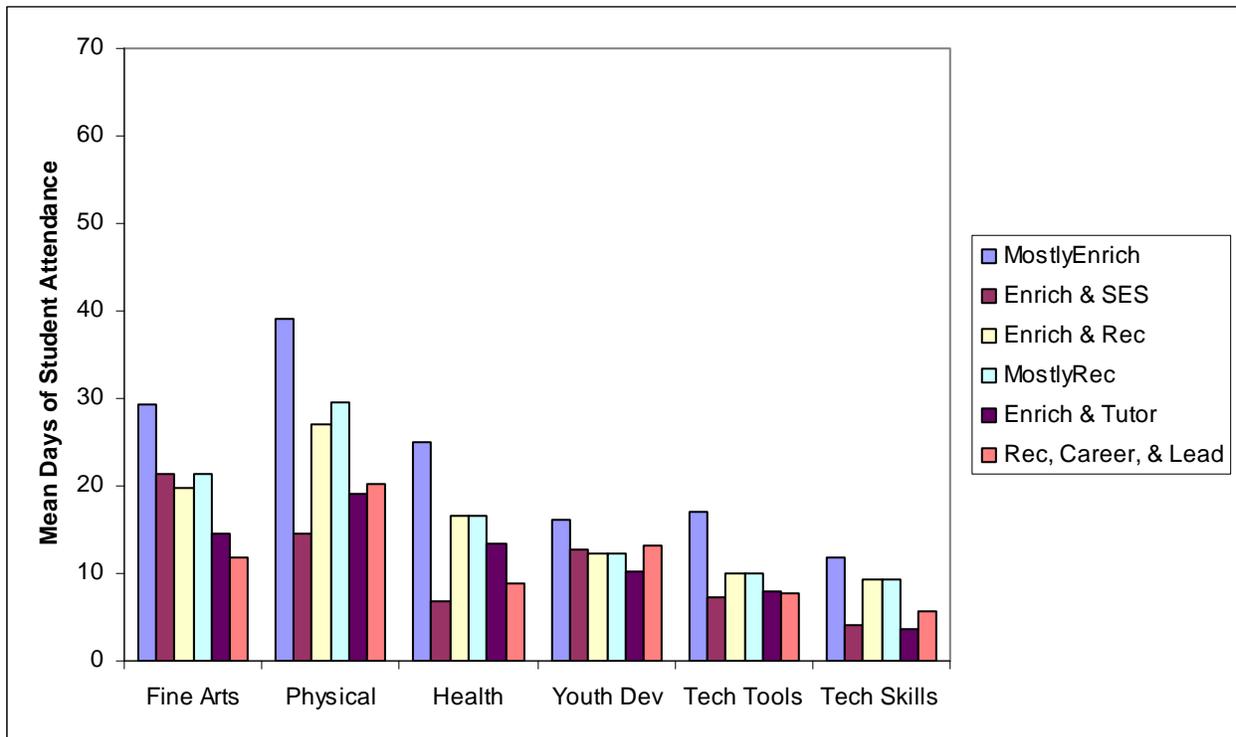


*Note.* Based on 586 centers reporting for the 2006-2007 school year

While Figure 47 and Figure 48 highlighted some interesting differences among centers in the six program clusters in terms of average activity attendance by subject area, another approach to examining this issue would be to explore the ratio of the average number of days students participated in core-content activities to the average number of days in which centers in a given cluster were open during the 2006-07 school year. This measure provides us with an enhanced ability to understand the relative attendance rate in core-content activities in light of the total average number of days a center operated.

The results are shown in Figure 49 divided by core academic subject. Probably the most interesting finding outlined in Figure 49 is the fairly wide gap in reading and mathematics attendance ratios *across* the six clusters. For example, the ratio of average student days attended in reading activities relative to total days the center was open during the school year was 0.33 for centers in the *Mostly Enrichment* cluster while the ratio for the *Career, Recreation, and Leadership* cluster was 0.15. This indicates that students attending centers represented in the *Mostly Enrichment* cluster on average are likely to receive the most intensive exposure to reading and mathematics content as compared to students attending centers represented in other program

clusters. However, in terms of student participation in science and social studies activities, there is not nearly such a consistent decline across clusters as is witnessed in relation to reading and mathematics. In this regard, it is possible that the intensity of student participation in activities targeting reading and mathematics content is likely related to the program model adopted by the center in question, with centers represented in the *Mostly Enrichment* cluster providing the most exposure to these content areas. While such an outcome would be expected when comparing centers found in the *Mostly Enrichment* cluster with those centers associated with the *Mostly Recreation* cluster, the fact that centers found in the *Mostly Enrichment* cluster yielded more intensive student involvement in reading and mathematics activities than centers found in either the *Enrichment and SES* and *Enrichment and Tutoring* clusters necessarily would not have been predicted. However, as noted previously, it is also possible that differences of this ilk may be more a function of the different grade levels served by centers across clusters than differences seemingly associated with the relative emphasis given to providing academic enrichment activities.

**Figure 49: Mean Number of School Year Days Students Attended Activities in a Given Core Academic Subject Area Relative to the Mean Number of Days the Center was Open During the School Year by Program Cluster**
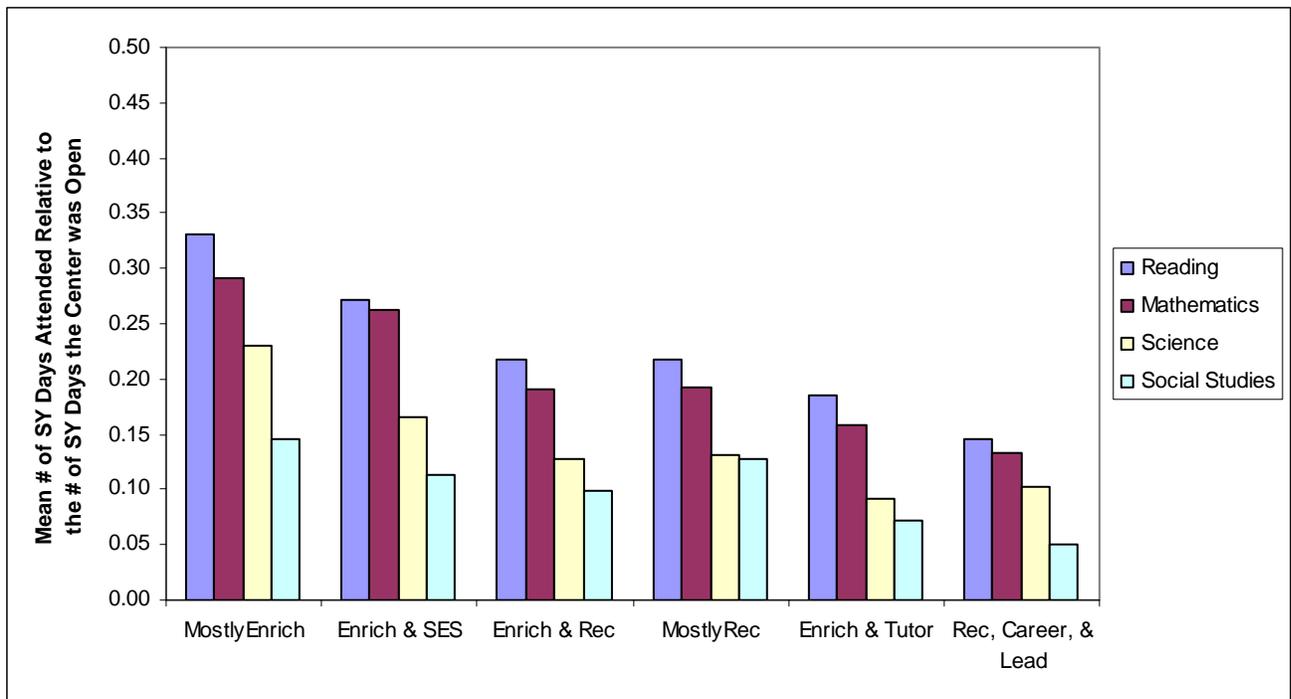


*Note.* Based on 586 centers reporting for the 2006-2007 school year

*Summary of Findings Based on Student Attendance*

Among the more notable findings in this section concerned the higher attendance rates in all core and non-core subject areas by students attending centers affiliated with school-based grantees as compared to non-school-based grantees, with the exception of mentoring where non-school-based grantees were only slightly more apt to provide this type of activity. In light of this result, it may be appropriate to further examine what additional characteristics seem to distinguish school-based from non-school based grantees, including in the procedures and processes employed to recruit student participants and deliver programming. Such analyses may help to further identify what processes and procedures are most apt to encourage higher levels of attendance on the part of participating students.

Another curious finding noted in this section relates to the negative relation between center maturity and the attendance rate in programming during the school year. In terms of the attendance rate in programming related to core academic subject areas, *New* grantees showed the highest attendance rates, followed by *Mature* grantees, and finally those *Sustaining* grantees. This was not the case, however, when the institutional experience of a grantee was considered where grantees with prior experience demonstrated a higher attendance rate than those without experience. Here again, it seems that further efforts to explore how grantees evolve over the grantee life cycle seem warranted.

Finally, in terms of efforts to compare program cluster membership and attendance patterns, there seems to a preponderance of evidence that centers in the *Mostly Enrichment* cluster had both the highest absolute number of days attended and the highest attendance rate in core academic and non-core activities. Here again, further efforts to explore how the processes and procedures employed in designing and delivering activities at centers in the *Mostly Enrichment* cluster as compared to centers in the other five clusters would seem appropriate and warranted.

*Further Exploring the Relationship Between Attendance and Program Characteristics*

During the course of this report, particular attention has been given to exploring how Texas 21st CCLCs may differ on a whole host of characteristics and attributes based on the grade level served by the center, the maturity and institutional history of the grantee, the type of organization serving as the fiscal agent for the grant, and the program model or cluster associated with the center. In undertaking analyses considering how programs may differ across the

subgroups associated with each of these facets of program operation, we have found that some of the most compelling and interesting differences among programs seem to be associated with the grade level of students served by a center, the program cluster associated with a center, and the relative maturity of the grantee.

In order to further explore how these three program characteristics may interact to impact the student attendance rate during the course of the 2006-07 school year, we opted to run a hierarchical linear model (HLM) where the percentage of days a student attended a center relative to the total number of days the center was open during this timeframe was used as the dependent variable. In undertaking this analysis, we opted to use one level-one predictor, student grade level, and explored the viability of using up to five level-two (or center-level) predictors:

1. The number of months the center had been in operation based on the month and year of grant award as a measure of grantee maturity;

2. The percentage of total activity hours offered that were dedicated to the provision of academic enrichment activities;

3. The percentage of total activity hours offered that were dedicated to the provision of recreation activities;

4. The percentage of total activity hours offered that were dedicated to the provision of tutoring activities;

5. The percentage of total activity hours offered that were dedicated to the provision of SES activities.

These latter four fields represent those variables that were primarily relied upon in carrying out the cluster analyses highlighted previously in this report based on the relative emphasis centers gave to offering certain categories of activities. While the percentage of hours dedicated to providing career/job training for youth and leadership activities also served to define one of the program clusters examined previously, the cluster in question had relatively few members, so we opted to exclude these fields from the HLM-analyses described here.

In undertaking these analyses, we opted only to examine attendance during the school year given that *New* grantees did not have the opportunity to offer programming during the summer of 2006. In addition, in order to preserve a consistent meaning for our outcome variable (i.e., the percentage of days a student attended a given 21st CCLC during the school year relative to the total number of days the center was open), we also excluded students from the analysis if

they attended either the fall or spring term but not both. In total, our level-one analysis included 61,678 students that attended 579 centers.

The initial question we were interested in addressing through our HLM analysis was: is a student's grade level (COMPOSIT) related to their level of program attendance (PERC_SYA)? In order to address this question, we opted to run a random coefficients regression model with one level one predictor, student grade level, as shown in Figure 50. In this model, the level one slopes, which represent the relationship between student attendance and grade level, in addition to the level one intercepts are considered as varying randomly over the population of level two units, which in this case are centers. The assumption being made here is that different groups of centers may have different slopes in terms of the relationship between student attendance and student grade level. It is also important to note that in the model outlined in Figure 50 we opted to grand-mean center student grade level. According to Tabachnick and Fidell (2007), the major reason to do this is to prevent multicollinearity when predictors are components of interactions and to improve overall interpretability of findings.

**Figure 50:  Random Coefficients Regression Model with One Predictor (Student Grade Level)**

**LEVEL 1 MODEL** (bold: group-mean centering; bold italic: grand-mean centering)

$$PERC\_SYA = \beta_0 + \beta_1(\textbf{\textit{COMPOSIT}}) + r$$

**LEVEL 2 MODEL** (bold italic: grand-mean centering)

$$\beta_0 = \gamma_{00} + u_0$$
$$\beta_1 = \gamma_{10} + u_1$$

The model outlined in Figure 50 was run, producing reliability estimates, and estimations for the associated fixed effects and variance components. In terms of the reliability estimates, the emphasis here is on determining whether or not the slope for student grade level should be fixed or left random. The reliability estimate was greater than .05 (0.647), so this is an indication that the student grade level-student attendance slope for each $j$ center is important to take into account when estimating $\beta_{1j}$. Hence, this is an indication that the slope equation at level two should not be fixed. Further evidence for this finding is predicated on the fact that the slope for student grade level was significant ($p < 0.001$) when the variance components portion of the

output was examined as shown in Table 10, suggesting that there is significant variation in the average grade level-student attendance relationship across centers.

Table 10. *Final Estimation of Variance Components - Random Coefficients Regression Model with One Predictor (Student Grade Level)*

| Random Effect | Standard Deviation | Variance Component | DF | Chi-Square | P-Value |
|---|---|---|---|---|---|
| $\mu_0$ | 0.20332 | 0.04134 | 571 | 26131.37534 | 0.000 |
| $\mu_1$ – Grade Level Slope | 0.02301 | 0.00053 | 571 | 2512.11283 | 0.000 |
| R | 0.16921 | 0.02863 | | | |

In addition, looking at the final estimation of fixed effects resulting from the model highlighted in Figure 50, as student grade level increases by one year, the student attendance rate decreases by 0.008524, and this is a statistically significant decrease (p < 0.001), so there is a negative relationship between student attendance levels and student grade level.

Finally, the variance components outlined in Table 10 also provide us with the capacity to calculate the proportional reduction in error both within centers and between centers associated with adding student grade level as a level one predictor to the model. This is done by comparing the variance components resulting from a fully unconditional model (this is described in greater detail in Appendix A) with those components associated with the random coefficients model with one predictor highlighted here. In this regard, the amount of $\sigma^2$ accounted for by the student grade level variable was equal to (0.02951– 0.02863) / 0.02951 or 2.98% of the individual-level variance, a very small amount. In terms of center level variance in student attendance, the student grade level variable accounted for (0.04846 – 0.04134) / 0.04846 or 14.7% of the center-level variance, a modest amount.

In running the model outlined in Figure 50, a series of exploratory analyses were also undertaken in order to better assess which, if any, of our five level two predictors may warrant inclusion. Results from these analyses suggested that the following variables may warrant inclusion as level two predictors given significant *t*-values in relation to predicting intercept values.

1. The number of months the center had been in operation since first receiving the 21st CCLC grant (MONTHS_F, $t = 2.670$);
2. The percentage of total activity hours offered that were dedicated to the provision of academic enrichment activities (PERC_ENR, $t = 5.333$) ;
3. The percentage of total activity hours offered that were dedicated to the provision of tutoring activities (PERC_TUT, $t = -3.385$).

In addition, the variable used to measure grantee maturity (MONTHS_F) was also found to have a significant t-value ($t = 4.316$) in relation to the student grade level-attendance slope and therefore was included in the level two model as a predictor of $\beta_1$ as shown in Figure 51.

<div align="center">

**Figure 51: Fully Conditional Model with Three Level Two Predictors**
**(Months Since Grant Award, Percentage of Hours Dedicated to Academic Enrichment, and Percentage of Hours Dedicated to Tutoring)**

</div>

**LEVEL 1 MODEL** (bold: group-mean centering; bold italic: grand-mean centering)

$$\text{PERC\_SYA} = \beta_0 + \beta_1(\textbf{\textit{COMPOSIT}}) + r$$

**LEVEL 2 MODEL** (bold italic: grand-mean centering)

$$\beta_0 = \gamma_{00} + \gamma_{01}(\text{MONTHS\_F}) + \gamma_{02}(\text{PERC\_ENR}) + \gamma_{03}(\text{PERC\_TUT}) + u_0$$

$$\beta_1 = \gamma_{10} + \gamma_{11}(\text{MONTHS\_F}) + u_1$$

Running the fully conditional model outlined in Figure 51 resulted in significant fixed effects relative to the mean level of student attendance for the variable related to the number of months the center had been in operation ($p < 0.01$) and for the variable related to the percentage of total activity hours offered that were dedicated to the provision of academic enrichment activities ($p < 0.001$). In this regard, as the percentage of totals hours offered that are dedicated to enrichment increases, the average student attendance rate increases by 0.185677 when the grade level of the student is average and when both the percentage of activity hours offered that are dedicated to tutoring and when the months since award are zero. In a similar fashion, as the number of months since award increases, the average student attendance rate increases by 0.002082 when the grade level of the student is average and when both the percentage of activity hours offered that are dedicated to tutoring and academic enrichment are zero. The percentage of hours dedicated to tutoring was not found to have a significant direct effect on the level student attendance when controlling for the other variables included in the model.

In terms of slope effects, the variable related to the number of months the center had been in operation was found to be significant ($p < 0.001$). In this regard, as the number of months since award increases, the student attendance – grade level relationship increases by 0.000418 when the percentage of activity hours dedicated to academic enrichment and tutoring is zero. This would suggest that on average more mature grantees are less likely to witness a decline in the student attendance rate as the students' grade level increases as compared to their less mature counterparts. Finally, in term of the proportional reduction in variation that occurs when moving from the random coefficients model with one level one predictor to the fully conditional model with three level two predictors, a comparison was made among the variance component results from the random coefficients model with one level predictor outlined in Table 11 with the fully conditional model with three level two predictors outlined in Table 11. These calculations are outlined as follows:

- Incremental variance ($u_{0j}$) accounted for by level-2 predictors = (0.04134 - 0.03870) / 0.04134 = .0639 or 6.39% of the variance that wasn't accounted for by student grade level. However, because 14.7% of the variance was accounted for by the student grade level variable at level one, this left 85.3% to be explained by the level two predictors. In this regard, then .853 × .0639 = 0.0545, so 5.45% of the center variance in average student attendance was accounted for by the level-2 predictors, months since grant award and percentage of hours dedicated to academic enrichment activities.

- Variance ($u_{1j}$) accounted for by level-2 predictors = (0.00053 - 0.00051) / 0.00053 = .0377 or 3.77% of the center level variance in the student grade level-student attendance relationship was accounted for by the level-2 predictor representing the number of months since grant award, a very small amount.

Table 11. *Final Estimation of Variance Components – Fully Conditional Model with Three Level Two Predictors*

| Random Effect | Standard Deviation | Variance Component | DF | Chi-Square | P-Value |
|---|---|---|---|---|---|
| $\mu_0$ | 0.19672 | 0.03870 | 568 | 25292.68723 | 0.000 |
| $\mu_1$ – Grade Level Slope | 0.02249 | 0.00051 | 570 | 2432.17162 | 0.000 |
| R | 0.16921 | 0.02863 | | | |

*Discussion of HLM Results*

In undertaking the HLM analyses highlighted in the previous section, we were interested in exploring the extent to which student grade level, grantee maturity measured by months since grant award, and the percentage of total activity hours dedicated to tutoring and academic enrichment activities might serve to predict levels of student attendance during the 2006-07 school year. Results obtained from these analyses suggest that overall there is a negative relationship between the attendance rate in 21st CCLC programming and the grade level of students, so as centers seek to serve older students, the attendance rate is likely to decline. In terms of center level variance in student attendance, the student grade level variable was found to account for almost 15% of the center-level variance in attendance levels, a modest amount.

In addition, both a greater degree of grantee maturity and a higher percentage of hours dedicated to academic enrichment are also likely to have a positive impact on the student attendance rate when controlling for other variables included in the model, including student grade level. However, collectively, these variables provided relatively little value in explaining the variance across centers in terms of the student attendance rate, accounting for roughly 6% of the center variance in average student attendance.

Finally, grantee maturity as measured by months since grant award also was found to moderate the relationship between student grade level and the attendance rate, suggesting that on average more mature grantees are less likely to witness a decline in the student attendance rate as the grade level of students increases as compared to their less mature counterparts. Here again, however, the percentage of variance in the relationship between student grade level and student attendance accounted for by the grantee maturity variable was quite small (roughly 4%).

*Summary and Conclusions*

The primary purpose of this report was to provide an overview of the programmatic characteristics associated with 21st CCLCs operating in Texas during the summer of 2006 and the 2006-07 school year.

In providing this overview, particular attention was given to exploring grantee characteristics; the role and nature of center activities, operations, staffing; and student attendance. In addition, we explored how certain program characteristics differed across subgroups formed in each of the following areas:

1. The student grade levels served by a center

2. The type of grantee organization

3. The maturity of a grantee

4. The experience of a grantee as a prior 21st CCLC grantee

5. The model by which a center offers programming

Among the most interesting findings include the following:

- Centers could be classified into six primary clusters based on the relative emphasis given to offering certain categories of activities:

    7. Centers mostly providing recreational activities (SY = 101, Sum = 100);

    8. Centers providing mostly enrichment and tutoring (SY = 99, Sum = 28);

    9. Centers providing mostly enrichment and SES (SY = 43, Sum = 39);

    10. Centers providing mostly enrichment activities (SY = 168, Sum = 166);

    11. Centers providing mostly career/job training, leadership, and recreational activities (SY = 14, Sum = 1);

    12. Centers providing mostly enrichment and recreation activities (SY = 161, Sum = 119).

    These results are of interest given that the six clusters in question demonstrate that there is a fair degree of heterogeneity in terms of how centers in Texas are structuring their programs and the types of activities they are giving the greatest degree of emphasis to when serving students. Such diversity also may suggest that state-supported efforts to improve the quality of after-school programming may need to be varied and nuanced in light of the programmatic approach a given center has adopted in relation to serving its target student population.

- When program cluster is considered with other grantee and center level characteristics, a number of interesting findings result. For example, centers that primarily serve elementary students are more apt to emphasize academic enrichment programming while centers serving secondary students emphasize recreational programming. This may suggest that centers serving older youth find it necessary to offer a higher level of recreation activities in order to attract and retain students in after-school-related programming.

- In addition, when program cluster is considered along with the relative maturity of the grantee (i.e. *New*, *Mature*, or *Sustaining*) and the total number of participation hours offered at a given site, there is some evidence to suggest that over time centers increasingly move toward emphasizing academic enrichment programming irrespective of program cluster. They also seem to become less dependent on recreational and homework help activities to fill their programming slate. Why this movement takes place is purely a matter of speculation at this point, although it would be interesting to explore the extent to which this movement is driven (1) by program monitoring and support strategies employed by TEA and (2) by a realization among center staff of what constitutes effective programming both in terms of attracting and retaining students and in terms of meeting desired center outcomes.

- While operational differences were noted among centers based on grantee maturity (i.e., *New*, *Mature*, and *Sustaining*), little evidence was found to suggest that centers make meaningful changes to their operational characteristics over time in terms of hours and timeframes of operation. This finding is especially intriguing given an expectation that programs witnessing a step-down in state 21st CCLC funding as they move into the later years of their grant would find themselves in a position where modifications to their operations may be warranted. This may also suggest that grantees are having some degree of success in finding other resources to support programming as grant funding declines. Ferreting out how centers navigate reductions in grant funds also warrants consideration in future analyses.

- Among the results highlighted in the staffing section worthy of note include the finding that while school day teachers represent the largest number of staff working in 21st CCLCs across both the summer and school year timeframes, there are some differences

across terms in the percentage of total staff that are school day teachers. This is especially noticeable between summer staffing levels and those associated with the school year, where school day teachers are more apt to represent a higher percentage of total staff. In addition, as a percentage of total staff, school day teachers are slightly less apt to be associated with programs that serve elementary students in some capacity as compared to programs serving only middle and/or high school students.

- Among the most notable findings regarding student attendance in 21st CCLC programming concerned the higher average rate of attendance in almost all core academic and non-core subject areas among students attending centers operated by school-based grantees as compared to non-school-based grantees. In light of these results, it may be appropriate to further examine what additional characteristics seem to distinguish school-based from non-school based grantees, especially in terms of possible differences in the procedures and processes employed to recruit student participants and to deliver programming.

- In terms of efforts to compare program cluster membership and attendance patterns, there seems to be a preponderance of evidence that centers in the mostly enrichment cluster demonstrated both the highest absolute number of days attended and the highest rate of attendance in core and non-core activities. Here again, further efforts to explore how the processes and procedures employed in designing and delivering activities in centers in the mostly enrichment cluster as compared to centers in the other five clusters would seem appropriate and warranted.

- Finally, employing multilevel modeling techniques, student grade level, the number of months since a grantee received their award, and the percentage of total activity hours dedicated to providing academic enrichment activities were all found to be significant predictors of the rate of student attendance in 21st CCLC programming, and although the contribution some of these predictors made in explaining center-level variance in the rate of student attendance was relatively small, each of these variables warrants further consideration in models oriented toward exploring the program's impact on student achievement outcomes.

In terms of further directions in the development of reports akin to this one that attempt to explore the nature of 21st CCLC programming in Texas, it seems appropriate that additional

effort should be dedicated to exploring how programs evolve over time by relying on more cross year comparisons of program operations at the center and grantee levels, an undertaking that will prove increasingly feasible as the TEA data collection system used to support these analyses becomes more mature and refined.

*Recommendations*

Although this is the initial report in what will ultimately be a larger, more comprehensive evaluation effort spanning 2008, it seems appropriate to offer some preliminary recommendations regarding how TEA should both treat and act upon the results highlighted in this report. Our first recommendation relates to the analyses that were undertaken to form the six center clusters (e.g., *Mostly Enrichment*, *Mostly Enrichment and Recreation*, etc.) predicated on the relative emphasis a given center gave to offering various types of activities during the course of the summer of 2006 and the 2006-07 school year. In light of the program's emphasis on the provision of academic enrichment activities and the achievement of meaningful improvements in student academic behaviors and achievement, some may find the existence of some of the clusters (such as the *Mostly Recreation* cluster) to be strange or even problematic and in need of remedy. However, we would urge caution in using these results as a rationale for asking some centers in Texas, especially those with a recreational bent, to revise their service delivery approach without further evidence to link such programs to less than desirable academic achievement and behavioral improvement outcomes among participating youth.

In this regard, some studies have shown that positive academic outcomes can be achieved through after-school programs that are not necessarily overtly academic in nature. For example, Birmingham et al. (2005) demonstrated that other characteristics like opportunities for skill building and mastery, intentional relationship building, and exposure to new learning opportunities like dance, music, and art were more often associated with high performing after-school programs in terms of improving state assessment outcomes than program characteristics that demonstrated an explicit focus on academic content.

In addition, Durlak and Weissberg's (2007) meta-analysis of outcomes in after-school programs demonstrated that programs that adopted practices that were sequenced, used active forms of learning, were focused on having program components devoted to social or personal skill building, and explicitly targeted the building of specific social or personal skills were more likely to have a positive impact on a whole host of academic outcomes and behaviors than

programs that lacked these characteristics. The key in the Durlak and Weissberg study was the manner in which programming was delivered rather than the specific content of the programming in question. In this regard, centers falling within the *Mostly Recreation* cluster highlighted in this report could potentially be quite effective in achieving the academic outcomes sought by the 21st CCLC program if they have effectively adopted the types of evidence-based approaches documented by Durlak and Weissberg.

Generally, then, we would recommend that TEA withhold judgment on the appropriateness of centers that have opted to adopt a program model where the provision of academic enrichment activities appears secondary in importance until further efforts may be undertaken to explore the degree to which such programs are able to cultivate certain types of desired youth outcomes.

It is also important to note that at this point in time in the project that we have not collected or analyzed any data that indicates the extent to which Texas 21st CCLCs have adopted the types of practices and processes associated with positive youth outcomes, but statewide program surveys—scheduled for administration in spring 2008—are intended to yield this information. Grantee directors, center directors, and center staff will be surveyed during this undertaking to augment and supplement the state administrative data reported here, particularly in critical areas such as staffing and activity provision. We intend to use scales of program implementation and quality, created from program profile data presented in the preceding sections and the soon-to-be collected survey data to explore and possibly explain the variation in the outcomes of interest for 21st CCLC, including attendance and student achievement.

Yet, even though this assessment still needs to done, we still believe that TEA should further explore how it can use training and technical assistance resources to further expose grantees to these types of processes and practices oriented toward enhancing the quality of their offerings. We feel there are two concrete ways in which TEA can accomplish this goal. The first is to encourage grantees in Texas to use one or more of the *validated* self-assessment tools that have been created in recent years that are meant to help providers of after-school programs further understand what constitutes high quality after-school programming in light of the latest research, how they measure up to these criteria, and what steps can be taken to improve their program relative to these criteria. There are a large number of tools in the field at present that purport to be effective self-assessment tools, and we would recommend that TEA be very

deliberate in considering which tools seem most aligned with program priorities for 21$^{st}$ CCLC in Texas. We also would posit that some tools are better suited for some programs than others, depending upon the program and staffing models being employed by the program, the maturity of the grantee, and the grade level of students being served.

In addition, in light of the finding that as grantees mature there is less likely to be a problem with the rate of attendance in programs as the grade level of participating students increases, it would seem that programs over time come to understand what programming, instructional, recruitment, and staffing configurations are more likely to yield better youth attendance. Instead of waiting for new programs to discover this in due time, it would seem that some of this insight could be imparted to new and emerging programs by their more mature counterparts through a communities of practice model. In this regard, each 21$^{st}$ CCLC program could be asked to nominate frontline or midlevel staff to participate in monthly communities of practice meetings, conference calls, or webinars in which they have the opportunity to hear from their peers (especially their more experienced peers) about what they have found to work in their programs and what has proven effective from a program improvement standpoint. To be attractive to participating staff, these communities of practice should be oriented toward further developing these frontline and midlevel staff as leaders in their after-school programs and in helping set the agenda for how TEA utilizes its training and technical assistance funds that make-up the state's annual allocation from the U. S. Department of Education.

It is quite possible that TEA already has some variations of each these strategies, (encouraging self-assessment and supporting communities of practice) already in place. Even if this is the case, we encourage TEA to review the frameworks that are anchoring these undertakings, assessing to what extent they seem to be reflective of some of the more interesting research that has emerged in recent years in regards to what constitutes quality in after-school programs (Granger, Durlak, Yohalem, & Reisner, 2007; Little, 2007; Wilson-Ahlstrom & Yohalem, 2007; Vandell et al., 2005; Yohalem & Wilson-Ahlstrom, 2007).

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Appendix A

*Additional Information on Program Attendance HLM*

*Calculating the Intraclass Coefficient*

Once our sample had been selected, the first step in the HLM process was to run a fully unconditional, one-way ANOVA with random effects model employing no level one or level two predictors as show in Figure A1. According to Raudenbush and Bryk (2002), initiating an HLM analysis with this model accomplishes two things: (1) it yields a point estimate for the grand mean $\gamma_{00}$ and (2) it provides information about the outcome variability at each of the two levels by calculating $\sigma^2$ which represents the within group variability and $\tau_{00}$ which represents the between group variability. These parameters then allow for the calculation of the intraclass coefficient, which if sufficiently high, indicates there is enough between group (or center in this case) variability to warrant using a multilevel modeling procedure like HLM.

**Figure A1: One-Way ANOVA with Random Effects – Fully Unconditional**

**LEVEL 1 MODEL** (bold: group-mean centering; bold italic: grand-mean centering)

$$\text{PERC\_SYA} = \beta_0 + r$$

**LEVEL 2 MODEL** (bold italic: grand-mean centering)

$$\beta_0 = \gamma_{00} + u_0$$

In this case, $\sigma^2$ was found to be 0.02951. This figure represents the variance associated with individuals in center $j$ in terms of how much their individual attendance rate deviated from the center mean. $\tau_{00}$ was found to be 0.04846, representing the random effect associated with center $j$ in terms of its deviation from the grand mean. Employing these figures, the intraclass coefficient was found to be 0.04846 / (0.02951 + 0.04846) or 0.6215. This value means that approximately 62% of the variance in student attendance levels was found to be between centers, providing a good rationale for using HLM.