



**SUPPORTING SOCIAL AND COGNITIVE GROWTH
AMONG DISADVANTAGED MIDDLE-GRADES STUDENTS
IN TASC AFTER-SCHOOL PROJECTS**

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Executive Summary

The After-School Corporation (TASC) works with public and private partners across New York City and the state to develop and operate school-based after-school services for public-school students in the elementary and secondary grades. Since its founding in 1998, TASC has emphasized twin goals of increasing the availability of after-school opportunities and enhancing the quality of after-school services. This sub-study of the TASC evaluation, supported by the William T. Grant Foundation, explored the associations between after-school project features and the social and cognitive outcomes of disadvantaged middle-school participants in TASC programs. The study relied on data collected during the 2001-02 and 2002-03 school years in eight TASC projects serving middle-grades students.

The eight schools hosting the TASC projects in this study served some of the most disadvantaged middle-grades students in New York City. In particular, more students in these schools than citywide were eligible for free- or reduced-price lunch and were non-white. Fewer than a third of the students in the schools performed at grade level on the city and state English Language Arts (ELA) and math assessments.

All eight projects incorporated the core components of the TASC model, including a full-time site coordinator and a mix of academic and other enrichment activities. All provided low-cost after-school services, averaging \$6 per youth per day of service. Each project was sponsored by a community-based organization and hosted by a New York City public school, and was well established, having been in operation since at least the 1998-99 school year. However, the projects varied on several dimensions that this study hypothesized were related to students' cognitive and social outcomes.

As the basis for the study's analyses, researchers first identified the after-school projects within the research sample in which students demonstrated notably positive outcomes relative to other sampled sites in the following five areas: attachment to the TASC program, staff-youth relationships, peer relationships, cognitive development, and attachment to school. For each of these areas, the study then examined the project features and characteristics that were common to the projects with notably positive outcomes.

- In the after-school projects where middle-grades students demonstrated notably positive **attachment to the TASC program**, as measured through TASC program attendance and students' perceptions of the sense of community in the program, project staff set clear goals and expectations for students, encouraging them to take ownership of their after-school experience. These projects also offered participants opportunities to choose the activities they

wanted to engage in, and supported social development activities such as conflict resolution and life skills instruction. In addition, these projects enjoyed a strong relationship with their host school, in which after-school staff, for example, discussed student progress with school-day teachers and involved the school community in after-school events.

- These after-school projects took steps to promote positive **staff-youth relationships**, as measured through students' reports of their level of trust of the after-school staff and study team observations of constructive interactions between staff and students. Positive relationships were found in sites where project staff modeled positive behavior for participants and actively promoted student mastery of the skills or concepts presented in activities. In these sites, project staff listened attentively to participants and frequently provided individualized feedback and guidance during project activities.
- In the after-school projects with notably positive **peer relationships**, as measured through observations of cooperative and friendly interactions between youth and student reports of low peer aggression, project activities regularly included social development and athletic activities that provided students with the opportunity to interact in informal team-oriented ways. In addition, project staff established clear expectations for interactions that students strived to meet through mature, respectful interactions.
- The after-school projects in which participants experienced the most positive **cognitive development** outcomes, as measured through participant reports of academic benefits as well as analyses of student gains on the mathematics and ELA assessments, tended to have an especially strong relationship with the host school, in some cases sharing staff. In addition, these projects offered enriched learning opportunities that were different from but complementary to the regular school day.
- Projects that maintained a strong relationship to the host school and that offered hands-on learning enrichment activities were also successful in encouraging participants' **attachment to school**, as measured through school attendance. These projects generally had seamless transitions between the school-day and after-school projects and offered activities that showed participants how academics related to real-life experiences.

Relationships Between Student Outcomes and Project Features

| Student Outcomes | Project Features | |
|--|--|---|
| | Enrichment Opportunities | Staffing and Structure |
| Attachment to the after-school program | Project offers social development activities, such as conflict resolution Students have choice in activities | Staff establish clear goals and attendance policies Staff encourage student ownership of the project Project has strong ties to the host school |
| Positive staff-youth relationships | | Staff model positive behavior Staff promote student mastery |
| Positive peer relationships | Project offers sports, fitness, and recreational activities Activities are structured to encourage youth interactions | Staff set high expectations for students |
| Cognitive development | Project offers hands-on learning opportunities that complement school-day instruction | School-day staff help advise or lead project activities |
| Attachment to school | Activities provide real-life connections to school-day learning | Project has some continuity of staffing from school day Project staff is stable over time |

These relationships, as summarized above and explained more fully in the report, suggest that after-school projects serving disadvantaged middle-grades students may be most effective when they offer high-quality programming with a focus on educational enrichment as well as social and athletic development opportunities and when they allow opportunities for participant choice. These analyses also suggest that after-school projects serving disadvantaged middle-grade students lead to successful student outcomes when project staff set clear goals and expectations for behavior and achievement and when the after-school project collaborates with the host school.

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Supporting Social and Cognitive Growth among Disadvantaged Middle-Grades Students in TASC After-School Projects

The field of after-school programming remains rife with unanswered questions. What constitutes quality in after-school programs? Are after-school opportunities valuable for participants regardless of their quality? Are differences in quality associated with differences in participant benefit? While the evaluation of programs supported by The After-School Corporation (TASC) addressed these questions in various ways (Reisner, White, Russell, & Birmingham, 2004), that research was aimed primarily at answering questions that were evaluative in nature. The study summarized here focused more narrowly on determining how after-school opportunities with varying features affect urban middle-grades (6-8) adolescents who live in impoverished circumstances. This study explored the associations between the characteristics and structures of after-school projects and social and cognitive changes among very disadvantaged middle-grades students enrolled in eight TASC projects.

The report begins with a discussion of the importance of providing high-quality after-school services to the study's population of interest. Using data from the TASC evaluation on participants' reactions to the after-school program, their social development, after-school attendance, and educational performance, the report classifies the study's eight sites according to participant outcomes in the areas of attachment to the program, staff-youth relationships, peer relationships, cognitive development, and attachment to school. Next, the report presents survey and observation data to identify the program characteristics and structures that are present in the after-school sites that demonstrate positive outcomes in each of these areas. The report concludes by examining changes in projects that can affect their level of quality over time.

Why Quality Matters

Policies affecting disadvantaged urban youth differ when these young people are viewed as possessing talents, insights, and abilities that can enrich and improve society, rather than as needing to be controlled, fixed, or constrained. The more positive perspective is fueling policy interest in supporting interventions that help disadvantaged youth navigate critical passages from childhood to adulthood and thereby fulfill their promise as contributors to society.

Different lenses illuminate different aspects of these passages. The one that is of particular interest here focuses on young people's social and cognitive growth. This includes young persons' development of the following:

- An understanding of the relevance of academic learning to real life
- A capacity to understand and seek one's own intellectual scaffolding to connect learning in one area to learning in another
- The ability to picture oneself as a successful adult and to assess the preparation necessary to achieve that success
- The capacity for different types of positive relationships with peers and adults
- Social and psychological resources (e.g., self-esteem, impulse control, social problem-solving skills) that help one overcome, accommodate, or respond positively to risk factors and develop traits associated with personal resilience
- An understanding of one's responsibilities and capacities to contribute positively to the community

The centrality of these passages in young people's lives affirms the value and timeliness of after-school programs and their sponsors becoming more adept in strengthening disadvantaged youths' social and cognitive development. Gaining additional knowledge in this area is especially important in light of serious challenges facing youth development and education:

- **High-stakes academic accountability requirements, as imposed by state and local school systems, are limiting time and other resources that schools can invest in students' social growth, thus creating needs for after-school programs that address young people's social and emotional growth.**

Educators are necessarily pushing non-academic learning out of the school day in order to make more time for instruction and practice in the academic skills and knowledge covered by state and local tests. As a result, after-school hours are increasingly important as a source of social experiences that complement the regular school day's focus on academics.

- **The same test-driven accountability pressures are eliminating experiences that promote intellectual enrichment and long-term cognitive growth from the school day.**

With classroom instruction focused on the narrow skills typically measured by standardized tests, many students lack opportunities for project-based learning, collaborative work in groups, and the application of academic knowledge to real-world experiences.

After-school programs are a natural venue for such activities if they are skillfully planned and implemented.

- **With support available for after-school programming at national, state, and local levels, policymakers and service providers need information about strategies that can improve the quality of after-school programs.**

In the past few years, support for after-school services has grown rapidly. This is apparent in the size of appropriations for the federal 21st Century Community Learning Centers program. In addition, cities across the nation, including New York City, Los Angeles, Chicago, San Diego, Boston, and Baltimore, are supporting large-scale after-school programs. Although finding funds to operate after-school programs is always the first concern of program sponsors and stakeholders, the immediate next order of business is program content and curricula. With few exceptions, after-school programs have moved beyond simply providing a safe environment and supervised child care to an intent to provide enriched, creative, and nurturing opportunities for their young participants. Although after-school programs may offer many instructional options for improving students' academic performance, their choice of approaches for supporting students' social and general cognitive development are much more limited. Widely used standards for high-quality child care address factors such as program environment, safety, and administration, but do not fully address students' needs for higher-order cognitive learning.

Middle-grades children may be especially receptive to external supports and opportunities because they are old enough to understand and pursue their own interests, but young enough to change course easily toward a more positive future if persuaded of the value of doing so. Added to this is the fact that it is easier to re-shape after-school time through policy initiatives than it is to alter either the regular school day or students' evening hours. Also, evidence from sources such as the TASC evaluation suggests that after-school services can particularly benefit this age group by promoting high levels of school attachment (as measured by school attendance) and, to a lesser extent, improvements in achievement (Reisner, White, Russell & Birmingham, 2004).

Data-Collection and Analysis Procedures Used

This study collected qualitative and quantitative data from a sample of eight TASC after-school projects that serve middle-grades youth. These eight sites were selected because they were all well-established TASC projects,

operating in disadvantaged communities since at least Fall 1999, and were varied in terms of project goals, approaches, and services offered. A description of data collection strategies, analysis variables, and analytic approach follows.

Data Collection Strategies

The study team collected several types of program and participant data to obtain valid and reliable information about program quality and participant outcomes in the eight sites selected for this study. As indicated below, not all types of data were available from each of the eight sites, and therefore some sites were excluded from certain analyses. Data for this report were drawn from:

- **Surveys** of participants, site coordinators, program staff, and principals

Analyses rely on student survey data collected in spring 2003, and on site coordinator, principal, and program staff data collected in spring 2002. The most important of these data sources, student survey and site coordinator survey data, were available for all eight sites included in this study; 399 students in the sampled sites responded to the student survey. Program staff data were available in seven of the eight sites, and principal survey data were available in six of the sites.

- **The student information system of the New York City Department of Education (DOE)** for data on school attendance, scores on end-of-year achievement tests, and participant characteristics

Analyses in this report focus on changes in student-level educational-performance data between the 2000-01 and 2001-02 school years. These data were available for 726 students in English Language Arts and 853 students in mathematics in seven of the eight sites.

- **Program attendance records** collected on every participant (numbering 1,219) by TASC for the 2001-02 school year, available for seven of the eight sites
- **Structured observations** of program activities conducted during the 2002-03 school year in each of the eight sites
- **Interviews** with site coordinators and host school principals at each of the eight projects during the 2002-03 school year

- **Project cost data** collected by TASC for the 2001-02 school year in each of the eight study sites

Collecting a combination of qualitative and quantitative data enabled the study team to probe each project's characteristics, practices, and outcomes. Researchers differentiated projects according to their level of outcomes on individual components of youth development and their approach to providing services. Analyses identified the practices and characteristics of sites whose participants demonstrated notably positive student outcomes on each of the dimensions of cognitive and youth development examined. In particular, the study focused on the unique practices of sites that performed strongly on an outcome, relative to the sites that did not perform as strongly on that outcome.

Variables for Analysis

Participant outcomes. In order to trace the elements of after-school projects whose participants displayed certain cognitive and social outcomes, the study team first identified indicators that gauged the projects' quality on five dimensions: students' attachment to the TASC project, relationships between youth and adults, peer relationships, cognitive development, and attachment to school. Analyses examined variation among the eight sites on each of these five outcomes.

The study team used participants' survey responses to attitudinal scales to measure the effect of TASC participation on social outcomes and certain education-related outcomes. Analysis of survey responses categorized the mean student response to a given attitudinal scale as a positive response if respondents rated the items in the scale at the midpoint of the scale range or higher (e.g., on a scale where the possible scores ranged from 4 to 16, a mean response of 10 or higher was classified as positive).

Process and content features of high-quality programs. The study team also identified process and content features that research in child and youth development suggests may exert positive effects on academic, social, psychological, and behavioral outcomes.¹ For each of the five outcome areas described above, the study team identified the process and content features that were associated with strong outcomes. These features examined included: program practices geared to promoting positive relationships; the content of

¹ This study's working definition of program quality is drawn from other research in which members of the study team are engaged. This research, conducted in partnership with colleagues from the Wisconsin Center on Educational Research, is examining the effects of high-quality after-school programs on participants. An early step in that research was to examine prior work in child and youth development to identify program features that most directly shape the after-school experiences of children and youth (Marzke, Pechman, Reisner, Vandell, Pierce, & Brown, 2002).

after-school programming; content-delivery strategies; staff qualifications and training; and the relationship between the after-school project and its host school.

Analytic Approach

Projects varied in their approach and focus, as determined through the study's surveys and in the structured observations at program sites. Data analysis focused on identifying practices that varied across sites in order to determine the unique practices that were associated with achieving a notably more positive outcome at one or more sites relative to other sites.

To measure variation across sites, the study team examined the distribution of indicators of each outcome, program practice, or project characteristic to determine its prevalence in the eight middle-grades projects. If the indicator was not prevalent in at least 20 percent of cases, it was not considered for future analysis, because it was not sufficiently common to warrant a search for patterns of association. Conversely, an indicator variable was dropped if it was present in more than 80 percent of the cases because it was deemed to be too prevalent to permit distinctions among sites.

To establish the variation across sites and enhance the interpretation of the differences in data by site, the study team compared the prevalence of the indicator at each site to its prevalence across the other seven sites in order to compute an effect size.² When differences were statistically significant, the study team interpreted an effect size of +0.20 as a notably positive difference between an individual project and the other projects, and -0.20 as a notably negative difference.

The study team then used these effect-size calculations to look for patterns across sites and determine the project practices and characteristics associated with youth outcomes. For each outcome measure analyzed, the team looked for practices and characteristics that were common (based on a notable effect size, or the presence or absence of a dichotomous variable) to the projects demonstrating a notably positive effect size on that outcome and, in particular, practices and characteristics that were present in those projects but not in projects with notably negative effect sizes on the outcome.

² An effect size estimates the size or importance of differences. Statistical significance assesses whether there is a difference that is greater than would be expected by chance. However, when large samples are used, minor differences can meet the threshold of statistical significance. The study team used differing methods to estimate the effect size for continuous measures and for dichotomous measures, as appropriate (Lipsey & Wilson, 2001). The statistical literature contains extensive discussion about how to interpret effect sizes of different magnitudes. The standard works suggest that an effect size of 0.20 is small, 0.50 moderate, and 0.80 large (Cohen, 1977).

Characteristics of the Sampled Projects

The eight TASC projects in this study share many characteristics. They all operate in space provided by New York City public schools, they all serve high proportions of students who are at risk of educational failure, and they all employ TASC's model of program services. The TASC model has several requirements, including sponsorship and operation by a community-based or other nonprofit organization, employment of a full-time project coordinator, regular communications between the after-school project and the host school, extensive opportunities for staff development, and focus on participants' academic and social growth. In addition, this analysis revealed other common elements:

- All eight site coordinators reported a positive relationship with the host school on a scale of items assessing the project-school relationship.
- All site coordinators responded positively to a job-satisfaction scale. Similarly, more than 90 percent of other staff at each project responded positively to a job-satisfaction scale and to a scale measuring perceived barriers to work.
- All eight projects offered varied activities, including a mix of homework help and other academic enrichment activities.

Although the eight projects in this study shared many characteristics, significant variation was evident in projects' context, focus, and structure, as shown in Exhibit 1.

For instance, Project C offers middle-grades participants a catalog of activities from which to choose, many of which are arts-based academic enrichment activities taught by local artists. Project B lets students choose from one of three after-school academies: Performing Arts, Journalism, and Entrepreneurship. Students gain special expertise in the areas they choose, whether rehearsing a play or dance routine with a teaching artist, using graphics computer programs to create a newsletter, or managing a school store. Programs offer a mix of homework help and skill-building recreational activities. For example, Project E and Project D offer students project-based fashion, dance, arts and crafts, and sports activities such as martial arts. Other projects, including Project A, Project F, and Project H, offer a more traditional after-school curriculum of homework help or test preparation, combined with sports or games. This variation among projects is important to the study because it permits examination of the ways in which different project structures and characteristics are associated with various student outcomes.

Exhibit 1
Characteristics of Projects in the Study Sample

| Project | School Characteristics 2002-03 | | | | After-School Project Characteristics | | |
|---------|--|----------------------------|-------------------------|---------------------------------------|--------------------------------------|-------------------------------|--|
| | School description and special circumstances | Grades served / enrollment | Eligible for free lunch | Students at grade level reading/ math | Open since | Enrollment grades 6-8 2001-02 | Major after-school activities and special circumstances |
| A | Extended day and year for all students; proprietary curriculum; new principal 2002-03 | Pre-K-8/ 731 | 84% | 31%/ 33% | Winter 1999 | 185 | Homework help, test preparation, textual analysis, games, sports; all students participate as part of extended day; new site coordinator 2000-01 |
| B | Visual and performing arts magnet | 6-8/ 913 | 80% | 17%/ 23% | Fall 1999 | 181 | Entrepreneurial, Journalism, and Performance Arts Academies include school store, newsletter, and drama |
| C | Coalition of Essential Schools ^a ; students apply for enrollment | 6-12/ 607 | 33% | 65%/ 67% | Fall 1999 | 227 | Drama, dance, music, visual arts, athletics and media/technology; new site coordinator 2001-02 |
| D | SURR school ^b under corrective action; extended day and year college preparation program offered; new principal 2002-03 | 5-8/ 1482 | 81% | 27%/ 24% | Fall 1998 | 192 | Homework help, dance, martial arts, fashion, arts and crafts, sports; new site coordinator 2000-01, 2002-03 |
| E | Honors/Regents courses in math, science, English, social studies; new principal 2002-03. | 5-8/ 1873 | 73% | 39%/ 39% | Fall 1999 | 236 | Homework help, writing, visual arts, community service, chess, fashion, sports; new site coordinator 2002-03 |
| F | Expeditionary Learning Outward Bound magnet middle school; shares building principal with elementary school; new principal 2002-03 | 5-8/ 166 | 89% | 22%/ 9% | Winter 1999 | 273 ^c | Shares after-school project with elementary school; homework help, step dance, NYKD police department program, cultural awareness, arts, sports; new site coordinator 2001-02, 2002-03 |
| G | Technology and arts focus; Regents courses in earth science, math and Spanish; new principal 2001-02 | K-8/ 1707 | 70% | 39%/ 40% | Winter 1999 | 42 | Homework help, games, judo, digital photography, arts and crafts |
| H | Chancellor's District ^d ; new principal every year 2000 through 2003 | 6-8/ 737 | 84% | 13%/ 6% | Fall 1998 | 156 | Homework help, test preparation, games, sports, step dance, arts and crafts |

^a The Coalition of Essential Schools (CES) is a national network of schools that share a common set of principles regarding school practices. These principles include personalized instruction, small schools and classrooms, multiple assessments based on performance of authentic tasks, democratic and equitable school policies and practices, and close partnerships with the school's community.

^b A school that continuously falls below the state's guidelines for achievement is designated a SURR school (School Under Registration Review).

^c Enrollment estimate includes middle grades and elementary students participating in the same TASC project. Available data do not permit an estimate of grade 6-8 enrollment only.

^d Established in 1996, the Chancellor's District consisted of public schools throughout New York City that were under the Chancellor's direct control because they demonstrated persistently low academic performance and thus required intensive interventions in order to improve.

Student Characteristics

By any measure, students in the eight schools hosting the TASC projects in this study were some of the most disadvantaged youth in New York City.

Poverty. Compared to the city's middle schools overall, higher proportions of students in study schools in 2001-02 came from families whose income was at or below the federal poverty level, as measured by their eligibility for free or reduced-price lunch. Across all New York City public middle-school students in 2001-02, 70 percent were eligible for free or reduced-price lunch, compared with 78 percent in the eight schools hosting the TASC projects in this study.

Among students who participated in the seven after-school projects for which student-level data were available in 2001-02, 83 percent were eligible for free or reduced-price lunch.

Academic performance. Overall, students in the eight middle schools hosting the TASC projects in this study had similarly low achievement in reading and math compared to citywide averages. On the 2002 administration of city and state English Language Arts (ELA)/reading tests spanning grades 6-8, 29 percent of all middle-school students in the city scored at grade level or higher, compared with 33 percent of students in the study schools. In math, 30 percent of middle-school students scored at grade level or higher citywide, compared with 28 percent of middle-grades students in study schools.

However, after-school participants scored higher than their classmates. In the seven sites for which student-level data were available, 44 percent of participants scored at grade level or higher in ELA and 39 percent in math in the year before they first participated in a TASC project.

Race and ethnicity. The proportion of students of color at study schools was higher than the citywide average. According to 2001-02 citywide data, 84

Core Program Components Supported by TASC

- A full-time, year-round site coordinator who manages program operations and builds connections between the after-school project and the school, parents, and community
- A staff that may include licensed and pre-service teachers, retired educators, parents, volunteers, interns, and AmeriCorps participants
- Educational enrichment and homework help
- Support for performance standards and benchmarks for student achievement established by the DOE
- Exposure to and participation in the performing and fine arts, guided by qualified artists
- Development of students' technological skills; integration of computer skills and Internet use with academic activities
- Physical activities such as athletics, adventure games, and martial arts
- Health education and social development
- Peer counseling, internships, violence prevention, college preparation, and career training
- Community service
- Nutrition
- Social activities

percent of all students in middle schools were non-white. In comparison, 91 percent of students in the eight study schools were non-white. Eighty-eight percent of TASC participants were non-white in the seven projects for which student-level data were available.

Exhibit 2
Characteristics of All New York City Public Middle Schools,
Schools Hosting TASC Study Sites, and TASC Participants,
2001-02, in Percents

| Measure | Students citywide ^a (N=191,260) | Students in study schools (N=8,248) | TASC participants ^b (N=1,219) |
|---|--|---|--|
| Free/reduced-price lunch | | | |
| Eligible for free/reduced-price lunch | 70 | 78 | 83 |
| Not eligible for free/reduced-price lunch | 30 | 22 | 17 |
| Race/ethnicity | | | |
| Hispanic | 38 | 43 | 40 |
| African American | 34 | 36 | 34 |
| Asian or Pacific Islander | 12 | 12 | 14 |
| White | 16 | 9 | 12 |
| English Language Learners | | | |
| Yes | 13 | 12 | 13 |
| No | 87 | 88 | 87 |
| Recent immigrant | | | |
| Yes | 7 | 6 | 8 |
| No | 93 | 94 | 92 |
| Special education | | | |
| Special education student | 10 | 13 | 9 |
| Not special education student | 90 | 87 | 91 |
| Gender | | | |
| Male | 51 | 52 | 51 |
| Female | 49 | 48 | 49 |

Exhibit reads: Eighty-three percent of TASC project participants in the study qualified for free-or reduced-price lunch, compared to 70 percent of middle-school students citywide and 78 percent of the students enrolled in the study schools.

^a Citywide figures are from schools designated by the Department of Education as middle schools.

^b Participant-level data are not available for one project.

Special needs. The proportion of students with special needs in the sample schools was slightly higher than the proportion of special-needs students in middle schools citywide. The proportion of students classified as English Language Learners (ELLs) in sample middle schools was slightly higher than the

citywide average for middle-school students (13 percent, compared with 12 percent citywide). The proportion of special education students was also slightly higher than citywide (13 percent, compared with 10 percent citywide).

Project Funding and Costs

Site expenditures. Consistent with the TASC model, the eight study sites strived to provide high-quality low-cost programming to middle-grades students. In total, they reported spending \$1.4 million in the 2001-02 school year, for an average of \$317,000 per site.³ Projects spent an average of 85 percent of their funds for personnel.

Cost per student. The annual cost per student enrolled in the eight projects was \$621.⁴ Another way to assess the cost of operating an after-school program is the cost per participant per day of service. One day of service is defined as one day of attendance at the after-school project by one student. In 2001-02, the eight projects in this study provided 234,238 days of service, an average of 29,280 service days per project. Divided into sites' total expenditures, the average cost of a day of service in the eight sites was \$6.09.

Social and Cognitive Effects of Participation

This study examined various project characteristics and program structures that were hypothesized to be associated with positive social and cognitive outcomes for disadvantaged middle-grades participants. The eight projects included in this study varied in important ways on each of the student outcome measures analyzed, as summarized in Exhibit 3. Each of the outcomes and measures listed in the exhibit are discussed more fully in the sections that follow.

³ The reported amounts exclude administrative and technical support costs borne by TASC, other program partners, and the community-based or other nonprofit organization administering the TASC grant. They also exclude DOE's costs for facilities, equipment, and administration related to after-school programming. In 2001-02, for all TASC-funded projects in New York City and statewide, total TASC costs for administration were \$5.1 million, and costs for technical support (including all training, technical assistance, evaluation, government relations, communication, planning, and similar costs) were \$2.9 million.

⁴ These cost estimates include the costs for all enrolled students in each of the eight sites, including students not in grades 6-8.

Exhibit 3
Variation on Participant Outcome Measures

| Outcome | Average | Most positive effect size | Most negative effect size | Range | Number of projects with effect sizes that are: | |
|--|---------|---------------------------|---------------------------|-------|--|------------------|
| | | | | | Notably positive ^a | Notably negative |
| <i>Attachment to program</i> | | | | | | |
| Sense of community (based on student survey scale) | 56% | 0.54 | -0.48 | 1.01 | 2 | 2 |
| After-school attendance | 63% | 1.27 | -0.98 | 2.25 | 4 | 2 |
| <i>Staff-youth relationships</i> | | | | | | |
| Trust of staff (student survey scale) | 76% | 0.34 | -0.30 | 0.64 | 1 | 1 |
| Students interact with staff constructively during activities (based on structured observations of programs) | 74% | 0.34 | -0.32 | 0.66 | 1 | 0 |
| <i>Peer relationships</i> | | | | | | |
| Peer aggression (student survey scale) | 77% | 0.31 | -0.18 | 0.49 | 2 | 0 |
| Youth interact cooperatively during activities (structured observations) | 70% | 0.54 | -0.65 | 1.19 | 3 | 3 |
| Youth have warm, friendly interactions during activities (structured observations) | 71% | 0.53 | -1.02 | 1.55 | 2 | 2 |
| <i>Cognitive development</i> | | | | | | |
| Academic benefits (student survey scale) | 73% | 0.26 | -0.44 | 0.71 | 1 | 1 |
| Change in math performance ^b | 1.51 | 1.39 | -0.51 | 1.90 | 5 | 1 |
| Change in ELA performance ^c | 0.62 | 1.38 | -0.88 | 2.26 | 3 | 1 |
| <i>Attachment to school</i> | | | | | | |
| Change in school attendance ^d | -0.69% | 0.13 | -0.06 | 0.19 | 2 | 0 |

^a For all outcomes except school attendance, notably positive is defined as a difference with a Z-score that is statistically significant at the p<0.05 level and an effect size of +.20 or greater. Notably negative is defined as a statistically significant difference with an effect size of -.20 or less. For school attendance, +.10 and -.10 were considered notably positive and notably negative effect sizes.

^{b,c} Gains on assessments are measured in terms of changes in standardized scale-score points between 2000-01 and 2001-02.

^d Change in school attendance rates is measured for participants between 2000-01 and 2001-02.

Students' Attachment to the After-School Program

The study examined students' attachment to the after-school project as measured by survey responses to a "sense of community" attitudinal scale and by their after-school program attendance. Across the eight projects, slightly more than half the participants (56 percent) responded positively to the sense of community scale (developed by The Child Development Project, Developmental Studies Center), which measures students' perception of their after-school project

being a community in which people work together. The scale consisted of the following survey items:

- People care about each other in this program
- Students in this program don't seem to like each other very well
- Students in this program work together to solve problems
- Some other student will try to help me when I am having a problem
- At the after-school program, teachers and students treat each other with respect
- At the after-school program, students care about each other
- Students in this program just look out for themselves
- Students in this program are willing to go out of their way to help someone.
- The students in this program don't really care about each other
- Students at this school don't get along together very well
- Students in this program are mean to each other

The effect-size analysis showed that students' sense of community varied substantially between projects. Students were notably positive in two of the eight projects and notably negative in two of the projects, indicating that, on average, students were notably more likely to respond positively in two of the projects relative to all middle-grades students from the projects in this study, and notably less likely to respond positively in two projects. Such variation suggests that project-level practices may play a role in fostering students' perceptions of their after-school project as a community.

The seven study sites for which data were available reported an average middle-grades student attendance rate of 63 percent. This suggests that students attended these after-school projects about three out of five days a week. Attendance rates varied by project, from 43 percent in Project C to 90 percent in Project G. An analysis of effect sizes indicates that, relative to the average of the eight study sites, four sites had notably higher than average attendance rates and two had attendance rates that were notably lower than average.

Project-level differences observed in the sampled sites are described below.

Students demonstrated their attachment to the after-school project by actively seeking out ways to participate in it. In Project B, one of the projects with a notably positive rating on the sense of community scale, site visits by the study team revealed that students freely dropped by the after-school project office during the school day, sometimes just to check in or to voluntarily assist with tasks such as cleaning or re-organizing materials. They obviously felt welcome there. The site coordinator reasoned that staff concern for individual students instilled a strong attachment to the program. “This year [this is even] more so with eighth-graders—can’t keep them out of the office. We’ve adopted them, and they’ve adopted the [TASC] program,” she said.

Strong ties between the host school and the after-school project were observed in projects that fostered a sense of community. The site coordinator in Project B traveled the hallways during passing periods during the regular school day so that students would see him as a member of their school community. “It’s important that kids see you as a resource in the school—as a part of the school, but something different,” he said. A focus on sense of community and continuity was also apparent at Project C. There, instructors in the TASC project regularly talked with students about their progress in school, even though the project emphasized arts and physical activity, neither of which was offered during the regular school day. In addition, the after-school project sometimes involved the whole school in its activities by, for example, scheduling presentations and other special events during the regular school day so that all students in the school could attend.

School stability was a common element in projects with positive program outcomes. Both Project B and Project C, projects in which students were most likely to respond positively to the sense of program as a community scale, had stable and established school administrations. Unlike other projects, neither of these schools had experienced principal turnover during this study. This stability may have contributed to the development of strong links between the school and the after-school project.

An explicit focus on social development activities was found in projects with strong student attachment to the program. In projects where coordinators reported offering a full roster of social development activities, including conflict resolution, peer discussion, and life skills instruction, students were more likely to report a strong sense of community than were students in other projects.

Project B used games, drama, and music to teach peer conflict resolution. During a session on revenge, the leader prompted students with questions such as, “How did it make you feel?” and “What would have been more constructive?” Later on, youth engaged in a trust-building activity in which they passed around a

ball without using hands. After repeating the activity several times, students became faster and more efficient at using their chins to pass the ball from one to another. The giggling that went on was a cue for discussion about how students felt about the activity. Constructively talking about the game made students more comfortable and relaxed with each other.

Establishing clear goals and offering leadership opportunities to students encouraged their ownership of the after-school project. In the two projects in which students were notably more likely to respond positively on the sense of community scale, observations conducted by the study team revealed that staff were more likely to communicate clear goals and offer leadership to students. For example, in a step dance class at Project B, the instructor put participants who had mastered the routine in charge of teaching others. She encouraged them to break the routine down into smaller portions, telling them, “You have five minutes to teach that step.” The youth slipped easily into a leadership role, taking turns at the front of the stage to lead the group. Youth were clearly at ease, fully engaged in the activity and with each other, and eager to participate in group decision-making, saying at one point, “Let’s take a vote—what foot do you want to start on, your right foot or your left foot?”

Enforcing regular attendance policies, including communication with parents, was associated with high after-school attendance. All eight sites used various policies and structures to boost middle-graders’ attendance, which the study team explored through interviews. At Project G, one of the projects with relatively high attendance, the site coordinator encouraged staff to communicate youths’ progress to parents. Although few parents participated formally in the project, they came to performances, brought treats to celebrate birthdays, and were “always around during dismissal.” The site coordinator emphasized, “We encourage staff to share with parents about how a kid is doing. We want parents and counselors to get to know each other.”

At Project E, another project with high attendance, staff vigilantly checked student attendance three times each afternoon, once during the snack break in the cafeteria, and then at the beginning of each of the two activity periods. They also tracked students’ attendance patterns and got in touch with parents when students failed to show up. To attract middle-grades students to both the project’s homework and recreational components, the schedule was constructed so that all seventh- and eighth-graders were required to attend homework help before participating in sports or an arts activity. “They wouldn’t like to miss the sports or arts activity, so they go to homework tutorial,” said the coordinator. Similarly, Project G, which had a waiting list of more than 200 students, required students to attend the project five days a week if they were to keep their spot in the project. The strategy provided a strong incentive for students and their parents to participate regularly. Project D achieved high attendance by stipulating that students must attend every day for the entire program, for both homework help and recreational activities, unless they had a written excuse. After three

unexcused absences, they lost their space in the program. These policies, however, were seldom enforced without a look at the big picture. “You really have to understand that every child comes with baggage and that each is an individual case. In each situation, I have to ask myself if this student would be better off with me or on the street,” the site coordinator at Project D said.

The projects that generated the highest attendance rates were found to offer a rich array of activities. They fostered attachment to the project by allowing youth to make the project “theirs.” At Project E, in addition to attending the mandatory homework tutorial, students could choose up to three different activities from a list of approximately ten. Student control over how they spent their time was also a hallmark at Project D. The project kicked off each new period with an “open house week,” where students could sample the full range of sports and arts pursuits available to them before selecting their top choices. Regarding the project’s high attendance rate, the site coordinator said, “It really goes back to their getting to choose what they want to do—they get to pick and that really means that they are interested.”

Relationships between Youth and Staff

To assess whether students trusted project staff and believed that staff treated them fairly, the study team combined student survey responses (Trust in and Respect for Teachers Scale, Child Development Project, Developmental Studies Center) to the following items into a “trust of staff” scale:

- At the after-school program, teachers always try to be fair
- At the after-school program, the teachers really care about me
- At the after-school program, the teachers always keep their promises
- At the after-school program, I feel safe and comfortable with the teachers
- At the after-school program, I feel that I can talk to the teachers about things that are bothering me

On average, students reported that their TASC project built positive relationships between themselves and staff. Seventy-six percent responded positively to the trust of staff scale. However, students in Project C were notably more likely to respond positively, and students in another project were notably less likely to respond positively.

In addition to analyzing survey responses, the study team measured staff-youth interactions during structured observations. During each observation period, the researcher noted whether youth generally interacted with staff constructively; that is, whether youth appeared comfortable with staff, freely asked for assistance, and listened. They found that youth interacted constructively with staff most (74 percent) of the time. Project C also stood out on this measure, compared to the other seven sites, as demonstrating strong staff-youth interactions.

After-school project staff modeled appropriate behaviors for middle-grades youth. Staff members at Project C were encouraged to take their role seriously as models for youth to emulate, and to structure program activities in ways that developed positive relationships. For example, one observer saw a guitar instructor coach students through chords and proper hand positioning as students played along with the stereo. Youth talked with each other and with the instructor in a casual, comfortable manner. They were never shy about making mistakes or asking questions. One youth pointed out a mistake in the sheet music while listening to the instructor play. The instructor complimented his alertness and asked how he discovered the error. The student replied that he had simply counted, read the music, and sung along as the instructor played.

Staff instructional techniques that promoted skill mastery were also positively associated with staff-youth relationships. Staff at Project C were observed as being notably more likely than staff at other projects to use instructional techniques widely regarded as promoting mastery, such as demonstrating and modeling, to help students learn new skills. Staff also used instructional techniques that prompted active, supportive interactions between youth and adults. The small-group structures in which these activities occurred also promoted high-quality interactions.

For instance, students received extensive individual feedback while developing storyboards and practicing their drawing techniques in an activity in which they created a comic book. In one case, an instructor demonstrated each step in the girl's vision for her storyboard on a spare sheet of paper so that she could recreate it by herself. Several times, the instructor urged, "Tell me if this is the illusion you are going for, or if I am misunderstanding you." Another student wanted to know why the pixie she was drawing appeared to have a distorted wing when viewed from an angle. She and the instructor then examined other drawings of the same character, and the instructor told the girl to imagine how the pixies would look if they were turned 90 degrees. The student listened thoughtfully as the instructor coached her through this lesson on perspective, and showed genuine excitement when she understood why the wing looked as it did.

Peer Relationships

Participating in after-school projects provided middle-grades youth the opportunity to socialize and develop friendships. One of the reasons youth are on better behavior at the after-school program than they are in school, according to the site coordinator at Project D, is that they are able to enjoy themselves and relax with friends. “You don’t see as many of the turf problems with kids after school,” she said. “Kids are less on edge about friendship groups and who they hang out with. I really feel it is a safe haven in that way.”

Seventy-seven percent of students across the eight sites responded positively to the peer aggression survey scale (Oprinas, 1993), a measure of the extent to which students in TASC after-school projects displayed aggressive behaviors in their relationships with other students. They indicated that they did not typically engage in the following behaviors at the after-school project:

- I teased students to make them angry
- I got angry very easily with someone
- I fought back when someone hit me first
- I said things about other kids to make other students laugh
- I encouraged other students to fight
- I pushed or shoved other students
- I was angry most of the day
- I got into a physical fight because I was angry
- I slapped or kicked someone
- I called other students bad names
- I threatened to hurt someone

Projects varied in their average student responses to the peer aggression scale, with students in two projects notably more likely to respond positively, reflecting low levels of peer aggression.

The study also used two measures of peer relationships based on structured observations of project activities. With the first measure, they noted whether youth interacted cooperatively with peers, defined as being comfortable with each other, talking informally, helping each other, and partnering in

completing tasks. Across the eight projects, youth interacted cooperatively in 70 percent of the activities. Again, projects varied substantially on this measure. Three of the eight sites produced particularly positive interactions, and three sites had notably fewer positive interactions than the others.

The study team used the second observation measure to gauge whether students exhibited warm and friendly relationships toward each other and appeared to enjoy each other's company. They observed positive youth interactions in 71 percent of the activities, with notably more friendly relationships in two sites, and notably fewer in two sites.

Participation in athletic activities was found to be a common element in projects with positive peer relationships. In projects where site coordinators reported offering a high intensity of sports, fitness, and recreation activities, students were also notably more likely to demonstrate friendly interactions with each other. These projects often combined instruction in athletic skills with encouragement of positive behaviors such as self-discipline. For example, in Project D, a project with notably low levels of reported peer aggression, students participated in a regimented fencing drill, starting with warm-up stretches and then, paying close attention to the instructor, practicing lunging techniques. When the instructor asked the students to recall the three rules of fencing, they shouted back to him: "Pay attention! Know the rules! Always point your weapon towards the ground!" Students were fully engaged in the activity both physically and mentally. At this same project, boys played four-on-four basketball with only limited supervision from instructors. They followed the rules of the game, passing, dribbling, keeping track of the score, and making their own calls. There were no disputes.

In projects with positive peer relationships, activities provided explicit opportunities for relaxed and cooperative interactions. For example, in an art activity at Project B, which performed highly on the peer-cooperation measure, students helped each other spread newspaper over their desks and worked in small groups to paint large masks. They coordinated their efforts each step of the way, seeking advice on "What color should I paint this" or suggesting "I'm going to paint the mask yellow," before actually doing so.

Middle-grades participants at Project G, a high-performing site on the measure of friendly peer relationships, enjoyed socializing and playing board games. During one observation, a group of students gathered around a table, taking turns playing Connect 4 with an activity leader. They enthusiastically cheered each other on, yelling out moves and encouragement, and, finally, "You got it! You got it! You won!"

Students were observed to respond to high expectations through respectful and caring interactions with staff and with each other. The site coordinator at Project B explained that, "We really want to create a positive

relationship; building trust and having the kid feel comfortable with us.” Staff reflected this goal by deliberately setting a high standard for youth, treating them with respect, and expecting them to respond maturely. The site coordinator emphasized that he communicates to youth that “this is their program. You work on it. It’s letting kids understand that it is not us that dictate everything that goes on in the program.” He told students who were preparing a newsletter to run the activity as though it were a business, beginning with a meeting agenda of how to proceed. “What do you think you can accomplish today?” “Who’s writing for the first page?” he asked. The expectation was clear that students would live up to the responsibility they were given and maintain a professional yet friendly tone in their “business” interactions.

Youth responded to these high expectations with maturity and respect. One student was put in charge of leading the newsletter activity, assigning tasks to other participants and leading the brainstorming discussion. This worked remarkably well with few to no adult interjections. The student leader enthusiastically drew out other students: “Come on, come up with some ideas. Any poets out there—come on, don’t be shy!”

An explicit focus on social development appeared to encourage positive peer relationships. In the projects that demonstrated notably positive peer relationships, site coordinators were more likely to report through survey responses that the project offered a high intensity of social development activities. This attention to creating social norms for good behavior and interaction occurred in projects where students interacted and resolved disputes cooperatively. For example, a goal of Project C, a high-performing site on this measure, was to help students become responsible members of the community. When problems arose, instead of punishing students, staff members created dialogues with them, urging them to talk about what happened and how such situations could be avoided in the future. Staff also developed behavior contracts with students, in which students agreed to uphold a standard of positive behavior. These methods of conflict resolution made students aware of the powerful role they played in maintaining a comfortable after-school environment for everyone.

Cognitive Development

The eight after-school projects in this study varied in their approach and focus on academic activities. For example, while all eight projects offered homework help, they varied in the way in which they structured this help. In some cases, such as at Project D and Project H, all students engaged in homework help sessions every day, and students in greatest need of academic help received special academic assistance or attended test preparation sessions. During the first part of the after-school program at Project A, students remained with their teacher to work on homework and other academic assignments such as test preparation or textual analysis. At Project E, project staff spoke directly to teachers about

homework assignments and maintained homework review logs, which school-day teachers could consult to check on their students' after-school progress. Homework was also a focus at Project G and Project F, largely in response to parent and teacher input. Participants engaged in homework immediately after the snack period. Project G had a homework room where students could go during other activity time to finish any homework they did not complete during the homework hour. Sports and arts activities complemented homework opportunities.

At Project B the policy on homework help policies evolved over time. The project initially required all students to participate but later required participation only once a week, although students could elect to participate in homework help more frequently. Similarly, Project C did not require participants to attend homework help. Instead, it offered academic enrichment activities that differed from the regular school day, such as poetry, drama, and computer technology courses, and were aimed at motivating students to achieve academically.

The study team created a scale to measure the academic benefits that students ascribed to their after-school project. This scale asked students to respond to the following survey items, as developed at PSA:

- The after-school program has helped me feel more comfortable writing papers
- The after-school program has helped me feel more confident about my school work
- The after-school program has helped me to use computers to do homework or other activities

Across the eight projects, 73 percent of middle-grades students believed they received academic benefits from participating in their after-school project. Student responses to the academic benefits scale were notably positive in one project and notably negative in another, relative to overall responses across the eight study sites.

Targeted academic help, combined with strong staff qualifications, was associated with academic benefits. Project D, the project where students reported notably strong academic benefits, is located in a school that was designated as being in need of corrective action because of its low scores on standardized tests. As a result, many students were required to seek academic assistance after school. The after-school project collaborated with the school to ensure that students received intensive after-school test preparation classes along with their recreational activities. Staff in both the school and the after-school project worked together to identify and meet student needs. The collaboration was

unique in that a school dean also served as assistant director of the after-school project, creating continuity in disciplinary expectations as well as in academics. Her familiarity with the school-day curriculum enabled her to advise after-school staff on the types of homework help that would be most beneficial to students. In addition, the site coordinator at this project held a teaching certificate, a rarity at these sites. Consequently, she could draw on her training to guide her college-aged staff and to identify student needs and classroom-management issues.

In addition to the academic benefits scale, the study team used a statistical model (see Appendix A) to estimate students' change in performance on city and state ELA/reading and math achievement tests. This model enabled them to examine student performance in 2000-01 and 2001-02 and estimate what could have been expected of after-school participants in 2001-02 *had they not participated in the program*. The model controlled for the effect of various characteristics that might have affected changes in performance, including:

- Standardized scale score⁵ in the year prior to attending the current school
- Student's free lunch eligibility in the year prior to attending the school
- Gender
- Race
- English Language Learner status in the year prior to attending the school
- Special education status in the year prior to attending the school
- Recent immigrant status in the year prior to attending the school
- School attendance rate in the year prior to attending the school

The comparison between each participant's predicted and actual change in performance represents the study's estimate of the effect of the after-school program. If participants' true change was greater than their expected change, the study estimated that they made greater gains in performance on citywide tests than similar nonparticipants, and concluded that participation in the program was

⁵ The distribution of scale scores on the math and ELA tests administered in New York City is neither identical across grade levels nor does it follow a regular progression. Therefore, to facilitate analysis, the study team standardized the scale scores across grades, so that the range of possible test scores extended from 0 to 100 at each grade level and the mid-point of the possible scale scores for each grade level was always 50. For more information, please refer to Reisner et al., 2004.

associated with improved academic performance. If students' actual gain was less than their expected gain, the study concluded that their change in performance was lower than that of comparable nonparticipants, and participation in the program was considered to be associated with a decline in performance.

In order to compare the magnitude of participants' change in performance compared to that of similar nonparticipants, the study team computed an effect size based on the difference between the true change in participants' performance and their expected change, as then divided by the standard deviation of nonparticipants' predicted change in performance.

Among all participants in the seven sites for which data were available, average scores on the mathematics test were 1.51 standardized scale-score points greater between 2000-01 and 2001-02 than would be predicted from each student's characteristics. This indicates that over the course of a year, students gained an equivalent of 1.51 percent more of the full range of possible scale-score points in math than did similar nonparticipants. The difference between this change in performance and that of nonparticipants was statistically significant with an effect size of 0.47. This means that participation in the TASC after-school program was associated with a substantial change in performance for middle-grades students across the seven projects.

Participants' average change in scores on the ELA/reading test was 0.62 standardized scale-score points more than predicted based on each student's characteristics. This indicates that students gained an amount equivalent to 0.62 percent more of the full range of possible scale-score points in language arts/reading than did similar nonparticipants. The difference was statistically significant with an effect size of 0.21, indicating that participation in TASC was associated with a small change in performance.

The change in scores varied widely in both mathematics and ELA/reading across projects. In math, students in five projects gained notably more points than predicted and gained notably less in one project. In ELA/reading, students gained notably more points than predicted in three projects and notably less in one project.

Some projects encouraged student achievement by providing enriched learning opportunities that were more experiential than those offered during the school day. For example, at Project C, which demonstrated notably positive gains in both math and ELA, youth participated in a robotics activity. During an observation of this activity, youth watched a film demonstrating a series of chain reactions. The film then became a springboard for discussion about cause and effect reactions and circuit connections. Students then applied their understanding to planning the circuitry of the robots they were creating. The leader guided them in thinking through the logic of the effects they witnessed.

Similarly, Project E, another site that showed strong gains in math and ELA scores, promoted cognitive development by involving students in hands-on learning and thematic projects. One activity observed by the study team promoted technical and critical thinking skills through a technology-based learning program offered in collaboration with the City University of New York. The program combined research on science topics with learning how to create web pages using themes such as astronomy, earthquakes, and meteorology. The site coordinator reported seeing a direct link between participation in the activity and academic improvement among English Language Learners. “I see a big impact on non-English speakers. At the after-school project they spend more time talking in English and they receive help with homework. Parents don’t speak English so they are unable to help them with homework.” Regular-day teachers who were interviewed echoed this opinion. “The only way they can get help with math is through the after-school project because parents can’t help them with that.” Another teacher added, “The after-school participants come to my class with their homework done, and well done. That is very impressive.”

Another project with notably positive achievement results in both ELA and math approached instruction in a more traditional way. Project A’s after-school program was viewed as an extension of the regular school day. Teachers from the school largely staffed the project and oversaw its content. Both students and staff retained their school-day demeanor and more formal relationships during the first after-school activity, when the focus was on doing homework, and interacted more informally during the second period, when they participated in recreational activities.

Despite having varying philosophies about academic enrichment, the projects with notably positive academic results all shared one common characteristic: the site coordinator required most or all staff to regularly submit lesson plans. Project A went one step further by asking teachers who were interested in working after school to write a five-week lesson plan and budget. “We’re looking to have serious enrichment programs,” she stated.

Some projects built on the site coordinator’s prior school experience to foster high-quality academic enrichment. For instance, the site coordinator at Project C successfully applied her classroom teaching experience to project planning and supervision of staff. She regularly visited program activities and gave instructors feedback. Her observations fed into the identification of staff training needs—identifying, for instance, instructors who would benefit from additional training in classroom management or in developing lesson plans. The site coordinator organized joint retreats between after-school staff and regular-day teachers, and developed strong bonds with school administration and staff. This knowledge of and attention to classroom management and other elements affecting program quality helped the project adhere to a high standard of programming.

Attachment to School

The students enrolled in grades 6-8 in the seven schools for which data were available attended school at rates comparable to students citywide. The average attendance rate for middle schools citywide 2001-02 was 91.8 percent, and for schools hosting the TASC programs in the evaluation sample it was 91.4 percent. Students who attended one of the sampled middle-grades after-school projects in 2001-02 had slightly higher attendance rates. In the year prior to their first year of TASC participation, these participants had an average school attendance rate of 94.3 percent.⁶

To estimate the relationship between participation in a TASC project and students' school attendance, analyses focused on determining whether the gap between participants and nonparticipants increased over time. The study team found that the gap between the attendance rates of TASC participants and nonparticipants remained stable after participants had been in the project a year. After one year, the average school attendance rate of participants in the seven sites decreased by 0.01 percentage points, the same as for nonparticipants.

Because of these challenges in analyzing gains in school attendance, the study team used an effect size of 0.10 to indicate a substantive difference in school attendance gains by site.⁷ Using this definition, school attendance rates increased notably from 2000-01 to 2001-02 for students in two of the projects.

Strong working relationships between the project and the host school encouraged regular school attendance. A collaborative relationship with the host school enabled projects to not only maintain a positive atmosphere and gain access to school facilities and resources, but also strengthen the relationships and personal attention that teachers and after-school staff gave to students. For instance, in Project B, the principal and the assistant principals served as “educational coordinators” to the project, helping to develop curricula and providing supervisory support. The site coordinator described this relationship with the principal as a major contributor to her good interactions with teachers. “Our relationship is such that I can talk to any teacher,” she explained. “People

⁶ The attendance data were weighted to adjust for differences in distribution among grade levels between participants and nonparticipants. See Appendix B for details of the weights applied.

⁷ The statistical literature contains extensive discussion about how to interpret effect sizes of different magnitudes. The standard works suggest that an effect size of 0.20 is small, 0.50 moderate, and 0.80 large, as explained in an earlier footnote. However, some researchers have pointed to the need to calibrate the interpretation of effect sizes to the expected impact of the program being studied. These authors often point to the medical study of the benefits of aspirin in reducing heart attacks, where the effect size was 0.03, yet was deemed important enough to influence health policy (Prentice & Miller, 1992). This study has adopted a threshold of 0.10 for a small effect size in analysis of the association between participation in a TASC after-school project and changes in scores on standardized tests or school attendance.

understand the relationship with the principal, and she gives us that much authority and respect so the rest of the teachers see this and act accordingly.” As a result, the project was fully integrated into the school, with after-school staff collaborating with regular day teachers to address student needs and keep attendance high.

Projects promoted attachment to school by connecting their activities to the school day in unique ways. Students at Project B engaged in “real life” activities related to the world of business. They managed a store that sold snacks and school supplies during the lunch period and after school. Students (1) decided what to sell and purchased the items at a warehouse store, (2) decided what profit they should make and priced items accordingly, (3) kept track of profits, and (4) decided as a group how to spend the profits. Students learned about accounts payable, checking accounts, and inventory control. The site coordinator explained, “We got a business account at Costco so they can run [the school store] as a real business. When they project profits, they are seeing math in the everyday form.” The project also expected students to learn to resolve problems responsibly and constructively. After a pilfering incident in the TASC store, the site coordinator brought students together to make plans for preventing such incidents in the future. Students also developed a strategy for handling any future incidents. By linking these hands-on cognitive and social learning activities to the running of a real school store, the project provided participants with a strong motivation to be active in the regular school day as well.

Staffing stability and quality were also associated with positive school attendance. Project H and Project B, both projects with notable school attendance gains, had high proportions of staff drawn from the regular school day. Also, both projects retained the same after-school coordinators throughout the study period, which was unusual compared to the other study projects. At Project H, for instance, the school’s bilingual staff developer was the project’s coordinator, responsible for the day-to-day running of the after-school project. The rest of the project staff mirrored this dual role, combining service in the after-school project and teaching in the regular school program. Staff retention in the after-school project was high, averaging 85 percent according to the site coordinator. One reason for this, the coordinator explained, was that the project encouraged teachers to use their expertise to propose new after-school activities they wanted to offer. In turn, continuity in staffing ensured that the project knew its participants, was aware of their needs, and was able to build relationships with them both during and after school.

Maintaining Quality Over Time

The TASC after-school projects that are the subject of this middle-grades study shared many elements that are commonly recognized as contributing to high-quality youth outcomes. For example, all eight projects offered a mix of academic and non-academic activities, and included both structured and unstructured settings for students to interact with each other and with staff members.

However, a lesson learned over the course of this study is that project quality does not remain static. Projects varied their approach and focus over time, and did not show up as being of uniformly high or low quality on all measures. In particular, changes in project and school leadership, as well as budgetary issues, affected the focus and quality of after-school projects. For example, when one project ran out of funding before the end of the 2001-02 school year and was forced to end early, it lost parents' confidence. The following year, parents who had relied on it for child care turned to other after-school programs. In addition, the new principal's vision for the after-school program required regular school-day teachers to staff the program, and insisted that these staff concentrate on test preparation and remediation. As a result, the project was constrained by the number of teachers willing to work after school.

Turnover in site coordinators tended to cause a temporary drop in project quality. This was sometimes only temporary while the new site coordinator learned the ropes. Nonetheless, projects experienced a significant loss of institutional memory and program momentum when a new site coordinator came on board. The new coordinator at Project F reported spending the first year getting up to speed on what had happened in the program in the past. Meantime, there was little innovation and even some decline in the level of programs and services. In contrast, in another project, the site coordinator had directed the program since its inception, and was able to increase the resources available to the project by actively pursuing opportunities to expand and improve program offerings over time. For instance, he explained that there had been an increased use of technology in the program thanks to grants he was able to obtain for computer and technology curricula.

In other instances, a change in leadership was a springboard for program improvements. One project experienced several years of tension with its host school around the project budget and access to facilities. School-day teachers resisted the program's use of their space, and the site coordinator complained that the principal controlled too much of the project budget. In 2002-03, both the principal and the site coordinator were new, and the two forged a relationship that enabled the project to become more positively integrated into the school. The principal and site coordinator met regularly, although the principal left the day-to-day management of the project, including the budget, to the site coordinator. The

site coordinator further strengthened the relationship with the school by using some of her budget to purchase supplies that regular day teachers could also use.

Conclusion

Patterns of associations measured in this study revealed four key features of after-school programming that were consistently related to positive outcomes for middle-grades students:

- ***Skilled and caring staff.*** In the study sites, project staff played a central role in engaging middle-grades students and promoting their social and cognitive development. Projects fostered a sense of community and positive peer and youth-adult relationships in sites where staff members established clear goals and high expectations for mastery while modeling positive behavior. Sites with experienced, qualified after-school staff were assessed as yielding strong academic benefits and encouraging students' attachment to school.
- ***Student choice.*** All eight projects included in this study offered a variety of homework, enrichment, and recreational activities. However, the projects where students displayed the strongest attachment to the after-school program were also those that offered participants the opportunity to help design their own after-school experience by choosing activities, which in turn helped to create a sense of ownership and belonging within the program.
- ***Enrichment activities, including social development and athletic opportunities.*** In the projects where students demonstrated notably positive cognitive development outcomes, they were exposed to enrichment activities that frequently included hands-on learning, which complemented school-day academics. In addition, projects encouraged attachment to the after-school program and positive peer relationships through social development and athletic activities.
- ***Leadership that promotes a strong relationship between the after-school project and the host school.*** The experiences of the eight projects in this study suggest that stability in school and in project leadership were associated with support for student learning and development. In particular, experienced leadership led to a more intentional focus on integrating school-day and after-school programs, for example, by aligning policies, providing some continuity in staffing, and developing after-school activities that support, but differ from, the school-day curriculum. In projects

with these strong relationships to the host school, students showed evidence of notable achievement gains as well as a stronger attachment to both the after-school program and the school.

Exhibit 4
Relationships Between Student Outcomes and Project Features

| Student Outcomes | Project Features | |
|--|--|---|
| | Enrichment Opportunities | Staffing and Structure |
| Attachment to the after-school program | Project offers social development activities, such as conflict resolution Students have choice in activities | Staff establish clear goals and attendance policies Staff encourage student ownership of the project Project has strong ties to the host school |
| Positive staff-youth relationships | | Staff model positive behavior Staff promote student mastery |
| Positive peer relationships | Project offers sports, fitness, and recreational activities Activities are structured to encourage youth interactions | Staff set high expectations for students |
| Cognitive development | Project offers hands-on learning opportunities that complement school-day instruction | School-day staff help advise or lead project activities |
| Attachment to school | Activities provide real-life connections to school-day learning | Project has some continuity of staffing from school day Project staff is stable over time |

Overall, the findings from this study suggest that after-school projects that serve middle-grades students can contribute to positive student outcomes by promoting program effectiveness through staffing decisions, student choice, high-quality enrichment activities, and leadership that promotes collaborative relationships. These elements of project quality create a supportive environment for student learning and development to take place, and encourage the engagement of middle-grades students in their after-school program, in turn leading to social and cognitive benefits.

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Appendix A

Regression Coefficients Used to Predict Expected Change in Performance, ELA/Reading and Mathematics

| | ELA/Reading 1 Year Change | Mathematics 1 Year Change |
|-------------------------------|------------------------------|------------------------------|
| Model Characteristics | | |
| N | 1,362 | 1,682 |
| R-square | 0.144 | 0.124 |
| Intercept | 4.71 | 4.54 |
| Coefficients | | |
| Base standardized scale score | -0.29* | -0.30* |
| Free lunch | -1.76* | -1.79* |
| Female | -0.09 | -0.47 |
| Asian | 4.87* | 4.45* |
| Hispanic | 2.34* | 1.83* |
| White | 4.34* | 2.03* |
| Black | ** | ** |
| ELL | -0.82 | -1.45 |
| Special education | -2.72* | -2.81* |
| Recent immigrant | -0.64 | 0.86 |
| Base school attendance rate | 10.74* | 10.53* |

* Indicates a statistically significant effect on performance change at the p<.05 level

** Coefficients for students in this category were not calculated to preserve the degrees of freedom necessary for analysis

Example Calculation of Expected Change in Performance for a One-Year Change on Mathematics Exam

| | |
|---------------------------------|--|
| (Line 1) Expected change | = intercept + base score + free lunch + gender + race + ELL status + special education status + recent immigrant status + base school attendance |
| (Line 2) Expected change | =4.54 + (50 [standardized score] * -0.30) + (1 [eligible for free lunch] * -1.79) + (1 [girl] * -.47) + (0 [not Asian] * 4.45) + (1 [Hispanic] * 1.83) + (0 [not white] * 2.03) + (1 [ELL] * -1.45) + (0 [special education student] * -2.81) + (0 [not recent immigrant] * 0.86) + (.92 [school attendance rate] * 10.53) |
| (Line 3) Expected change | =4.54 – 15 – 1.79 – 0.47 + 0 + 1.83 + 0 - 1.45 + 0 + 0 + 9.69 |
| (Line 4) Expected change | = -2.65 standardized scale-score points or -2.65 percent of the possible scale-score points |

Appendix B

Distribution of Study Participants, by Base-Year Grade, Unweighted, in Percents

| Base Grade | All Participants (N=732) | Nonparticipants (N=1,587) | All Students (N=2,319) |
|------------|-----------------------------|------------------------------|---------------------------|
| 5 | 64% | 62% | 63% |
| 6 | 22% | 35% | 31% |
| 7 | 14% | 3% | 6% |
| Total | 100% | 100% | 100% |

Weights Applied to Attendance Analyses to Adjust for Enrollment, by Base-Year Grade (K-7)

| Base Grade | All Participants (N=732) | Nonparticipants (N=1,587) |
|------------|-----------------------------|------------------------------|
| 5 | 0.9737666970718215 | 1.01258223705878 |
| 6 | 1.39510964176768 | 0.884462523526417 |
| 7 | 0.478262573993492 | 2.0127844151891 |