# ***AfterZone:*** Outcomes for Youth Participating in Providence's Citywide After-School System

Tina J. Kauh

P/PV Public/Private Ventures
INNOVATION. RESEARCH. ACTION.

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*https://doi.org/10.59656/YD-OS4259.001*

## Acknowledgments

We are indebted to many individuals who helped make this study possible. First and foremost, we would like to thank Elizabeth Devaney and Hillary Salmons of the Providence After School Alliance (PASA) for facilitating data collection, providing a wealth of information about the AfterZone initiative and reviewing drafts of the report.

In addition, we are especially grateful to several individuals from Providence, RI, without whom this study would not have been possible. Congressman David Cicilline (former mayor of Providence) provided essential support for the evaluation. Marco Andrade and Sandy Rainone were critical in obtaining school records data. Staff and administrators of the six Providence middle schools participating in this study made data collection feasible: Kadesa Huffman and Bill Weidman (of Samuel Bridgham Middle School), Ellen Albanese (of Esek Hopkins Middle School), Scott Harding (of Oliver Hazard Perry Middle School), Richard Teto and Joseph Prisco (of DelSesto Middle School), Gina Silvia and Ann Cedergren (of Gilbert Stuart Middle School), and Zawadi Hawkins and Mary Burke (of Roger Williams Middle School).

Several P/PV colleagues provided invaluable support with different phases of the study. Alissa Weiss, Deirdre Din and Stacy Woodruff-Bolte oversaw data collection efforts. Nayan Ramirez developed tables summarizing the study's key findings. Nadya Shmavonian, Wendy McClanahan, Amy Arbreton, Carla Herrera, Laurie Kotloff and Bob Granger (a member of P/PV's Research Advisory Board) offered valuable comments on early drafts of the report. The report greatly benefited from the expert editing skills of Chelsea Farley and Jason Warshof, an editing consultant. We also thank the survey firm, Ewald and Wasserman Research Consultants, LLC, for its tireless efforts in collecting data from students each Spring of the study.

The Wallace Foundation made this evaluation possible through its generous funding and longstanding commitment to helping more children and youth realize the benefits of high-quality out-of-school-time programs. We are especially grateful to Ann Stone, Zakia Redd, Edward Pauly and Dara Rose for their guidance and advice throughout the study and their useful feedback on the report. In reviewing drafts, Pam Mendels, a senior writer at the Foundation, skillfully synthesized the comments of the Wallace team—including her own—to improve the report. We are very grateful for their contributions.

Finally, thanks go to Penelope Malish, who designed the report, and to Laura Johnson, who edited the document and single-handedly oversaw its publication and dissemination.

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# Executive Summary

After-school programs may provide important opportunities for youth, especially those who are at risk for later academic disengagement, future unemployment and poverty. In fact, research has found that participation in *high-quality* after-school programs is related to a host of positive outcomes for participants, including greater self-confidence, increased civic engagement, better school attendance, improved academic achievement and decreased delinquency.[1] Impacts can hinge, however, on how much youth participate, as well as the breadth of their participation across different types of activities and the extent to which they are emotionally engaged in programming. Such opportunities become increasingly important for older youth, whose participation in after-school programs is typically low, in part because programs that meet their needs and interests are few and far between.

Recognizing the need to improve the reach of after-school programs, cities around the country have begun to develop after-school "systems"—citywide infrastructures that connect youth and their families with a network of program providers and city resources. The ultimate goal of these efforts is to increase youth's access to high-quality programming and, in turn, to increase the number of youth who participate in—and benefit from—strong after-school programs. However, the system-building approach for after-school programming is still in its infancy, and the ways in which these systems are structured vary greatly from city to city. Much still needs to be learned about how these initiatives can be best designed to yield positive effects for youth.

1 See: George, R., G. R. Cusick, M. Wasserman and R. M. Gladden. 2007. *After School Programs and Academic Impact: A Study of Chicago's After School Matters*. Chicago: Chapin Hall. See also: Durlak, J. A., R. P. Weissberg and M. Pachan. 2010. "A Meta-Analysis of After-School Programs That Seek to Promote Personal and Social Skills in Children and Adolescents." *American Journal of Community Psychology*, 45, 294–309. See also: Fredericks, J. A., and J. S. Eccles. 2006. "Is Extracurricular Participation Associated With Beneficial Outcomes? Concurrent and Longitudinal Relations." *Developmental Psychology*, 42 (4), 698–713.

## The AfterZone Model

To better meet the needs and interests of middle school youth in Providence, RI, a city whose youth face significant economic and educational challenges, the Providence After School Alliance (PASA) developed the AfterZone. PASA is a partnership among local public agencies and nonprofit organizations, and its AfterZone model has generated significant interest across the country, including from some who seek to replicate the system in their own communities.[2] The AfterZone model encompasses a wide variety of after-school programs (including sports, skills and arts activities) for middle school youth during three distinct sessions (fall, winter and spring).[3] Programming takes place for approximately two-and-a-half hours a day, four days a week, and is open to students in sixth through eighth grades.

The AfterZone model has four key features. First, it employs a single set of quality standards and offers training and support to its providers. Second, it is structured around a neighborhood "campus" model, where services are offered at multiple sites in a geographically clustered area, known as a "zone." Each zone includes several programs located in community-based facilities but is anchored by one or two middle schools, where the program day begins and ends for every youth.[4] Third, the AfterZone's structure and organizational practices are designed to be developmentally appropriate for middle-school-age youth, for instance, by encouraging greater independence and exposing youth to new experiences. Fourth, PASA not only coordinates the key players in the AfterZone system but also leads the check-in and check-out process each day at the zones it leads, provides its own academically oriented enrichment activities through "Club AfterZone" and employs AfterZone staff to supervise and coordinate these activities.

2 In November 2010, a group of assistant superintendents, executive directors of after-school programs, foundation officers and city government officials from nine cities (New Orleans, LA; Nashville, TN; Charlotte, NC; Danville, NC; Omaha, NE; Buffalo, NY; Woonsocket, RI; Asheville, NC; Newport, RI) attended a two-day symposium hosted by PASA on how to replicate the AfterZone model.

3 The AfterZone also offers reduced summer programming, which is not part of the current evaluation.

4 Safe transportation to and from community-based facilities and anchor schools is coordinated by PASA.

## The Study

In 2007, with funding from The Wallace Foundation, Public/Private Ventures (P/PV) launched a study of the AfterZone model, which involved an in-depth look at its implementation, as well as an evaluation of AfterZone youth's participation and outcomes during the 2008–09 and 2009–10 school years. While P/PV's earlier work examined the development and implementation of the AfterZone model,[5] the current study is the first evaluation of its effects on participants as well as one of the few rigorous (quasi-experimental) evaluations of an after-school *system*. As such, it sheds light on the potential of after-school systems to produce benefits for youth. In addition, by presenting an in-depth examination of multiple dimensions of participation (amount, breadth and engagement), the study extends the after-school field's understanding of the relationship between program participation and youth outcomes.

Specifically, the study set out to answer the following questions:

- How much are middle school youth participating in the AfterZone?
- What is the breadth of their participation across the wide range of activities offered through the AfterZone?
- To what extent are youth emotionally engaged in the AfterZone? (For instance, to what extent do they feel like they belong, how supportive do they perceive program staff to be, and how much fun do they think the experience is?)
- Do youth who participate in the AfterZone have better school- and health-related outcomes, social and personal skills, and awareness of and attitudes about their communities, compared with similar youth who do not participate in the AfterZone?
- Is more participation (in terms of amount, breadth and engagement) associated with better outcomes?

### Methodology

Our findings are based on a sample of 763 youth from six Providence middle schools who were in the sixth grade at the start of the study. Nearly half (354 youth) participated in the AfterZone during the 2008-2009 school year. To learn about the youth's lives, their experiences in after-school programs and how they benefited from the AfterZone, we gathered data from three sources: youth surveys administered at the beginning of the sixth grade and at the end of the sixth and seventh grades, administrative school records obtained at the end of each school year[6] and PASA's management information system (MIS).

### Limitations

As with all research studies, the current study has its limitations. First, as noted earlier, research has shown that youth must participate in *high-quality* programs to derive any sustained benefits from their participation. Yet it was beyond the scope of this study to examine the quality of all the programs offered through the AfterZone system (more than 100 programs and providers are part of the AfterZone, offering approximately 500 individual programs across the three zones each school year). Second, because we employ a quasi-experimental design, we cannot definitively attribute differences in youth outcomes to participation in the AfterZone. It is likely, for instance, that youth who choose to participate in the AfterZone more or less often, or even at all, are inherently different from each other. Although we cannot rule out the possibility that some unmeasured variable explains the different outcomes we observed for participants and nonparticipants, we employ several strategies in our analyses (described in Chapter 5 of the full report) to increase our confidence that these differences are truly effects of AfterZone programs.

5 Kotloff, Lauren J., and Danijela Korom-Djakovic, 2010. *AfterZones Creating a Citywide System to Support and Sustain High-Quality After-School Programs.* Philadelphia: Public/Private Ventures.

6 Data were obtained from the Providence school district's Office of Research, Assessment & Evaluation.

## Key Findings

Findings from this two-year evaluation suggest that youth can benefit from a system modeled after the AfterZone, whose key features include a central coordinating body, a network of school- and community-based programs and strong roots in the school context. Many of the benefits youth experience are not long-lasting, however, which may be due in part to the short periods of time youth typically participate and to their limited overall exposure to programming. The AfterZone seems most effective at yielding benefits that are related to school; increasing youth's participation may be necessary for this model to reach its full potential.

### Participation

***Youth participated intensely—but for short periods of time.*** From Fall 2008 through Spring 2010, more than half the study participants (59 percent) attended an AfterZone program for at least one day. And participants typically attended AfterZone programs with a high level of intensity during the sessions in which they were enrolled: On average, each year, youth attended approximately two thirds of the days they were enrolled, a proportion that compares favorably to middle school youth's attendance in other after-school systems. Yet nearly half of the youth who participated in the AfterZone enrolled for only one of the three sessions offered during the school year. As a result, the total number of days youth attended was relatively low (on average, about one quarter of the days available to them over the course of the year).

***The extent to which AfterZone youth are taking advantage of the broad range of activities available to them depends, to some degree, on the consistency of their participation.*** Youth who enrolled in the AfterZone for at least two sessions during a single school year were much more likely to participate in more than one kind of activity than youth who enrolled for only one session (75 percent compared with 26 percent). Among the more consistent participants (i.e., those who enrolled for at least two sessions), nearly one third participated in all three types of activities (sports, skills and arts).

***AfterZone youth are generally engaged in their programs, but their relationships with staff are a potential area for improvement.*** The majority of AfterZone participants reported that they felt a sense of belonging, perceived the program staff to be supportive and had more fun at the programs than at other places where they spent time. While most AfterZone participants perceived program staff as supportive, the actual rates (62 percent in 2008–09 and 56 percent in 2009–10) are somewhat low compared with youth who attended after-school programs outside the AfterZone system. In addition, AfterZone youth were less likely to perceive staff as supportive in the seventh grade than in the sixth.

### Program Benefits

***Participation in the AfterZone yielded a broad range of benefits—including strikingly higher school attendance—after one school year. However, most of these benefits diminished by the end of the second school year. Interestingly, effects on attendance increased in magnitude with longer participation in the AfterZone.*** At the end of the sixth grade, AfterZone participants had more positive attitudes about community resources, better social skills, stronger feelings of connection to school and better school attendance than peers who did not attend the AfterZone. The school-related benefits were particularly strong—one-and-a-half times the magnitude of impacts typically achieved by after-school programs.[7] Benefits associated with social and personal skills, however, were smaller than we would have expected (at only about two thirds the size suggested by previous studies).

Among youth who participated in the AfterZone during both years of the study, benefits persisted through the seventh grade in only one of seven areas tested: school attendance. The effect on absences, however, increased from one-and-a-half times the expected impact to more than double the expected impact. In addition, one new program benefit emerged at the end of the second school year: AfterZone participants earned higher grades in math—by about one third of a grade—than comparison youth. Taken together, these findings suggest that the AfterZone yields benefits for seventh graders that are limited in scope but fairly large in magnitude.

7 We compared the size of the impacts yielded in this study with the average impact of after-school programs reported in the meta-analysis conducted by Durlak, Weissberg and Pachan. For more detail about the meta-analysis and the benchmarks used as points of comparison, see Durlak et al., "A Meta-Analysis of After-School Programs."

***More participation and greater breadth of participation in the AfterZone were associated with better school-related attitudes, behavior and performance, while greater emotional engagement in the AfterZone was associated with improvements in social and personal skills.*** Youth who attended their AfterZone program for more days and those who participated in a broader range of activities had better school attitudes, behavior and performance at the end of each year. Dosage (the number of days youth attended) seems to be particularly important for school-related benefits. In the sixth grade, these benefits appeared to peak for youth after attending the AfterZone for 32 days, or approximately eight weeks—around the length of a single session.[8] However, at the end of the seventh grade, youth who had attended AfterZone programs for fewer than 50 days (or roughly 13 weeks) over the course of the two-year study period were no different from their peers who did not participate in the AfterZone at all. Together, these findings suggest that although short-term benefits can be experienced after participating for just eight weeks (or one session), youth need to continue their participation for a longer period of time to experience more sustained benefits. These findings are in keeping with other studies of after-school programs suggesting that longer participation is necessary to achieve sustained impacts.

While the amount and breadth of youth's participation in the AfterZone were associated with school-related outcomes, youth's emotional engagement was related to changes in social and personal skills. Youth who felt a sense of belonging and perceived the program staff as supportive reported having better social skills, were better able to control their emotions, thought more about their future and had more supportive adults in their lives than AfterZone youth who did not feel a strong sense of belonging or did not perceive the staff as supportive. Moreover, in many cases, youth who were emotionally engaged in AfterZone programs fared better socially and personally than their peers who did not participate in the AfterZone. Interestingly, however, youth who were emotionally *disengaged* in AfterZone programming fared worse than their peers who did not participate at all.

8 Conversion to weeks is based on the assumption that youth attend each of the four days the AfterZone is offered throughout the week.

## Implications

***After-school systems that are strongly rooted in the school context can have a positive impact on school-related outcomes, even without significant resources directed toward intensive academic support.***

One finding that emerged consistently across the numerous analyses conducted for this study was the link between participation in the AfterZone and reduced absences. It is rather striking that a network of after-school programs that does not directly target school attendance seems to shrink absences among its participants by 25 percent after two years—especially given that the AfterZone has no explicit school-day attendance policy, as do some other after-school systems. Moreover, individual after-school programs have generally not been found to yield significant impacts on attendance.[9] In addition to reduced absences, we found that youth who participated in the AfterZone for two school years earned math grades that were higher than those of their nonparticipating peers, further suggesting that the AfterZone may have the potential to bolster youth's academic performance.

The improvements we found in school-related outcomes are notable for three reasons: First, as mentioned earlier, youth did not attend the AfterZone with that much frequency—only about 25 days out of each year on average. Second, programs offered through the AfterZone do not provide intensive tutoring or remediation. Some of these programs, particularly skill-building programs, do provide enrichment by introducing academic concepts, with the goal of getting youth interested and excited to learn. But overall, AfterZone programs are not academically focused. Third, the AfterZone consists of more than a hundred programs each year. P/PV's earlier implementation study and PASA's internal assessments suggests that, on average, AfterZone programs are well implemented, but these data are only "snapshots" of the entire system. While it is quite likely that the programs vary in quality, we still found evidence of program benefits.

The AfterZone offers programs from a wide range of substantive areas that take place in both school and community settings. The system, however, is

9 Durlak et al., "A Meta-Analysis of After-School Programs."

*grounded* within the school environment. The participating middle schools act as the hub of AfterZone activities for program participants: Each day, the program begins and ends on school grounds, and for most participants (94 percent), the program itself takes place on the school campus.[10] Our results suggest that after-school systems that are deeply connected to the school campus—for instance, through operation of the daily check-in and check-out process at school or inclusion of numerous school-based programs—can markedly improve youth's school attendance and may support their academic achievement.

***More research is necessary to determine whether changes in school-related behaviors lead to long-term improvements.***

Perhaps the most immediate effect of AfterZone participation is that it motivates youth to come to school more regularly, which has the potential to lead to important long-term benefits. Youth who are absent from school receive fewer hours of instruction and have fewer opportunities to interact with their peers and teachers and to develop bonds to the school environment. In fact, prior research has shown that absenteeism is linked to poor academic performance and alienation from classmates, teachers and school as a whole.[11] Studies have also shown that chronic absences are associated with engaging in substance use, delinquency, dropping out of high school and unemployment in adulthood—problems that numerous truancy-prevention programs have been developed to address.[12] Future research is needed to assess whether better school attendance as a result of participation in after-school systems actually leads to the kinds of long-term benefits that school districts are intensely interested in—such as better standardized test scores and higher graduation rates.

***To improve youth's social and personal skills, after-school systems must find ways to emotionally engage youth.***

Through its wide range of activities, the AfterZone aims to have a broad positive effect on youth, improving their social, personal and academic skills. Past research suggests that programs like those offered through the AfterZone typically have their greatest success at influencing youth's social and personal skills.[13] But, somewhat surprisingly, we did not find clear and consistent evidence of such benefits among AfterZone participants. We did find evidence, though, that youth who were more emotionally engaged in the AfterZone experienced bigger improvements in their social and personal skills than those who were emotionally disengaged.

One potential benefit of the AfterZone model is that it provides a broad array of after-school programs to youth throughout the school year, and that increased accessibility might lead to higher participation overall *across* the system. However, more varied participation also means that youth's involvement in any one program is rather short-lived. Systems utilizing the AfterZone model should identify strategies to foster deeper bonds to the program and stronger relationships with staff, which our results suggest are important for having an impact on social and personal skills.[14]

***The AfterZone model should incorporate new strategies for increasing consistent participation over the course of the school year.***

System developers who plan to implement the AfterZone model should focus efforts not only on recruiting as many youth as possible in the sixth grade but also on retaining those same youth over time. Findings presented throughout this report point to the importance of increasing the

10 Estimate is based on youth who enrolled in at least one activity during either year of the study.

11 Gottfried, M. A. 2009. "Excused Versus Unexcused: How Student Absences in Elementary School Affect Academic Achievement." *Educational Evaluation and Policy Analysis*, 31 (4), 392–415.

12 Sutphen, R. D., J. P. Ford and C. Flaherty. 2010. "Truancy Interventions: A Review of the Research Literature." *Research on Social Work Practice*, 20 (2), 161–71.

13 Durlak et al., "A Meta-Analysis of After-School Programs."

14 For instance, a core component of the model is Club AfterZone (CAZ), which offers a prime opportunity to provide consistency for participants, across sessions and even school years. During the second year of the study, CAZ had begun taking steps to fulfill this potential by assigning youth to relatively permanent same-grade peer groups led by the same staff member on consistent days and times each week. Due to the timing of these changes relative to the study, we were unable to assess if they helped increase youth's emotional engagement in the AfterZone, but future research should address this question.

consistency of youth's participation over the course of the school year. However, at the time the study was conducted, the AfterZone model did not have an explicit goal to recruit the same set of youth session after session. Rather, it operated on a first-come, first-served philosophy each session.

After-school systems that employ the AfterZone model should identify strategies for increasing the consistency of youth's participation throughout the school year. Other after-school systems have employed various strategies for increasing program retention over time. One study found, for instance, that offering more leadership opportunities for participants was the strongest single predictor of retention in programs serving older youth.[15] However, P/PV's AfterZone implementation study found that instructors in the AfterZone system were not fully enabling youth to make plans and decisions during activities.[16] At the program level, this may be a key area for improvement.

At the system level, intermediaries (or other organizations that coordinate the registration process) could make a more concerted effort to encourage "alumni" participants to reenroll by individually contacting those youth and/or their parents or guardians *before* registration is opened to other students. This individual attention might also help bolster youth's emotional engagement in the programs, increasing their sense of belonging and the extent to which they perceive staff to be supportive. Moreover, AfterZone staff could take this opportunity to personally introduce different types of programs offered during upcoming sessions, thereby encouraging greater breadth of participation. Alternatively, a certain percentage of slots for each program within the system could be reserved for returning participants.

Finally, a broader system-wide change could entail adding a programming component for elementary school students that specifically targets younger siblings of AfterZone participants. Prior research has found that at least one in five youth who do not participate in after-school programs are *unable* to do so because of family responsibilities, like caring for siblings.[17] In this study, youth (on average) were needed at home after school about one day per week for sibling care; providing programming for the younger siblings of these youth could address an unmet need. Such proposed system-level strategies would require significant resources, and without any expansion beyond current funding levels, such intensive services would likely require serving a smaller number of participants.

***The AfterZone model must balance sometimes-competing approaches to increase youth's participation in after-school programs.***

In line with prior research, our findings suggest that extended, consistent and more varied participation is important for achieving benefits. And current "best practices" hold that to successfully recruit and retain participants, after-school programs must provide offerings that are appropriate for their specific age group.[18] The AfterZone model, for instance, seeks to increase participation by breaking the school year into three relatively brief, independent sessions—a structure that enables youth to participate even if they have other commitments or activities during the remainder of the school year. This freedom is likely valued by older youth and may initially encourage their involvement in after-school programs. Yet the structure also creates a fairly short window of time for each session, perhaps inadvertently deterring sustained participation, which both this study and past research suggest are vital for long-term benefits. System developers interested in employing the AfterZone model need to be cognizant of how some efforts to increase participation may actually counter other aspects of "what works" and must identify strategies for maneuvering around those competing approaches.

15 Deschenes et al., *Engaging Older Youth.*

16 Kotloff and Korom-Djakovic, *AfterZones*.

17 Harvard Family Research Project. 2004. "Moving Beyond the Barriers: Attracting and Sustaining Youth Participation in Out-of-School Time Programs." *Issues and Opportunities in Out-of-School Time Evaluation*, 6, 1–16.

18 See: Kauh, T. J. 2010. *Recruiting and Retaining Older African American and Hispanic Boys in After-School Programs: What We Know and What We Still Need to Learn.* Philadelphia: Public/Private Ventures. See also: Deschenes et al., *Engaging Older Youth.*

## Final Thoughts

After-school systems are developed to improve youth's access to high-quality after-school programs. Currently, though, relatively little is known about how these coordinated citywide efforts affect the lives of the youth who participate in them. The AfterZone model, in particular, has generated significant interest across the country because of its unusual approach of offering a large network of school- and community-based programming to older youth. P/PV's previous implementation study documented PASA's success in brokering partnerships among the schools, city departments and nonprofit community to create the AfterZone model. And, findings from the current evaluation lend preliminary support to the notion that systems modeled after the AfterZone can bring about short-term positive changes in youth's lives, including improved school attendance. But to yield long-term impacts, particularly in academic areas, these systems must work to ensure that youth participate for a sustained period of time. Along such lines, system administrators may need to make a difficult choice about where to focus their resources—either on reaching more youth for shorter periods of time or keeping the same youth involved over longer periods.

# Introduction

**Chapter I**

Currently, more than 8 million children in the United States participate in after-school programs,[1] and the demand for these programs is higher than ever. The increase in dual-earner and single-parent families during the last few decades provided the initial impetus for more programs that offer supervision for large numbers of young children on weekdays between 3 and 6 p.m.[2] At the same time, new research revealed that the incidence of juvenile crime peaked during these hours and that youth who lack adult supervision are more likely to engage in risky behavior than those who are supervised.[3] Researchers and program providers began to recognize that programs during after-school hours had the potential to offer more than simple supervision. Rather, they could aim to provide youth with a variety of enriching and productive activities that might help them develop into healthy and contributing members of society.

In fact, research has found that participation in *high-quality* after-school programs is related to a host of positive outcomes for participants, including greater self-confidence, increased civic engagement, better school attendance, improved academic achievement and decreased delinquency.[4] Impacts can hinge, however, on how much youth participate, as well as the breadth of their participation across different types of activities and the extent to which they are emotionally engaged in the program. For instance, many studies find that benefits accrue and are sustained only after consistent participation for one year or more.[5]

## Reaching Disadvantaged Middle School Youth

Adolescents experience significant physical, social and academic changes, all of which can lead to increased stress. Without adequate supports and opportunities to develop the skills necessary to navigate these stressors, youth may begin to engage in risky and problematic behaviors (e.g., skipping school). Thus, the benefits afforded by after-school programs may be especially important for older youth from disadvantaged communities who often lack positive supports and enriching opportunities. Further, during their middle school years, youth often begin to assert their independence from adults and to experiment with a range of new experiences as they forge their identity. While younger children are enrolled in programs by their parents, adolescents have more "voice" in how they spend their time. Moreover, as they mature, adolescents often have many choices about—and more demands upon—their time during the after-school hours, so they can choose to go elsewhere if they lose interest in a particular program. All of these factors make it less likely that older youth will join an after-school program and stay involved over the long term.

Historically, older youth have been difficult to engage and retain in after-school programs, and their participation has been relatively low compared with that of younger peers. The Afterschool Alliance found that, in 2009, 17 percent of elementary-school-age children were enrolled in after-school programs, compared with only 12 percent of middle school youth.[6] Similarly, the national evaluation of the Extended-Service Schools Initiative found that the intensity of youth involvement in after-school programs also declines with age. For instance, middle-school-age youth attended only

1 Afterschool Alliance. 2009. "America After 3 p.m." Retrieved 10/27/10 from http://www.afterschoolalliance.org/AA3PM.cfm.

2 Hernandez, D. J. 1995. "Changing Demographics: Past and Future Demands for Early Childhood Programs." *The Future of Children,* 5 (3), 145–61.

3 Apsler, R. 2009. "After-School Programs for Adolescents: A Review of Evaluation Research." *Adolescence*, 44 (173), 1–19.

4 See: George, R., G. R. Cusick, M. Wasserman and R. M. Gladden. 2007. *After School Programs and Academic Impact: A Study of Chicago's After School Matters*. Chicago: Chapin Hall. See also: Durlak, J. A., R. P. Weissberg and M. Pachan. 2010. "A Meta-Analysis of After-School Programs That Seek to Promote Personal and Social Skills in Children and Adolescents." *American Journal of Community Psychology*, 45, 294–309. See also: Fredericks, J. A., and J. S. Eccles. 2006. "Is Extracurricular Participation Associated With Beneficial Outcomes? Concurrent and Longitudinal Relations." *Developmental Psychology*, 42 (4), 698–713.

5 Arbreton, A., J. Sheldon, M. Bradshaw and J. Goldsmith, with L. Jucovy and S. Pepper. 2008. *Advancing Achievement: Findings From an Independent Evaluation of a Major After-School Initiative.* Philadelphia: Public/Private Ventures.

6 Afterschool Alliance, "America After 3 p.m."

about half (54 percent) of their scheduled days, while fourth and fifth graders attended two thirds (67 percent) of their scheduled days and first through third graders attended almost three quarters (73 percent) of their scheduled days.[7]

## The Role of After-School Systems

Recognizing the need to improve their reach to youth, cities around the country have begun to develop after-school program "systems"—citywide infrastructures that connect youth and their families with a network of program providers and city resources. These systems are aimed at improving the delivery of after-school programming in a variety of ways, such as by linking after-school programs to existing resources within communities (e.g., transportation), supporting fundraising efforts, providing staff with professional development opportunities, implementing efforts to improve program quality, and supporting the development and use of participation data across programs.[8]

The ultimate goal of these efforts is to increase youth's access to high-quality programming and, in turn, to increase the number of youth who participate in—and benefit from—strong after-school programs. However, the systems-level approach to after-school programming is still in its infancy, and the ways in which these systems are structured vary greatly from city to city. Much still needs to be learned about how these initiatives can be best designed to yield positive effects for youth.

To better meet the needs and interests of middle school youth in Providence, RI, a city whose youth face significant economic adversity and academic failure, the Providence After School Alliance (PASA) developed the AfterZone. PASA is a partnership among local public agencies and nonprofit program providers, and its AfterZone model has generated significant interest across the country among stakeholders wanting to replicate the system in their own communities.[9]

## The AfterZone Model

The AfterZone is a unique model for after-school systems that involves program providers, community-based facilities, city officials, the Providence school district and most of the district's middle schools. It offers a wide range of school- and community-based after-school programs (including arts, skill-building and sports activities) during three distinct sessions throughout the school year (fall, winter and spring). (The AfterZone also offers reduced summer programming, which is not part of the current evaluation.) Programming takes place for approximately two-and-a-half hours a day, four days a week, and is open to students in sixth through eighth grades.

The AfterZone model is described in detail in the following chapter, but we describe its four key features here. First, it employs a single set of standards to encourage high-quality programming and provides training and support to programs and providers within its system. Second, it is structured around a neighborhood "campus" model, where services are offered at multiple sites in a geographically clustered area, known as a "zone." Zones encompass several programs located in community-based facilities, such as libraries and recreational and art centers, with safe transportation to and from the facilities coordinated by PASA. However, each zone is *anchored* by one or two middle schools, where the program day begins and ends for every youth. Third, the AfterZone's structure and organizational practices are rooted in the goal of being developmentally appropriate for middle-school-age youth. For instance, at the beginning of each program session, youth are offered an extensive menu of program options. This both gives them a sense of agency by allowing them to choose how they spend their time and aims to expose them to new

7 Grossman, J. B., M. L. Price, V. Fellerath, L. Z. Jucovy, L. J. Kotloff, R. Raley and K. E. Walker. 2002. *Multiple Choices After School: Findings From the Extended-Service Schools Initiative.* Philadelphia: Public/Private Ventures.

8 Deschenes, S. N., A. Arbreton, P. M. Little, C. Herrera, J. B. Grossman and H. B. Weiss, with D. Lee. 2010. *Engaging Older Youth: Program and City-Level Strategies to Support Sustained Participation in Out-of-School Time.* Cambridge, MA: Harvard Family Research Project.

9 In November 2010, a group of assistant superintendents, executive directors of after-school programs, foundation members and city government officials from nine cities (New Orleans, LA; Nashville, TN; Charlotte, NC; Danville, NC; Omaha, NE; Buffalo, NY; Woonsocket, RI; Asheville, NC; Newport, RI) attended a two-day symposium hosted by PASA on how to replicate the AfterZone model.

experiences so they can learn about their interests and strengths as they develop a sense of identity. In addition, the campus structure of the AfterZone enables youth to safely travel away from school grounds, which further provides a sense of independence and introduces youth to new environments and community resources. Fourth, PASA not only coordinates the key players in the AfterZone system but also leads the check-in and check-out process each day at the zones it leads, provides its own academically oriented enrichment activities to AfterZone youth through "Club AfterZone" and employs AfterZone staff to supervise and coordinate these activities.

## The Current Study

In 2007, with funding from The Wallace Foundation, Public/Private Ventures (P/PV) launched a study of the AfterZone model, which involved both an in-depth look at its implementation as well as an evaluation of AfterZone youth's participation and outcomes during the 2008–09 and 2009–10 school years. The implementation findings were summarized in an earlier P/PV report, *AfterZones: Creating a Citywide System to Support and Sustain High-Quality After-School Programs*;[10] the current report summarizes the findings of the participation and outcomes evaluation. Because this is the first evaluation of a citywide after-school system targeting middle school youth, our findings suggest valuable lessons for others who are designing and implementing systems-level after-school approaches for adolescents. The findings also extend the after-school programming field's understanding of the relationship between various dimensions of program participation (amount, breadth and engagement) and youth benefits.

10 Kotloff, L. and D. Korom-Djakovic. 2010. *AfterZones: Creating a Citywide System to Support and Sustain High-Quality After-School Programs.* Philadelphia: Public/Private Ventures.

### Research Questions

P/PV conducted a two-year, quasi-experimental study[11] of the AfterZone from Fall 2008 to Spring 2010 to answer several key research questions about participation and outcomes:

- How much are middle school youth participating in the AfterZone?
- What is the breadth of their participation across the wide range of activities offered through the AfterZone?
- To what extent are youth emotionally engaged in the AfterZone? (For instance, to what extent do they feel like they belong, how supportive do they perceive program staff to be, and how much fun do they think the experience is?)
- Do youth who participate in the AfterZone have better school- and health-related outcomes, social and personal skills, and awareness of and attitudes about their communities compared with similar youth who do not participate in the AfterZone?
- Is more participation (in terms of amount, breadth and engagement) associated with better youth outcomes?

### Methodology

Findings from this study are based on a sample of 763 youth from six Providence middle schools (the AfterZone anchor schools) who were enrolled in the sixth grade at the start of the study. Nearly half (354 youth) participated in the AfterZone in the sixth grade. We gathered data from three sources: youth surveys, administrative school records and PASA's management information system (MIS).

- Youth Surveys—Youth surveys were completed three times: in November 2008, May 2009 and May 2010. Each survey collected information on youth background characteristics, including

11 A quasi-experimental study is one in which youth who participated in a program, in this case the AfterZone, are compared with youth who did not participate. A defining feature of a quasi-experimental study is that youth's participation in the program is not determined at random. As a result, the possibility exists that participants and comparison youth are not sufficiently similar prior to their exposure to the program—making it more difficult for researchers to say definitively that a program *caused* any differences in outcomes between the two groups.

demographics, parental/guardian supervision during the after-school hours, prevalence of life stressors, frequency with which youth must be home after school to care for younger siblings or attend to other responsibilities, and youth's participation in after-school programming. We also collected data on a wide range of outcome measures, including school-related attitudes, behavior and performance; physical health and nutrition; social and personal skills; and participants' awareness of and attitudes about their communities. (More details about the specific measures we used are summarized in Appendix A.) The first wave of data collection targeted all sixth graders (regardless of whether they participated in the AfterZone system) who were attending the six Providence anchor middle schools and whose parents did not deny permission.[12] Eighty-four percent of the enrolled sixth graders at those schools (763 youth) completed the Fall 2008 survey.[13] These students are considered the "study participants" in this report.

- Administrative School Records—Administrative data were collected from study participants' school records at the end of each school year.[14] Information gathered were students' birth dates; free- or reduced-price lunch status; quarterly grades for English language arts (ELA), math and science courses; proficiency levels on standardized tests in reading and math;[15] and quarterly attendance, tardiness and enrollment data.[16]
- MIS Participation Data—AfterZone participation data were collected at the end of each school year from PASA's MIS. We collected information about each youth, including the number of days attended, as well as program-level data, such as type of activity offered (skills, arts or sports) and the session (fall, winter or spring).

## Data Analysis

We conducted three sets of analyses, examining participation, youth outcomes and the relationship among different dimensions of participation and outcomes.

- Participation Analyses—We conducted an in-depth examination of PASA's attendance data to assess the level of youth's sixth and seventh grade participation in the AfterZone. Self-reported data from the youth survey were used to capture youth's attitudes about the AfterZone experience. These data also provided a snapshot of youth's participation in after-school programming *outside* the AfterZone system. For instance, how many days did youth attend the AfterZone? Did youth participate in the AfterZone consistently throughout the school year by enrolling for multiple sessions? Did youth attend any programs after school that were not part of the AfterZone system?
- Outcome Analyses—This evaluation of the AfterZone relied on a quasi-experimental design that compared the progress youth who participated in the AfterZone made at the end of the sixth and seventh grades with the progress of those who did not. For example, did youth who participated in the AfterZone have better school attendance or demonstrate better social skills than their peers who did not participate?
- Association Between Participation and Outcomes—In addition to using the participation data to describe how much and in what way youth participate in the AfterZone, we used those data to examine how varying *levels* and *kinds* of participation are associated with youth outcomes.

12 This study used a passive parental-consent strategy for obtaining parental/guardian permission for youth to participate. Parents were notified of the study through letters both mailed to their homes and distributed to their children at school. Youth were also asked to provide their own assent prior to completing the first wave of the youth survey.

13 We achieved an 84 percent completion rate among the sixth graders enrolled in the six middle schools participating in our study at the time that the baseline youth survey was administered. Four percent of parents denied permission, 6 percent of the youth denied their own assent, 4 percent were absent when the in-school survey was administered and 2 percent were deemed ineligible for other reasons.

14 Data were obtained as annual database extractions from the Providence school district's Office of Research, Assessment & Evaluation.

15 Proficiency levels on standardized tests reflect students' performance on the 2009 and 2010 New England Common Assessments Program (NECAP), which is administered every fall.

16 The school year in the Providence school district is 180 days.

For instance, did youth who attended the AfterZone more heavily and more consistently do better than those who only attended infrequently or sporadically? Did youth who enrolled in a broad range of activities benefit more than youth whose participation was more focused? Did youth who had a more positive experience at the AfterZone fare better than those who had less positive experiences?

## Limitations

As with all research studies, the current study has its limitations. First, as noted earlier, research has shown that youth must participate in *high-quality* programs to derive any sustained benefits from their participation. Yet it was beyond the scope of this study to examine the quality of all programs offered through the AfterZone system (more than 100 programs and providers are part of the AfterZone, offering approximately 500 individual programs across the three zones each school year). As such, we could not examine how quality relates to youth outcomes. Data from PASA's internal assessments of program quality as well as the AfterZone implementation study, both of which have examined a small sample of AfterZone programs, suggest that the quality of programming, on average, is relatively high.[17] However, for a system with so many programs and different providers, considerable variation likely exists in program quality compared with individual programs offered through a single provider for which quality would likely be much more consistent.[18]

Second, because we employ a quasi-experimental design, we cannot definitively attribute differences in youth outcomes to participation in the AfterZone. Youth were not randomly assigned to participate or not (or to participate more or less often). It is likely, for instance, that youth who choose to participate in the AfterZone are inherently different from those who choose not to enroll at all.[19] Youth who participate for two consecutive school years (a group we examine closely in Chapters 6 and 7) are possibly an even more self-selecting group. Likewise, youth who participate more heavily may be different from those who participate less frequently or consistently. For example, higher-intensity participators may have higher attendance because they are more conscientious, a trait that also leads them to work harder at school. Similarly, youth who are highly engaged in the AfterZone may already possess the social skills that better enable them to develop successful relationships with peers and staff.

Although we cannot rule out the possibility that different outcomes are not always associated with participation, we employ several strategies in our analyses (described in Chapter 5) to increase our confidence that these differences are truly effects of AfterZone programs.

## Structure of the Report

In the next chapter, we provide an overview of the AfterZone model. Chapter 3 provides a detailed description of the youth participating in the study. In Chapter 4, we take an in-depth look at the various ways in which youth participate in after-school programming, through both the AfterZone and alternative programs available in the community. In Chapters 5 and 6, we describe the effects of AfterZone participation on youth outcomes at the end of the sixth and seventh grades, respectively. In these chapters, we also examine how program outcomes vary depending on youth's background characteristics, such as gender, whether youth have parental/guardian supervision during the after-school hours and youth's level of academic proficiency. Chapter 7 explores the relationship between program outcomes and the level of youth's participation in the AfterZone over the two-year study period, closely examining amount, breadth and engagement. Finally, in Chapter 8, we present our conclusions and discuss the implications of our key findings.

17 Kotloff and Korom-Djakovic, *AfterZones*.

18 PASA employs a significant quality-improvement strategy through which every program is observed, professional development opportunities are offered to program staff, and program instructors are matched with quality coaches who provide technical assistance and support.

19 We recognize that youth's *desire* to participate in the AfterZone is only one factor that affects their enrollment. Many youth may want to enroll in the AfterZone but cannot because, for instance, they miss the registration deadline or the program for which they want to register has already been filled. In this report, however, we use the phrase "choose to participate" as an umbrella to encompass all these possible reasons.

# What Is the AfterZone?

**Chapter II**

The AfterZone is a neighborhood-based network of after-school programs divided into three unique "zones," each anchored by two or three middle schools where most AfterZone programs take place. Youth enroll in after-school programs within their zone, each of which draws upon multiple off-campus, community-based facilities (including affiliates of larger, national organizations, such as Boys & Girls Clubs, as well as community-based organizations). Youth who take part in community-based programming are transported to and from off-campus facilities by buses or vans that are coordinated by PASA. The schedule and programming offered through the AfterZone vary from year to year based on funding, students' interests and the pool of program providers selected to participate in the system. Based on estimates by PASA, roughly 85 percent of all after-school programs available to Providence's middle-school-age youth are offered through the AfterZone (across all three zones). In this chapter, we provide an overview of the AfterZone based only on its operations during the two years of the evaluation (the 2008–09 and 2009–10 school years).

AfterZone programming is available throughout the school year, consisting of one session for each season (fall, winter and spring). The fall and winter sessions last approximately 10 to 11 weeks each; the spring session lasts 6 weeks.[20] During the school year, AfterZone programs are offered from 2:35 p.m. until 5 p.m., Monday through Thursday, with each program running once or twice per week.[21] At the beginning of each session, youth are provided a menu of program options and can enroll in up to four. Programs fall into one of three categories:

**Table 1**
**Examples of Programs Offered Through the AfterZone by Activity Type**

| Activity Type | Program Name |
|---|---|
| Arts | Mask-Making, Drum Circle (drumming), Nonviolent Verses (songwriting), Comic Book Club (comic book writing and design), Bling! Bling! (jewelry making), Guitar 101 |
| Skills | Urban Naturalist (ecology); WNCC Broadcasting Live (journalism); Save the Bay (environmental education); Sun, Cars and Fun (building solar cars); Food and Fun (nutrition); Pets and Vets (biology and humane education) |
| Sports | Flag Football, KidSoccer, One-on-One Basketball, Tennis, Volleyball Club |

arts activities, including studio arts, writing, design and performance art; skills enhancement activities that expose youth to academic enrichment opportunities separate from the regular school-day curricula; or sports, which give youth an opportunity to engage in physical activity. (See Table 1 for examples of each activity type.) Arts and skills activities typically take place only once per week, while sports activities usually occur twice per week.

Although access to community-based programming is a key feature of the AfterZone, the model's grounding in the school environment is at its core. The participating middle schools act as the hub of AfterZone programs: each day, the program begins and ends on school grounds, and for most participants (approximately 75 percent), the program itself takes place on the school campus.[22] All youth arrive in the cafeteria of their anchor school at 2:35 p.m., immediately after school, to check in with AfterZone staff and receive a snack. At 3 p.m., youth attending community-based programs board buses or vans to their program site. They

20 In 2009, PASA also began coordinating a small number of programs that were offered during a four-week summer session, but enrollment was limited to approximately 200 youth—just over 10 percent of the capacity during a typical school-year session—identified by the school district as "at risk" for academic failure. As noted earlier, we did not include an in-depth analysis of this session in this evaluation because it is not representative of the AfterZone during the school year.

21 During the four-week summer session, AfterZone programming operates Monday through Thursday for approximately four hours per day.

22 PASA estimates that about 25 percent of AfterZone participants take part in a community-based program each session during the school year. During the two-year study period, most AfterZone participants (94 percent) had attended at least one school-based program during either year of the study.

return to the school around 5 p.m., check out with AfterZone staff and board buses home. In contrast, youth attending programs on school grounds are escorted to assigned locations around the school. Because school-based programs do not require time for commuting, two one-hour activity "slots" are available each afternoon. Typically, one slot is filled by an activity, while the other is filled by Club AfterZone (CAZ), a period of academic enrichment led by AfterZone staff and AmeriCorps members. (In some cases, youth participate in a two-hour program with providers who have been approved to lead a longer program and meet certain quality benchmarks; these youth do not take part in CAZ.)

## Advancing the AfterZone's Goals

The AfterZone typically aims to serve 1,600 sixth through eighth grade youth each school year, nearly half of the annual total student population in the AfterZone anchor schools (approximately 3,600 youth both during the 2008–09 school year and during the 2009–10 school year).[23] The primary goal of the AfterZone is fairly straightforward: to make high-quality after-school programs accessible to middle-school-age youth. Accomplishing this goal, however, is quite complicated, and PASA has had to negotiate many complex issues to implement the AfterZone successfully.[24] For instance, PASA strives to remove common barriers to youth participation in after-school programs, such as registration fees and lack of transportation. In addition, to attract older youth, the program's target population, the AfterZone must meet unique developmental needs. As noted in Chapter 1, middle-school-age youth are in the process of exerting greater independence and autonomy, particularly from their parents, and developing a stronger sense of themselves as individuals. In early adolescence, youth also begin to explore opportunities around them and to see connections between their present experiences and their future aspirations.

The AfterZone was structured to nurture these developmental processes within a safe environment under the supervision of caring adults. For instance, youth are given a menu of program choices at the beginning of each session to empower *them* to choose activities based on their own interests. The comprehensive menu of AfterZone programs also has the potential to expose youth to a wide array of experiences that can encourage the pursuit of new interests and skills. Moreover, the AfterZone's off-campus sites can help youth become familiar with existing community resources with which they may have had little or no prior contact, thereby supporting their growing independence. Finally, older youth often have competing opportunities vying for their time, including sports leagues and clubs, which may pick up at varying points throughout the year. Thus, breaking the AfterZone program year into multiple sessions may be particularly appealing to this age group because youth can enroll without making a long-term commitment. As will be discussed later in the report, however, such a system could also have unintended consequences, as short-term commitments lasting only one session may not be sufficient to yield meaningful benefits.

PASA coordinates AfterZone activities at the city level, an approach that yields several programmatic advantages.[25] First, it enables PASA to maximize the range and variety of programs offered to youth by different providers. Second, PASA utilizes a single recruitment and registration process across a large number of programs, which helps eliminate scheduling conflicts and allows students who might change schools within the district to experience a familiar process. Third, PASA is able to implement system-wide strategies to improve program quality and provider training. Finally, the systems-level approach has allowed PASA to develop the coordinated transportation system that gets youth to and from the community-based facilities and home at the end of the program day. This system allows programming to be offered to youth who reside in areas of the city that would be inaccessible without transportation. In addition, PASA identified and customized a web-based MIS that tracks daily attendance across all the programs in the AfterZone system in real time. All staff are thereby informed

23 The goal of 1,600 youth reflects a total for sixth, seventh and eighth grades combined. There is no specific recruitment target for individual grade levels.

24 The implementation challenges are discussed in detail in Kotloff and Korom-Djakovic, *AfterZones*.

25 Ibid.

which students will need bus transportation at the end of each day. The MIS also enables PASA to readily obtain an accurate *system-wide* assessment of participation on a daily basis; staff can also analyze these data by zone, school or session.[26]

Through its broad range of activities, the AfterZone aims to have a positive effect on the adolescent as a whole, improving his or her social, personal and academic skills. Programs offered through the AfterZone are not academic in that they do not provide intensive tutoring or remediation. Yet some programs, particularly skill-building programs, do provide academic enrichment by introducing academic concepts. For example, Urban Naturalist introduces youth to the study of ecology, and Sun, Cars and Fun exposes youth to the basics of physics and engineering by teaching them to build solar cars. These programs help supplement the regular school-day curricula with the goal of getting youth interested and excited to learn.

After-school programs, like those offered through the AfterZone, are facing increasing pressure from funders and school administrators to demonstrate positive impacts on educational outcomes. This emphasis on academic outcomes has been largely driven by federal school-reform policies that hold schools accountable for their students' academic performance based on annual standardized test scores. Further, many school-based after-school programs rely on significant fiscal resources from educational funders as well as physical resources from school districts. In response to these pressures and in line with the philosophical goal that after-school programming should support student learning and growth, PASA implemented significant changes during the two-year study period. For example, during the 2008–09 school year, only four AfterZone program leaders were teachers at the anchor schools. By the following school year, the number had nearly quadrupled to 14 (out of approximately 100 program leaders), representing a substantial increase in teacher involvement.

Major changes were also made to CAZ over the course of the evaluation. During the 2008–09 school year, CAZ consisted of several staff-led "zones" that focused on topics such as science, informal homework help, and games or sports. Throughout the school year, however, CAZ evolved as a result of several challenges associated with the initial model. For instance, staff had difficulty getting youth to sign up for all the planned CAZ activities[27] and lacked adequate experience in writing and implementing lesson plans. In addition, the groups of youth matched with AfterZone staff members were inconsistent over time, making it difficult for youth to develop strong relationships with staff or participate in sequenced, continuous curricula.

In Fall 2009, CAZ was restructured in several significant ways in response to these challenges. First, attendance at CAZ became mandatory for all students participating in a school-based program.[28] (As described earlier, youth attending community-based programs spent the afternoon either at or commuting to and from the program site.) Second, PASA discarded CAZ's "zones" structure. At the larger anchor schools that had enough staff and youth for smaller groups to be formed, CAZ began to follow a more classroom-based approach. Students were assigned to a relatively permanent group based on grade level, and the same staff member led activities for that group on consistent days and at the same times each week. Within these groupings, youth could choose among activity options that were more structured and organized than in the previous year. These options included time to complete homework as well as at least one skill-building item, such as activities based on the curriculum from the Boston Children's Museum. These efforts to modify the CAZ experience were intended to fortify the structure and academic activities offered through the AfterZone.

26 See *AfterZones* for a comprehensive discussion of these issues.

27 Based on observations from AfterZone staff during the 2008–09 school year, CAZ's games/sports zone was, by far, the most popular option among AfterZone participants.

28 Although this represents the formal protocol, AfterZone staff made exceptions for a small number of the participants (roughly one to two students per zone each session), allowing them to enroll in more than one school-based program on a single day.

## Summary

The AfterZone is a network of school- and community-based after-school programs offered throughout the school year over three sessions ranging from 6 to 11 weeks. The AfterZone model has several key features. While it includes community-based programs within its network, it remains strongly grounded in the school environment. In addition, the system is structured to nurture the developmental needs unique to young adolescents. Moreover, it aims to have holistic positive effects on its participants, improving social, personal and academic skills through a broad range of programs and enriching activities.

# Who Participated in the Study?

**Chapter III**

Providence, Rhode Island, is a midsize New England city of more than 170,000 residents who are predominantly ethnic/racial minorities. The city's youth face significant economic adversity, with more than 40 percent living below the federal poverty line.[29] Academically, most of the city's middle school students are failing to meet statewide standards: In 2009, for instance, of the sixth graders enrolled in the Providence school district, only 45 and 30 percent, respectively, earned a proficient score on standardized reading and math tests.[30] In addition, more than two thirds of the elementary and middle schools in the Providence school district (22 of 32 schools) failed to meet yearly performance standards set forth by the No Child Left Behind Act during the 2008–09 and 2009–10 school years.

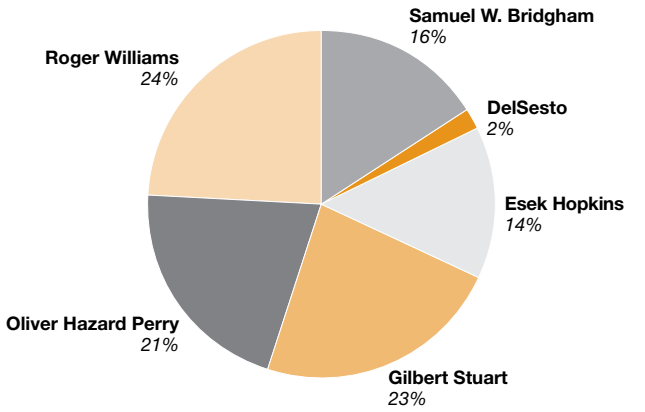
To better understand the needs that high-quality after-school programming could address in Providence, we collected data about the backgrounds, demographic characteristics, school performance and stressful life events of the 763 Providence youth participating in this study—some of whom took part in the AfterZone during the study period and some of whom did not. (As noted before, although the AfterZone strives to reach 1,600 sixth through eighth graders each year, the current study focuses on a sample of sixth grade students who agreed, with their parent's or guardian's permission, to participate in the study.) Where possible, we describe the broader student population in Providence to illustrate how our study participants compare with Providence youth in general. This chapter addresses two key questions:

- What are the demographic characteristics of the youth participating in our study?

29 National Kids Count Program, using data from the US Census Bureau, Census 2000 Supplementary Survey, 2001 Supplementary Survey, and 2002 through 2009 American Community Surveys (ACS). Retrieved 10/25/10 from http://datacenter.kidscount.org/data/bystate/Rankings.aspx?state=RI&ind=2850.

30 The standardized test used for math and reading in the Providence school district is NECAP.

**Figure 1**
**Middle Schools Attended by Study Participants**




- To what extent are the youth participating in our study experiencing life stressors that may put them at risk for future problems?

## Youth Demographics

The AfterZone targets middle-school-age youth in Providence. Data were collected from 763 youth who were enrolled in the six anchor middle schools participating in the AfterZone initiative during the 2008–09 school year.[31] As shown in Figure 1, at the start of the study, most study participants (nearly three quarters) were students at the three largest middle schools: Roger Williams, Oliver Hazard Perry and Gilbert Stuart.[32] Students from DelSesto Middle School—the smallest of the six participating schools—constituted the smallest proportion of the study sample (only 26 sixth graders were enrolled in October 2008).

All participants were enrolled in the sixth grade at the start of the study and, on average, were between ages 11 and 12. Just fewer than half were female.

31 For more information about each of the six AfterZone middle schools, see the Providence school district website at www.providenceschools.org.

32 Following the 2009–10 school year, Oliver Hazard Perry Middle School was closed permanently, and its students were transferred to the remaining seven middle schools in the district.

**Table 2**
**Demographic Characteristics of Youth**

| | Percentage of Study Participants | Percentage of Enrolled Students in Providence School District[a] |
|---|---|---|
| **Gender** | | |
| Male | 52% | 51% |
| Female | 48% | 49% |
| **Ethnicity/Race**[b] | | |
| White | 4% | 12% |
| Hispanic/Latino | 56% | 59% |
| Black/African American | 13% | 22% |
| Native American | 2% | 1% |
| Asian/Pacific Islander | 5% | 6% |
| Multiracial | 18% | NA |
| Other | 3% | NA |

[a] District data reflect the 2008–09 School Profile Datasheets from the Providence school district's Office of Research, Assessment & Evaluation. Percentages are district-wide, including schools not participating in the AfterZone system, and are not grade-specific.

[b] Percentages for study participants sum to greater than 100 due to rounding.

NA = not available

The vast majority were of racial/ethnic minority descent, consisting predominantly of Hispanic/Latino youth. As shown in Table 2, the gender and ethnic/racial composition of the study sample is fairly similar to that of the Providence school district student population. However, black/African American and white youth appear to be underrepresented in our sample, which includes only about one half and one third the proportion, respectively, of those groups district-wide. This discrepancy may owe to differences in reporting methods: While our study allowed youth to self-identify with multiple racial groups as well as with an "other" category, the Providence school district does not. Thus, within the district, multiracial and "other" youth are included in one of the remaining racial categories.

## Youth Risk

To assess the extent to which the youth in this study experienced life stressors that may put them at risk for future problems, we examined three areas: socioeconomic status, stressful life events and academic performance (see Table 3). The vast majority of the study participants were economically disadvantaged—more than 90 percent received free or reduced-price lunch during the 2008–09 school year (the first year of the study), which is significantly higher than the 2009 national average of about 56 percent.[33] In addition, nearly half were living in single-parent households; the national average is closer to one third (34 percent.)[34] Youth living in single-parent households are less likely to have supervision by a parent or guardian during their time outside of school.[35] Forty-one percent of the youth participating in the study reported

33 Harwell, M. and B. LeBeau. 2010. "Student Eligibility for a Free Lunch as an SES Measure in Education Research." *Educational Researcher,* 39 (2), 120–31.

34 National Kids Count Program, using data from the US Census Bureau et al.

35 Padilla, M. L. and G. L. Landreth. 1989. "Latchkey Children: A Review of the Literature." *Child Welfare,* 68 (4), 445–54.

## Table 3
## Indicators of Risk Among Study Participants

| Risk Indicators | Percentage of Study Participants |
|---|---|
| Single-parent household | 49% |
| Receive free or reduced-price lunch[a] | 92% |
| Lack parental/guardian supervision between 3 p.m. and 6 p.m. | 41% |
| NECAP Reading: performing below "proficient"[b] | 59% |
| NECAP Math: performing below "proficient"[b] | 77% |
| **Stressors**[c] | |
| Moved or changed schools[d] | 44% |
| Parent/guardian started working | 54% |
| Parent/guardian stopped working | 15% |
| Broken up with boyfriend/girlfriend | 39% |
| Close friend moved away | 51% |
| Been picked on at school or in neighborhood | 17% |
| Know someone who died in last year | 44% |
| Parents separated | 28% |
| Someone living in home had a baby | 25% |
| Someone moved out of home | 34% |

[a] Free lunches are available to children in households with incomes at or below 130 percent of poverty. Reduced-price lunches are available to children in households with incomes between 130 and 185 percent of poverty.

[b] Proficiency levels are based on performance on the New England Common Assessment Program (NECAP). "Below proficiency" performance is equivalent to the first or second proficiency level. Students performing at proficiency levels 3 or 4 are either meeting or exceeding standards.

[c] Based on the six months prior to the baseline survey.

d Although only 44 percent of the study participants reported having moved or changed schools during the six months prior to the baseline survey, nearly all of them *should* have experienced this stressor, as they transitioned from elementary to middle school. Only youth held back in the sixth grade from the prior year would have been exempt. The act of reporting the change in schools might suggest that the transition was more salient, and possibly more stressful, for some youth.

lacking such supervision during the hours immediately following the school day, between 3 and 6 p.m. This is higher than the national average, which shows 30 percent of middle school students lack supervision during the after-school hours.[36]

In addition, the study participants' standardized test scores (shown in Table 3) illustrate the significant academic challenges these youth face. In Fall 2008, fewer than half (41 percent) were performing at grade-level proficiency in reading and fewer than one quarter (23 percent) were doing so in math.[37] Clearly, the majority of the youth participating in the study were far behind the statewide standards.

Further, many of the study participants had experienced one or more significant life stressors during the six months prior to the baseline survey. The three most prevalent stressful events were having a close friend move away, having a parent/guardian start working and knowing someone who had recently died. On average, youth had experienced more than three of these stressful events in the six months preceding the survey.

## Summary

Youth in our study are largely representative of the general student population in Providence. The prevalence of socioeconomic hardship, stressful life events, academic failure and lack of parental/guardian supervision during the after-school hours suggests that study participants are at high risk for academic failure and involvement in problem behaviors. The AfterZone was developed to address these needs by increasing middle school youth's access to high-quality after-school programming.

36 Afterschool Alliance, "America After 3 p.m."

37 These percentages reflect the academic struggles of sixth grade students in the Providence school district at large. Only 45 and 30 percent of the sixth graders district-wide earned a proficient score in reading and math, respectively.

# Did Youth Participate in the AfterZone and Other After-School Programs?

**Chapter IV**

In this chapter, we describe youth's participation in after-school programming during the two-year study period. Although the focus of our analysis is on the AfterZone, we also briefly examine the amount of youth participation in after-school programs apart from the AfterZone system to provide a richer understanding of youth's after-school experience. Furthermore, we present an in-depth exploration of the various ways in which youth participated in the AfterZone.

Participation can be measured in numerous ways.[38] Our study examined the *amount* of participation in terms of duration (the length of youth's involvement in the AfterZone), dosage (the number of days attended), consistency (continuing participation over a period of time) and intensity (percentage of days attended of the total number of days youth were enrolled). Other relevant factors were *breadth* (participation across different types of programs) and *engagement* (emotional connection to the program or staff). Each of these measures represents a unique and potentially important way of looking at how youth participate in after-school programs. For instance, some youth might maintain a long-term commitment but only attend sporadically, while others may attend very frequently but for a short period of time. Among these dimensions of program participation, breadth and engagement have been studied the least in the field.

This chapter addresses the following questions about youth's participation:

- How prevalent is participation in after-school programs, both within and outside the AfterZone system?
- How much are youth participating in the AfterZone, in terms of duration, dosage, consistency and intensity?
- What is the breadth of youth's participation across the wide range of activities offered through the AfterZone?
- To what extent are youth emotionally engaged in the AfterZone? (e.g., To what extent do they feel like they belong? How supportive do they perceive program staff to be? How much fun do they think it is?)

### Dimensions of Participation

*Amount of Participation*

- Duration—the total number of years youth attended the AfterZone over the two-year study period.
- Dosage—the total number of days youth attended the AfterZone over the two-year study period.
- Consistency—the total number of sessions during which youth attended at least one day of the AfterZone over the two-year study period.
- Intensity—the percentage of days youth attended out of the total number of days they were actually enrolled.

*Breadth of Participation*

- Across the three types of activities offered through the AfterZone (sports, arts, skills), the total number of activity types youth attended.

*Engagement in Participation*

- Sense of belonging—the extent to which youth felt they fit in at the AfterZone.
- Supportive adult staff—the extent to which youth believed that adult AfterZone program staff were supportive.
- Program enjoyment—the extent to which youth had fun at the AfterZone relative to other places they spend time.

## Participation in After-School Programs on a Broad Scale

During both years of the study, youth were active in after-school programs, both through the AfterZone system and outside of it. In the sixth grade, 354 youth (just fewer than half of the study participants) participated in the AfterZone at some point. Of the 419 youth who did not participate in the AfterZone that school year (referred to as "comparison youth"

38 Roth, J. L., L. M. Malone and J. Brooks-Gunn. 2010. "Does the Amount of Participation in Afterschool Programs Relate to Developmental Outcomes? A Review of the Literature." *American Journal of Community Psychology,* 45, 310–24.

throughout this report), more than one third (37 percent) participated in another after-school program outside the AfterZone system. The most common of these were academically oriented programs like College Crusaders or The Princeton Review,[39] which were attended by 15 percent of comparison youth.[40] Nine percent of the comparison youth attended community recreational centers (like Boys & Girls Clubs), 5 percent joined sports programs and 1 percent participated in local arts programs.[41] It is not surprising that youth frequently went elsewhere for more intensive academic supports, since these activities were not a focus of the AfterZone.

Although our data cannot identify how much time youth spent at alternative after-school programs throughout the school year, we are able to provide a snapshot of how youth spent their after-school hours at the end of the sixth grade, during the week prior to the Spring 2009 youth survey. Just over one fifth of the comparison youth (21 percent) reported having attended another after-school program for an average of one to five hours during that week. Just over one quarter of youth who attended the AfterZone (26 percent) also reported having spent this amount of time, on average, in other after-school programs during the week prior to the spring survey. A similar pattern of after-school program participation emerged during the following school year.[42]

These data suggest that youth—including those who participated in the AfterZone—are active in after-school programs outside the AfterZone system and that those programs most often target a substantive area (i.e., academics) that cannot be accessed intensively through the AfterZone.

## Participation in the AfterZone

We extensively examined the various dimensions of youth participation in the programs offered through the AfterZone. We begin here by focusing on four indicators of how much of the AfterZone youth experienced: duration, consistency, intensity and dosage. We then examine youth's breadth of participation and level of emotional engagement.

### Amount of Participation

We assessed the amount of youth's participation in the AfterZone in four ways: duration of participation over the course of the study (as indicated by the proportion of youth who enrolled in the AfterZone for zero, one or two school years); consistency of participation throughout the school year (as measured by the extent to which youth enrolled in the AfterZone in every session during which programs were offered); dosage of participation (the total number of days youth attended); and intensity of participation (how frequently youth attended while enrolled). In this study, youth who attended at least one day of AfterZone programming during either school year are considered "AfterZone participants."

*Duration of Participation*—As noted earlier, youth participation in after-school programs typically declines with age. Although the AfterZone does not explicitly aim to retain the same group of participants over time, the duration of youth's participation can indicate the extent to which the AfterZone is attractive to its target population. In addition,

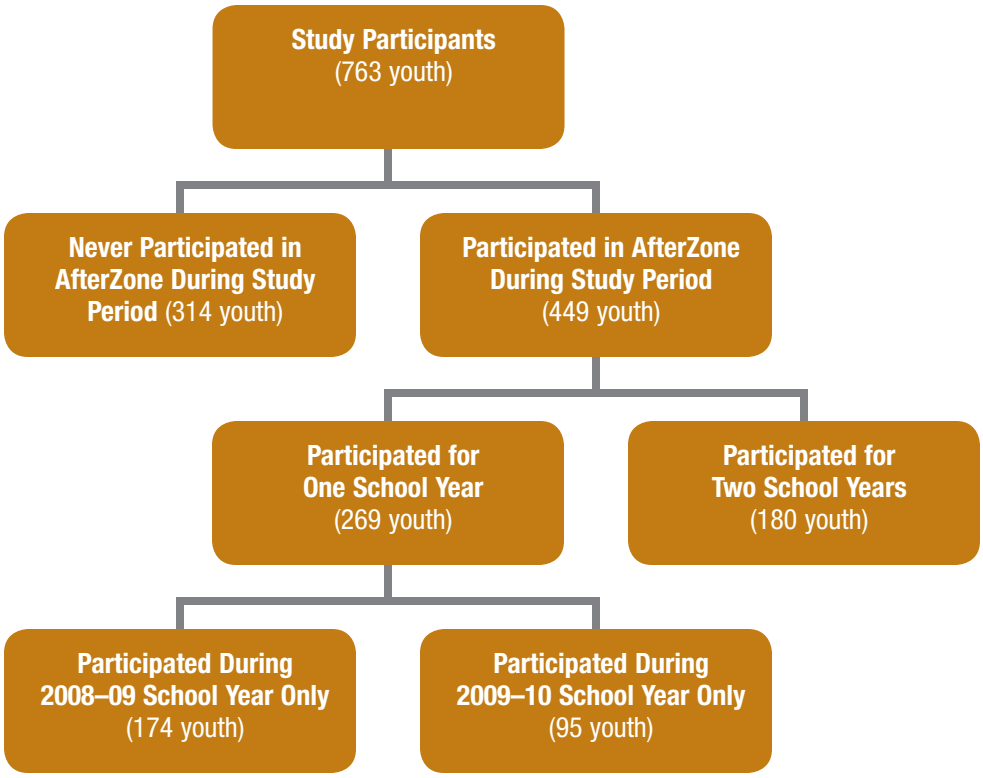
39 To foster partnerships with schools and encourage youth participation in after-school programming, College Crusaders and The Princeton Review sometimes coordinate their enrollment and schedules with the AfterZone. However, they are otherwise independent organizations funded separately.

40 Ten percent of AfterZone participants in the sixth grade reported receiving additional services after school from academically oriented programs, including The Princeton Review and College Crusaders.

41 These estimates of the kinds of after-school programs attended by youth outside the AfterZone system are based only on the responses provided. Therefore, we may underestimate youth's involvement in each program type.

42 During the second year of the study, more than one quarter of the comparison youth (28 percent) reported participating in an after-school program outside the AfterZone. As in the previous school year, the most common type of alternative program was academic, accounting for 11 percent of the comparison youth. Sports programs, arts programs and community recreational centers were again reported as other available options (attended at 6 percent, 4 percent and 3 percent, respectively). Youth who were enrolled in the AfterZone reported also participating in other after-school programs—about one third (34 percent) were involved in after-school programs outside of the AfterZone during the spring, spending an average of one to five hours at these programs per week. Alternative after-school program involvement in the spring was slightly less prevalent among comparison youth: 27 percent reported having spent time at other programs, and the amount of their participation was comparable to that of AfterZone participants (on average, about one to five hours per week).

**Figure 2**
**Duration of AfterZone Participation**




studies have linked an enduring involvement in after-school programs with potential long-lasting benefits.[43] Figure 2 displays youth's enrollment patterns over the two years of the study period. Of the 763 youth who participated in the evaluation, 41 percent chose not to enroll in the AfterZone at all during the two years. Of the youth who did enroll, nearly two thirds (60 percent) enrolled for at least one session in only one school year (39 percent enrolled only in the sixth grade, while 21 percent enrolled only in the seventh grade). Forty percent of the youth who enrolled in the AfterZone during the study period continued their participation from the sixth grade into the seventh.

*Consistency of Participation*—During both years of the study, youth enrolled in the AfterZone throughout the school year, though the fall and winter sessions were most popular. In 2008–09, about two thirds of AfterZone participants in our study enrolled during the fall and winter sessions (65 and 71 percent, respectively), while only 44 percent enrolled during the spring session.[44] As illustrated in Figure 3, however, nearly half of the AfterZone participants only enrolled in one session, while about one third enrolled for two sessions. Fewer than a quarter enrolled for the full school year.

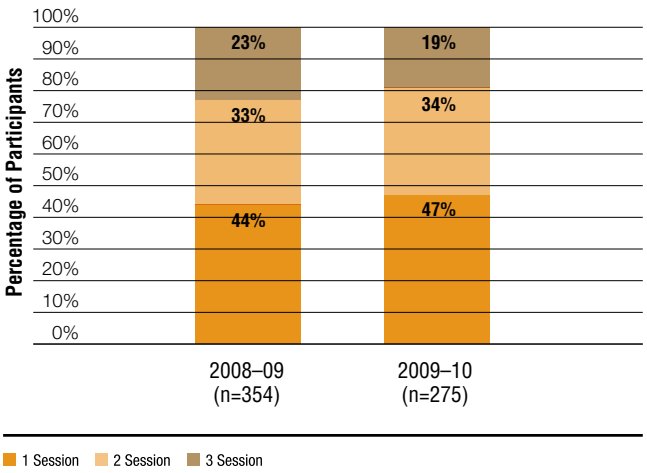
*Intensity of Participation*—When youth were enrolled in an AfterZone program, they typically attended that program with a high level of intensity. For both school years, on average, youth attended at least two thirds of the days they were enrolled (66 percent in 2008–09 and 71 percent in 2009–10). This level of intensity is rather high compared with

43 Arbreton et al., *Advancing Achievement*.

44 A similar pattern existed for the 2009–10 school year: 58 percent and 61 percent of the youth who enrolled in the AfterZone participated in the fall and winter sessions, respectively, while only 42 percent enrolled during the spring session.

**Figure 3**

**Percentage of AfterZone Participants Enrolled in One, Two or Three Sessions by School Year**




Note: This figure reflects only participation during the three AfterZone sessions that occur during the school year; although, we do know that 41 study participants attended at least one day of AfterZone programming during the 2009 summer session. During the 2008–09 school year, 354 study participants took part in the AfterZone; during the following school year, 275 participated.

other programs involved in citywide systems serving middle-school-age youth. In a recent study, the Harvard Family Research Project (HFRP) and P/PV found that, on average, middle-school-age youth across four cities attended just over half (54 percent) of the days that a program was offered during the 2007–08 school year.[45] Further, the vast majority (75 percent in 2008–09 and 87 percent in 2009–10) attended more than half of the days they were actually enrolled. These findings are not entirely surprising, as the AfterZone strongly discourages low-intensity participation, and it generally drops youth from programs after they exceed three or four unexcused absences.

*Dosage of Participation*—Although youth attended a large percentage of the days they were actually enrolled in the AfterZone, the *total number* of days that youth attended the AfterZone throughout the school year was fairly low. For instance, during the 2008–09 school year, youth attended an average of 25 days—about one quarter of the days available to them (96 days). Moreover, the vast majority of youth (87 percent) attended 48 days or fewer, half the time available to them during the full school year. This pattern of attendance was similar in the following school year: Of the 98 days the AfterZone was in session, youth attended an average of 24 days, with the majority (87 percent) attending, at most, only half of the available days.

The AfterZone is "open" for approximately 27 weeks out of the school year, so youth are attending, on average, slightly less than one day per week. This dosage is somewhat low compared with other programs serving this age group. The national evaluation of the Extended-Service Schools Initiative, for instance, found that middle-school-age youth attended an average of 1.6 days of after-school programming each week.[46] This low overall dosage can, in large part, be attributed to the lack of consistency in participation during the school year—recall that the majority of youth were only enrolled in the AfterZone for a portion (one or two sessions) of the school year, which limits their total possible dosage. (The relationships among the various dimensions of participation are discussed in greater detail at the end of this chapter.)

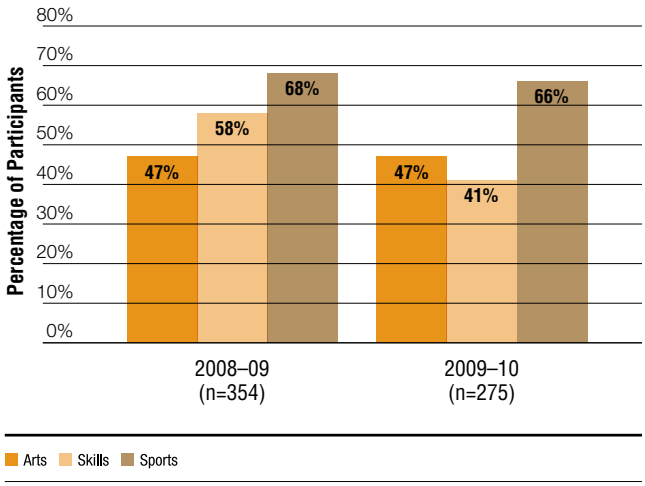
## Breadth of Participation

In early adolescence, youth experiment to figure out their strengths and interests. In response to these developmental realities, the AfterZone strives to offer a wide range of activities from which youth can choose, including sports, arts and skills (academic enrichment) programs (see Table 1 on page 8 for examples). Therefore, we must also examine the breadth of youth's participation (i.e., the extent to which they participated in a range of AfterZone activities). When youth were in the sixth grade, sports was the most popular choice, with more than two thirds of the youth enrolling (see Figure 4), followed by skills activities (58 percent) and the arts (47 percent). The popularity of sports relative to other kinds of activities parallels the number of slots—openings across all sports programs in the

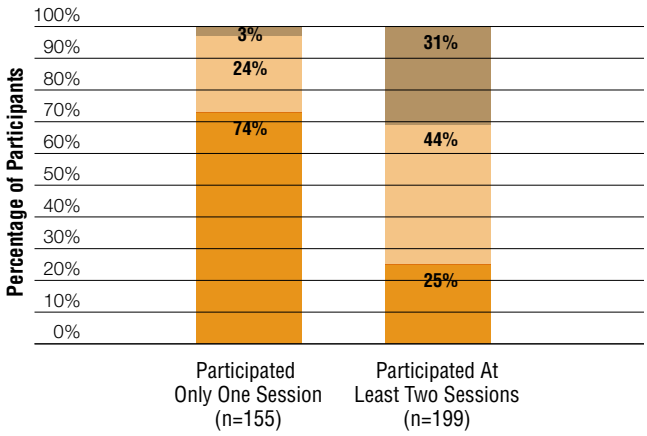
45 This percentage may be an underestimation, given that not all programs accounted for individual enrollment dates among their participants. Further, the average participation rate of 54 percent is based only on programs included within those cities' systems participating in the study, specifically the Chicago Out-of-School Time Project, the AfterZone (Providence), San Francisco Afterschool for All and Project My Time (Washington, DC). For more details about how this rate was calculated, see Deschenes et al., *Engaging Older Youth*.

46 Grossman et al., *Multiple Choices After School.*

## Figure 4
### Percentage of Youth Participating in Arts, Skills or Sports Activities




## Figure 5
### Percentage of Youth Participating in One, Two or Three Types of AfterZone Activities by Number of Sessions Enrolled During the 2008–09 School Year




Note: This figure reflects only participation during the three AfterZone sessions during the school year.

AfterZone system—available for enrollment. During the 2008–09 school year, nearly twice as many slots were available for sports activities (2,700) than for skills and arts (1,485 and 1,375, respectively).

When youth reached the seventh grade, sports remained highly popular (with 66 percent of AfterZone youth enrolling), while skills activities declined in popularity, with an enrollment of only 41 percent—a steep drop from 58 percent during the prior school year. This decline in skills-activity enrollment could reflect the reduced number of slots available, which fell from 1,485 in 2008–09 to 1,287 the next school year, a drop of more than 13 percent. Sports slots, however, also declined (by about 7 percent) but, as noted earlier, did not experience a comparable dip in popularity. Although arts activities did not attract the most AfterZone youth during either year, they remained consistently popular (at 47 percent in both school years).[47] This pattern of enrollment remained consistent when looking at only youth who participated in more than two activities.

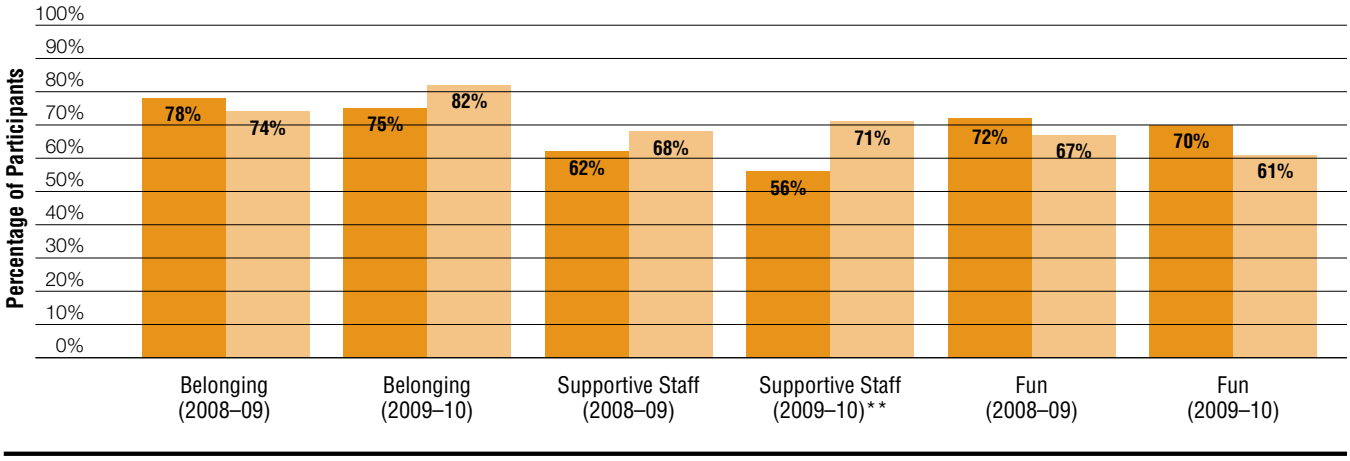
As noted in Chapter 2, during each session, youth may enroll in up to four different activities, depending on how frequently each activity meets during a single week. Nonetheless, their ability to do so is limited by potential scheduling overlaps. For instance, youth might want to participate in an arts *and* a skills activity but both might be scheduled for the same day and slot. For this reason, we examined breadth of participation among youth who enrolled in the AfterZone for only one session as well as those who enrolled in at least two sessions. Figure 5 shows that among the 155 youth who enrolled in the AfterZone for only one session in the sixth grade, the vast majority (74 percent) participated in only one type of activity. Nearly one quarter (24 percent) enrolled in two different types of activities, while very few enrolled in all three types. In contrast, more consistent participants (the 199 youth who participated for at least two sessions) demonstrated greater breadth of participation, with nearly three quarters taking part in at least two different types of activities. (The overall pattern of breadth was similar the following school year, even as the actual amount of breadth declined slightly.)

## Engagement

While the amount and breadth of youth participation are easily measured, participation can also

47 In contrast to sports and skills activities, the number of slots available across arts activities increased from the 2008–09 to the 2009–10 school year by nearly 17 percent (from 1,374 to 1,603).

## Figure 6
**Engagement Among Youth in the AfterZone and in Alternative After-School Programs**




Note: **p<.01.

be examined in less tangible ways, such as youth's level of emotional engagement in programming. In this study, we examined three forms of engagement: the sense of belonging felt by youth at AfterZone programs, the extent to which they felt the staff were supportive and how much fun they perceived the AfterZone to be relative to other places they spend time.

As illustrated in Figure 6, the majority of AfterZone participants were positively engaged in AfterZone programs during both years of the study across all three dimensions. Their level of engagement, however, was generally comparable to that of their peers in after-school programs outside the AfterZone. Comparison youth, though, were significantly more likely to report that program staff were supportive than were AfterZone youth during the second year of the study (71 percent compared with 56 percent). Supportiveness of adult staff was also the least positive indicator of youth engagement in the AfterZone among the three dimensions we examined, and was somewhat low compared with that or youth attending other after-school programs.[48] For instance, in a recent national study of the Boys & Girls Clubs, 96 percent of youth could identify at least one supportive adult at their club.[49]

It is possible that the relatively short length of each AfterZone session—from 6 to 11 weeks during the school year—limits staff's ability to develop meaningful, supportive relationships with youth. Even if youth enroll in the AfterZone for multiple sessions, they may not reenroll in the same AfterZone program. Alternatively, youth who attend the AfterZone may simply be different, in terms of their personal characteristics or their prior experiences, from participants in programs outside the system. For instance, youth who attend alternative programs may possess certain social skills that make them better able to relate to adult staff or they might have attended those other programs for longer periods.[50]

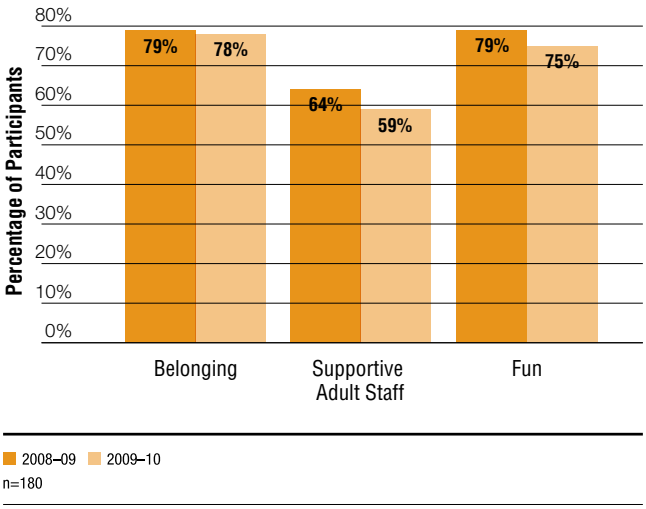
Among youth who participated in the AfterZone during *both* years of the study, engagement across

48 This indicator is much lower than what PASA has found through its own internal youth surveys. At the end of each session, PASA typically finds that roughly 90 percent of youth feel welcomed and supported by adults in the program.

49 Arbreton et al., *Making Every Day Count.*

50 Youth encounter different layers of staff while participating in the AfterZone, including program staff, AfterZone staff and AmeriCorps volunteers. It is important to note that the survey questions did not distinguish among these types of staff and, thus, we are unable to determine the individuals to whom youth are responding.

**Figure 7**
**Changes in Program Engagement Among Two-Year AfterZone Participants**




all three dimensions remained consistent. Figure 7 shows that although the level of engagement may have declined slightly from the first school year to the second, none of these changes was statistically significant. The slight decline in youth engagement from the first to the second year of the study could, perhaps, reflect the changes to the AfterZone resulting from an increased focus on skill-building. Research on out-of-school-time programs, such as the Boys & Girls Clubs, suggests that part of what attracts older youth is the opportunity to simply "hang out" with their peers in a safe environment. Recall that Club AfterZone (CAZ), which initially entailed an hour of relatively informal activity, evolved to include more structure as well as quiet homework time or a skill-based activity during the second year of the study. Consequently, the loss of unstructured time may have led to a decrease in youth's emotional engagement. However, further exploration of this item was not possible owing to limited available data.

### How Are the Dimensions of Participation Associated With One Another?

To better understand the patterns of AfterZone participation among the youth in our study, we examined correlations among the different dimensions of participation. Our results lend some support to the notion that youth participate in a variety of ways. (See Appendix A for the Pearson correlation coefficients among the participation variables.) The amount and breadth of AfterZone participation were positively correlated with each other: Youth who attended more days of programming also tended to enroll in the AfterZone for more sessions, to attend those sessions more intensively and to explore a broader range of activities.

Somewhat surprisingly, though, youth's engagement in AfterZone programs was not generally related to the length and breadth of their participation. Only youth's sense of belonging was related to either the amount or breadth of participation, and those associations were rather low in magnitude. These findings suggest that feeling emotionally engaged in the AfterZone is not the primary explanation for youth's attendance. Some youth might be emotionally disengaged from the AfterZone but attend frequently because, for instance, they have no other alternatives for after-school care. Other youth might be highly engaged in the AfterZone but can only attend a limited amount because, for instance, they have competing after-school opportunities or obligations.

## Summary

Most of the youth participating in this study were active in after-school programs during one or both years of the study. This involvement occurred through the AfterZone network, alternative sources of programming or a combination of the two. Alternative programs in which study youth participated were most commonly academically oriented but also included sports or arts programs and activities at community recreation centers. Overall, youth demonstrated participation in the AfterZone that was moderate in both duration and emotional engagement, and low in consistency and dosage, but high in intensity.

More than half the youth participating in the study (59 percent) attended at least one day of AfterZone programming over the two-year study period, and of these youth, almost half were enrolled during both school years. On average, AfterZone youth were engaged in their programs and demonstrated a high level of engagement by attending AfterZone programs frequently when enrolled. Importantly, though, the AfterZone's reach seems somewhat limited, as half of its participants (among those involved

in this study) were enrolled for only one of the three sessions offered throughout the school year.

Moreover, the breadth of youth's participation depended, to some extent, on the consistency of their participation. Youth who enroll for more sessions have more opportunities to take advantage of the broad range of sports, arts and skills-related activities offered through the AfterZone. Consistent participation across multiple sessions also has important implications for dosage: Enrollment for only one session means that youth attend a relatively small percentage of the days available throughout the school year and, as such, have limited exposure to the AfterZone.

Further, our participation data suggest that youth who attended the AfterZone frequently or more consistently and with greater intensity were not necessarily those who were most emotionally engaged in the programs. This hints that either limited exposure to the AfterZone did not affect youth's emotional engagement or that youth's attendance depends, in part, on factors unrelated to emotional engagement, such as a lack of alternatives for after-school care or competing after-school opportunities or responsibilities.

At the beginning of each AfterZone session during the school year (three times per year), youth are offered a new menu of program options, which might be particularly attractive to middle-school-age youth who, developmentally, are seeking activities and skills that truly meet their interests. These youth might be more likely to maintain consistent participation over the course of the year because they are regularly presented with "new" activities. On the other hand, the short-term commitment (only one session) required by the AfterZone could be equally attractive to this age group, as older youth must increasingly negotiate among competing demands for their time. At the same time, because youth must commit to only one session when they enroll, giving them the freedom to explore other opportunities, they might only participate in the AfterZone for a small portion of the year. These results suggest that the AfterZone model succeeds in initially recruiting youth to participate in its programs but may, inadvertently, deter some youth from staying involved in the system over time.

In the following chapter, we examine whether youth benefit from their (limited) participation after one school year.

# Did Youth Benefit From Their Participation in the AfterZone After One School Year?

**Chapter V**

In this chapter, we examine whether participating in the AfterZone for any amount of time in the sixth grade was, in fact, associated with better outcomes after one school year. Specifically, we address the following questions:

- To what extent were youth who participated in the AfterZone similar to those who did not participate?
- Did the youth who participated in the AfterZone fare better than their peers who did not participate after one school year, in terms of school- and health-related outcomes, social and personal skills, and knowledge and attitudes about community-based facilities for youth?
- Do effects of participation in the AfterZone differ for youth with different background characteristics (e.g., academic proficiency, gender, parental/guardian supervision during the after-school hours)?

## Are Youth Who Chose to Participate in the AfterZone Different From Those Who Chose Not to Participate?

The current study aims to assess the effects of the AfterZone on youth by comparing youth who chose to participate in the AfterZone with those who chose not to. Because youth's participation in the AfterZone was not randomly determined, youth who chose to participate may be different from those who did not—both in ways we measured and ways we did not. If such differences indeed existed, any variations in outcomes between the two groups may be because AfterZone participants were simply different from their peers and not because of any true benefits of AfterZone programs. One way to determine if AfterZone participants and their peers represent two different populations of youth is by comparing them at the start of the study in terms of the characteristics that we measured. Such a comparison would include both background characteristics as well as variables that we consider outcomes (see Appendix A for details about how these variables were measured).

Table 4 on the next page shows that out of 10 background characteristics, the two groups only differed in one, their gender composition: AfterZone youth were more likely than their comparison peers to be female.[51] We did not detect any statistically significant differences in age, racial/ethnic composition, socioeconomic status, household structure, parental/guardian supervision, household responsibilities during the after-school hours or prevalence of stressful life events.

We assessed 22 outcome variables in this study. (The textbox on page 32 provides an overview of these outcome measures, which are also summarized in detail in Appendix A.) The two groups of youth differed significantly on only five outcome measures in Fall 2008 (see Table 5 on page 33). Most of these differences were school related, and all favored the youth who participated in the AfterZone during the first year of the study. AfterZone participants were absent less often and were performing better in school (as measured by their ELA grades and proficiency in reading and math based on their New England Common Assessments Program [NECAP] standardized test scores). AfterZone participants also reported thinking about, and planning for, the future more than their comparison peers.[52] These baseline differences are moderate in size, according to standards set forth by the Department of Education, and thus we believe that these two groups of youth represent similar populations (based on the characteristics measured in this study).[53]

51 The gender composition of AfterZone participants among youth participating in the study differs from that of AfterZone participants overall—among all sixth through eighth grade participants, typically 51 percent are male and 49 percent are female.

52 We also examined baseline differences between AfterZone participants and comparison youth among the youth who did not leave the study by the end of the first school year. Results for the attrition analyses were similar among these "non attriters." See Appendix B for a detailed summary of these results.

53 Appendix E provides further details regarding acceptable standards of evidence for baseline equivalence in quasi-experimental studies. Appendix C provides additional details regarding how these baseline differences were addressed in the outcome analyses. It is important to note, however, that although the two groups of youth are similar on the characteristics measured in this study, other differences in unmeasured characteristics may still exist. As such, caution must be taken in attributing group differences in outcomes to participation in the AfterZone.

**Table 4**
**Baseline Differences in Background Characteristics Between AfterZone and Comparison Youth**

| Background Characteristic | Comparison Average or Percentage | AfterZone Average or Percentage | Difference in Averages or Percentages |
|---|---|---|---|
| Age (Years) | 11.4 | 11.3 | 0.0 |
| Gender: Percentage Female | 45.0 | 53.0 | 8.0* |
| Race/Ethnicity: Percentage Minority | 97.0 | 95.0 | -2.0 |
| Socioeconomic Status: Percentage Receiving Free/Reduced-Price Lunch | 93.0 | 92.0 | -1.0 |
| Household Structure: Percentage Living in Single-Parent Household | 49.0 | 48.0 | -1.0 |
| Parental/Guardian Supervision From 3 p.m. to 6 p.m.: Percent Lacking | 71.0 | 69.0 | -2.0 |
| Household Structure: Percentage Having Younger Sibling(s) | 40.0 | 43.0 | 3.0 |
| Number of Days Needed at Home After School to Care for Younger Siblings (out of 5) | 0.7 | 0.8 | 0.1 |
| Number of Days Needed at Home After School to Tend to Other Responsibilities (out of 5) | 1.8 | 1.8 | 0.0 |
| Number of Stressful Life Events (out of 10) | 3.5 | 3.4 | -0.1 |

Notes: *p<.05.

Column 1 shows the average among or percentage of youth in the comparison group for background characteristics at baseline, in Fall 2008. Column 2 shows the average among or percentage of AfterZone participants for background characteristics at baseline. Column 3 shows the difference in these variables between the two groups of youth (AfterZone value minus the comparison value). N = 763.

## Did Youth Benefit From Participating in the AfterZone?

To detect if youth received any benefits from AfterZone participation after one school year, we examined the extent to which participants and comparison youth differed at the end of the sixth grade (the first year of the study), after accounting for differences at the start of the study. We compared the two groups' outcomes after statistically accounting for differences in background characteristics and in outcome measures at the start of the study. (For details of the analysis strategy, see Appendix C.) We found that AfterZone youth (youth who attended at least one day of AfterZone programming during the sixth grade) fared better than their peers in each of the four areas we assessed (school-related outcomes, health-related outcomes, social and personal skills, and community awareness and attitudes) but that these differences were largest for school-related attitudes and behavior.

### School-Related Attitudes, Behavior and Performance

While the AfterZone offers programs that vary widely in content area, activities and goals and that are operated both on school grounds and in community-based facilities, the AfterZone initiative is *centered* within the school environment. For this reason, one might expect that if youth attend and are engaged in AfterZone programs, their attitudes about and behavior related to school itself might improve—which in turn could affect school performance.

Table 6 on page 34 shows that at the end of the first school year, AfterZone participants, on average, felt a stronger connection to school than their peers who did not participate. There were also statistically significant differences in attendance between AfterZone participants and their peers over the course of the school year. Youth who participated in

| Youth Survey Measures | Sample Item | Response Scale |
|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | | |
| School Connectedness | Doing well in school is important to me. | 1 = Not at all true to 4 = Very true |
| Time Spent Studying/Doing Homework | About how many hours total last week after school did you spend doing homework or studying? | 0 = None to 5 = 10 Hours total |
| **Social and Personal Skills** | | |
| Future Connectedness | I do lots of things to prepare for my future. | 1 = Not at all true to 4 = Very true |
| Social Self-Efficacy | I am good at becoming friends with other kids my age. | 1 = Not at all true to 4 = Very true |
| Emotional Self-Efficacy | I can cheer myself up when something bad has happened. | 1 = Not at all true to 4 = Very true |
| Conflict Management | When I have problems with other people my age, I yell at them. | 1 = Not at all true to 4 = Very true |
| Prosocial Behavior | I offer to share my things with other kids. | 1 = Not at all true to 4 = Very true |
| Misconduct | In the last three months, have you broken something on purpose? | 1 = I have never done this to 5 = I did it five or more times in the last three months |
| Adult Support | How many adults who are not relatives pay attention to what's going on in your life? | 0 = 0 adults to 6 = 10 or more adults |
| **Healthful Activity and Nutrition** | | |
| Time Spent Being Physically Active | About how many hours total last week after school did you spend exercising (e.g., running, Rollerblading or playing sports)? | 0 = None to 5 = 10 hours total |
| Time Spent on Sedentary Activities | About how many hours total last week after school did you spend watching TV or playing video games? | 0 = None to 5 = 10 hours total |
| Eating Healthy Foods | In a usual week, how many days do you eat fruits? | 0 = 0 days to 7 = Seven days a week |
| Eating Unhealthy Foods | In a usual week, how many days do you eat sweet snacks like muffins, cookies, cupcakes or candy? | 0 = 0 days to 7 = Seven days a week |
| **Community Awareness and Attitudes** | | |
| Knowledge of Safe Places | I know what places are available in my community/neighborhood where it's safe for kids to hang out with each other. | 1 = Not at all true to 4 = Very true |
| Feeling Safe | I feel safe going to different places in my neighborhood to hang out (e.g., recreation centers, libraries, community centers). | 1 = Not at all true to 4 = Very true |

## Table 5
## Baseline Differences in Outcome Variables Between AfterZone and Comparison Youth

| Domain | Outcome Variable (Response Scale) | Comparison Average | AfterZone Average | Difference in Averages |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | **Number of Days Absent in Fifth Grade (0 to 180 days)** | **11.98** | **9.68** | **-2.31**** |
| | Number of Days Tardy in Fifth Grade (0 to 180 days) | 5.79 | 5.40 | -0.39 |
| | Math Grade in Quarter 1 of Sixth Grade (0.33 to 7.33) | 3.97 | 4.15 | 0.18 |
| | **ELA Grade in Quarter 1 of Sixth Grade (0.33 to 7.33)** | **4.10** | **4.30** | **0.20*** |
| | Science Grade in Quarter 1 of Sixth Grade (0.33 to 7.33) | 4.27 | 4.43 | 0.16 |
| | **NECAP Reading Proficiency Level in Fall of Sixth Grade (1 to 4)** | **2.13** | **2.27** | **0.15*** |
| | **NECAP Math Proficiency Level in Fall of Sixth Grade (1 to 4)** | **1.69** | **1.84** | **0.15*** |
| | Time Spent Studying/Doing Homework (0 to 5) | 1.90 | 2.04 | 0.14 |
| | School Connectedness (1 to 4) | 3.10 | 3.15 | 0.05 |
| **Social and Personal Skills** | **Future Connectedness (1 to 4)** | **3.48** | **3.58** | **0.09*** |
| | Conflict Management (1 to 4) | 2.62 | 2.59 | -0.03 |
| | Prosocial Behavior (1 to 4) | 3.35 | 3.38 | 0.04 |
| | Presence of Supportive Adults (0 to 6) | 2.59 | 2.56 | -0.02 |
| | Emotional Self-Efficacy (1 to 4) | 2.83 | 2.83 | 0.00 |
| | Misconduct (1 to 5) | 1.76 | 1.73 | -0.03 |
| | Social Skills (1 to 4) | 3.12 | 3.18 | 0.05 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places (1 to 4) | 2.94 | 3.03 | 0.09 |
| | Feeling Safe (1 to 4) | 3.14 | 3.18 | 0.04 |
| **Healthful Activity and Nutrition** | Healthy Eating (0 to 7) | 4.44 | 4.47 | 0.04 |
| | Unhealthy Eating (0 to 7) | 4.14 | 3.99 | -0.15 |
| | Time Spent After School on Sedentary Activities (0 to 5) | 2.85 | 2.98 | 0.13 |
| | Time Spent After School Being Physically Active (0 to 5) | 2.49 | 2.48 | -0.01 |

Notes: *p<.05; **p<.01.

Column 1 shows the average among comparison youth for outcome variables at baseline in Fall 2008. Column 2 shows the average among AfterZone participants for outcome variables at baseline. Column 3 shows the difference in these averages between the two groups of youth. Numbers in Columns 1 and 2 do not always sum to Column 3 due to rounding. N = 763.

**Table 6**
**Differences in School-Related Attitudes, Behavior and Performance Between AfterZone Youth and Comparison Youth at the End of the Sixth Grade**

| Outcome | Comparison Average | AfterZone Average | Group Difference |
|---|---|---|---|
| **Percentage of Days Absent in Sixth Grade (out of 180 Days)** | **7.25** | **6.26** | **-0.99*** |
| **Percentage of Days Tardy in Sixth Grade (out of 180 Days)** | **7.40** | **5.89** | **-1.51*** |
| ELA GPA in Quarters 2–4 of 2008–09 School Year (0.33 to 7.33) | 3.90 | 3.95 | 0.05 |
| Math GPA in Quarters 2–4 of 2008–09 School Year (0.33 to 7.33) | 3.75 | 3.80 | 0.05 |
| Science GPA in Quarters 2–4 of 2008–09 School Year (0.33 to 7.33) | 3.91 | 4.02 | 0.11 |
| NECAP Reading Proficiency Level (1 to 4) | 2.13 | 2.10 | -0.03 |
| NECAP Math Proficiency Level (1 to 4) | 1.70 | 1.69 | -0.01 |
| Time Spent After School Studying/Doing Homework (0 to 5) | 1.69 | 1.76 | 0.07 |
| **School Connectedness (1 to 4)** | **2.97** | **3.05** | **0.08*** |

Notes: *p<.05.

Column 1 shows the actual observed average among comparison youth for school-related outcome variables in Spring 2009. Column 2 shows the average among AfterZone participants, after adjusting for several background characteristics. Column 3 shows the difference between the two groups of youth, or the estimated effect of the AfterZone. Numbers in Columns 1 and 2 do not always sum to Column 3 due to rounding. N = 763.

the AfterZone missed approximately 1 percent of school days—or 1.8 fewer days than their peers.[54] They were also tardy 1.5 percent less often (nearly three fewer days) during the school year. We did not detect any differences, however, in the amount of time they spent studying or doing homework.

In addition to attitudes and behavior related to school, we examined the possibility that participation in the AfterZone might affect youth's performance in school. After one school year, we found no evidence that this was the case. There were no differences between AfterZone youth and their non-participating peers in ELA, math or science grade point average (GPA) or in reading or math proficiency (based on NECAP standardized test scores).

**What Does Statistical Significance Mean?**

Statistical significance levels (referred to as "p-values" in this report) refer to the probability that detected differences between AfterZone participants and comparison youth are simply due to chance, and, thus, that the groups are really the same. A significance level of "p<.10" means that there is less than a 10 percent chance that the estimated difference between participants and comparison youth is due to chance. The smaller the p-value, the greater the probability that differences we detect are true differences between the two groups of youth. In this study, we consider group differences to be "statistically significant" if the likelihood that the difference is due to chance is less than 10 percent. In each outcomes table, we note the p-value for any statistically significant finding.

54 As noted, the school year in the Providence school district lasts 180 days.

**Table 7**
**Differences in Social and Personal Skills Between AfterZone Youth and Comparison Youth at the End of the Sixth Grade**

| Outcome | Comparison Average | AfterZone Average | Group Difference |
|---|---|---|---|
| Future Connectedness (1 to 4) | 3.45 | 3.48 | 0.04 |
| Conflict Management (1 to 4) | 2.62 | 2.61 | -0.01 |
| **Prosocial Behavior (1 to 4)** | **3.26** | **3.32** | **0.06+** |
| Presence of Supportive Adults (0 to 6) | 2.44 | 2.55 | 0.11 |
| Emotional Self-Efficacy (1 to 4) | 2.83 | 2.88 | 0.05 |
| Misconduct (1 to 5) | 1.98 | 1.91 | -0.07 |
| **Social Skills (1 to 4)** | **3.20** | **3.26** | **0.06+** |

Notes: +p<.10.

Column 1 shows the actual observed average among AfterZone comparison youth for social and personal skills in Spring 2009. Column 2 shows the average among AfterZone participants, after adjusting for several background characteristics. Column 3 shows the difference between the two groups of youth, or the estimated effect of the AfterZone. Numbers in Columns 1 and 2 do not always sum to Column 3 due to rounding. N = 763.

## Social and Personal Skills

The programs offered through the AfterZone vary a great deal in substance and format. Some provide youth with experiences that pique their interests and cause them to connect those experiences with their future goals. Other programs offer opportunities for youth to interact with one another, developing critical social and personal skills that enable them to establish or maintain friendships more easily or to better handle conflicts with peers. These skills may eventually translate into more positive behaviors (such as behaving altruistically) and less engagement in problem behaviors (such as getting into fights with peers).

We found small, but statistically significant, differences between youth who participated in the AfterZone and those who did not in their interactions with peers (see Table 7). Specifically, AfterZone youth demonstrated stronger social skills and behaved better with their peers than youth who did not participate in the AfterZone during the first school year. We did not see any differences in the other variables we assessed.

## Healthful Activity and Nutrition

The AfterZone also provides youth with the opportunity to engage in physical activity—in fact, approximately one third of the activities offered through the AfterZone are sports.[55] In addition, during the daily check-in process all AfterZone youth receive a healthy snack, such as juice and fruit—options that may be unavailable in economically disadvantaged families.

Although AfterZone participants did not differ from their peers in their eating habits, they did differ in their involvement in certain types of activities (see Table 8 on the next page). Compared with comparison youth, AfterZone youth spent significantly more time after school engaged in exercise or sports. However, these youth also reported spending more time engaged in sedentary activities—specifically, watching television and playing video games. The significant finding that AfterZone youth spend more time engaged in sedentary activities than comparison youth is counterintuitive given that AfterZone youth also reported being more physically active.

55 Estimate is based on a "typical" school year.

## Table 8
### Differences in Healthful Activity and Nutrition Between AfterZone Youth and Comparison Youth at the End of the Sixth Grade

| Outcome | Comparison Average | AfterZone Average | Group Difference |
|---|---|---|---|
| Healthy Eating (0 to 7) | 4.06 | 4.22 | 0.16 |
| Unhealthy Eating (0 to 7) | 3.89 | 3.94 | 0.05 |
| **Time Spent After School on Sedentary Activities (0 to 5)** | **2.92** | **3.12** | **0.20+** |
| **Time Spent After School Being Physically Active (0 to 5)** | **2.58** | **2.80** | **0.22*** |

Notes: +p<.10, *p<.05.

Column 1 shows the actual observed average among comparison youth for health-related outcome variables in Spring 2009. Column 2 shows the average among AfterZone participants, after adjusting for several background characteristics. Column 3 shows the difference between the two groups of youth, or the estimated effect of AfterZone. N = 763.

## Table 9
### Differences in Community Awareness and Attitudes Between AfterZone Youth and Comparison Youth at the End of the Sixth Grade

| Outcome | Comparison Average | AfterZone Average | Group Difference |
|---|---|---|---|
| Knowledge of Safe Places (1 to 4) | 2.98 | 3.05 | 0.07 |
| **Feeling Safe (1 to 4)** | **3.08** | **3.22** | **0.14*** |

Notes: *p<.05.

Column 1 shows the actual observed average among comparison youth for community awareness and attitudes in Spring 2009. Column 2 shows the average among AfterZone participants, after adjusting for several background characteristics. Column 3 shows the difference between the two groups of youth, or the estimated effect of the AfterZone. N = 763.

However, differences in both physical and sedentary activity between AfterZone and comparison youth may be meaningful. For example, parents may restrict the amount of television youth can watch until their homework has been completed. AfterZone youth may have already completed their assignments during CAZ, and might have more time after school to watch television or play video games. Alternatively, parents/guardians may permit more sedentary activities when they know that their children have already had physical activity, for instance, through participation in an after-school sports program.

### Community Awareness and Attitudes

The primary goal of the AfterZone is to increase youth's access to high-quality after-school programming in their communities. The AfterZone accomplishes this both by bringing program providers to the youth in schools and by bringing youth to program providers based in community facilities. The latter practice, in particular, may increase AfterZone participants' awareness of and comfort at available community facilities. One of PASA's goals, in fact, is to increase youth's knowledge of age-appropriate resources in their communities with the hope that they will feel safer and more comfortable visiting these facilities during non-AfterZone hours (e.g., after 5 p.m. and on weekends).

Thus, we examined students' awareness of and attitudes about the community resources available for their age group. Table 9 on the previous page shows that although AfterZone participants were no more aware than their peers of *where* to find safe "hang-out" facilities for kids their age, they did report *feeling* significantly safer at those facilities.

## AfterZone Benefits Relative to Those of Other After-School Programs

AfterZone participants fared better than their peers at the end of the sixth grade on nearly a third of the outcomes assessed in this study (7 out of 22). We translated these differences between AfterZone and comparison youth into "effect sizes," or "standardized average differences," and compared them with the benefits youth typically experience from after-school programs.

The effect-size benchmarks we used as points of comparison are based on the categories of outcomes reported by Durlak et al. in their meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents.[56] The authors' review included random assignment evaluations (published before December 31, 2007) of organized programs offering one or more activities that: 1) occurred during at least part of the school year; 2) happened outside normal school hours; 3) were supervised by adults and 4) had as one of their goals the development of one or more personal or social skills in youth between ages 5 and 18.

Although we use the results of this meta-analysis as benchmarks for the program effects we observed, we recognize the limitations of the expected effect sizes cited in our study. For instance, programs included in the meta-analysis might not be adequately comparable to the types of programs offered through the AfterZone. Nonetheless, these benchmarks are currently the best available for comparing the effectiveness of the AfterZone to other nonacademically focused after-school programs.

Based on these comparisons, the effect of the AfterZone on school-related outcomes is particularly strong, either meeting or exceeding expectations. In fact, the AfterZone's positive effect on school-day attendance (absences and tardiness) was one-and-a-half times larger than the average impact of nonacademic after-school programs.[57] These findings are consistent with initial results from the quasi-experimental evaluation of After School Matters (ASM), an after-school system targeting high school students in Chicago.[58] Conversely, however, the effect sizes also show that the effect of the AfterZone on social skills was relatively small—about two thirds of what we had anticipated.[59] For a detailed explanation of effect sizes as well as a list of the effect sizes for all outcomes assessed in this study and the benchmarks used for statistically significant effects, see Appendix D.

## Did Specific Subgroups of AfterZone Participants Benefit More After One School Year?

Earlier in this report, we illustrated that the AfterZone reaches a wide variety of youth—including a mix of boys and girls, youth who both have and lack parental/guardian supervision during the critical after-school hours, and youth who both are and are not meeting performance standards for their grade level in math and reading. We wanted to know if some of these subgroups benefited more than others from their participation in the AfterZone. For instance, although the AfterZone is not *directly* focused on academics, it does provide academic enrichment to its participants, particularly through the activities offered during CAZ. Indeed, our results suggest that participation in the AfterZone can lead to improvements in school-related outcomes. Youth who are struggling academically are more likely to be disengaged from

56 Durlak, J. A., R. P. Weissberg and M. Pachan. 2010. "A Meta-Analysis of After-School Programs That Seek to Promote Personal and Social Skills in Children and Adolescents." *American Journal of Community Psychology*, 45, 294–309.

57 Durlak et al. did not find the average impact on attendance to be statistically significant.

58 ASM provides paid semester-long apprenticeships to high-school-age youth. George et al., *After School Programs and Academic Impact*.

59 Durlak et al. did not assess community awareness and attitudes or health-related outcomes; thus, we cannot compare AfterZone outcomes with standard benchmarks.

school and to demonstrate poorer attendance habits. As such, participation in the AfterZone may be *particularly* beneficial for these youth.

Programmatically, subgroup differences may have important implications for implementation, because these differences can inform developers of after-school systems of the best ways to focus or prioritize their recruitment efforts and enrollment practices. Although PASA does not currently target subgroups of youth, it would be useful to know if certain subgroups derive larger benefits than others from participation—particularly as funding becomes more scarce in difficult economic times.

To explore the possibility of larger benefits for certain subgroups, we examined the extent to which outcomes differed by academic proficiency (based on math and reading performance on NECAP), gender and parental/guardian supervision during the after-school hours. Our findings suggested very few differences. In almost all cases, the outcomes for paired subgroups (i.e., youth with low vs. high academic performance, boys vs. girls, youth with parental/guardian supervision vs. youth without such supervision) did not significantly differ from each other.

Although no strong evidence indicates that specific subgroups of youth benefit more than others, some suggestive patterns may warrant more research. To summarize briefly, it appears that:

- Youth struggling academically may benefit slightly more than those who are meeting academic standards.
- For girls, effects were slightly stronger for school-related outcomes, while for boys, they were slightly stronger for social and emotional outcomes.

Our results did not point to any differential benefits among youth with versus without parental/guardian supervision during the after-school hours. (Subgroup analyses are presented and discussed in detail in Appendix F.) It is important to note that these analyses required that we reduce the size of our samples—for instance, instead of having two larger groups of AfterZone participants and comparison youth, we had four smaller groups consisting of male AfterZone participants, female AfterZone participants, male comparison youth and female comparison youth. Smaller sample sizes reduce our power to identify statistically significant group differences. As such, it is possible that small differences in outcomes do exist across subgroups but are undetectable due to limitations in sample size.

## Summary

At the end of the sixth grade, AfterZone participants experienced benefits in a range of outcomes compared with peers who did not participate. These benefits were particularly strong for school-related outcomes, yielding effects that either met or exceeded expectations when compared with field-wide benchmarks for after-school programs. We found no strong evidence that specific subgroups of youth benefit more from their participation than others. The following chapter examines the extent to which the benefits experienced by AfterZone participants after one school year *persist* through a second school year.

# Did Youth Continue to Benefit From the AfterZone After Two School Years?

**Chapter VI**

This chapter explores two questions:

- Did benefits reported at the end of the sixth grade persist through the seventh grade (i.e., the second year of the study) among youth who participated in the AfterZone for two school years?
- Do effects of participation in the AfterZone after two school years differ for youth with different background characteristics (e.g., academic proficiency, gender, parental/guardian supervision during the after-school hours)?

## Did Benefits Persist Among Youth Who Participated in the AfterZone for Two School Years?

At the end of the first year of the study, youth's participation in the AfterZone was clear-cut: either they participated in an AfterZone program at some point that year or they did not. However, by the end of the second year of the study, defining a youth as an "AfterZone participant" became more complicated. Some youth who had not participated in the sixth grade chose to enroll in the AfterZone in the seventh grade; others who had participated in the first year chose not to continue their participation. Figure 8 on the next page shows the different patterns of participation among the study sample over the two-year study period.

Because of this pattern of participation, we chose to examine program effects at the end of the seventh grade by comparing only the 180 youth who participated for two school years with the 314 youth who did not participate at all.[60] As summarized in Table 10 on page 42, the two groups of youth differed significantly on four school- and health-related outcomes:

- Absences,
- Math GPA,
- Time spent being physically active, and
- Time spent engaged in sedentary activities.

Specifically, youth who participated in the AfterZone for two school years had fewer absences and earned higher math grades than youth who never participated. On average, seventh graders who never participated in the AfterZone missed more than 12 percent of the 2009–10 school year, or more than four weeks of schooling. In contrast, youth who participated in the AfterZone for two school years missed just over three weeks of school, nearly one quarter fewer days than their peers who did not participate in the AfterZone. Further, while AfterZone youth did not differ from their nonparticipating peers on math performance in the sixth grade, they were stronger by nearly a third of a grade (e.g., C+ compared with B-) in the seventh grade. Moreover, these seventh grade program benefits in absences and math GPA were twice those achieved by the average after-school program (0.22 for absences and 0.20 for math GPA, compared with 0.10 and 0.11, respectively).[61] The benefits we found in school connectedness and school tardiness at the end of the sixth grade were not sustained.

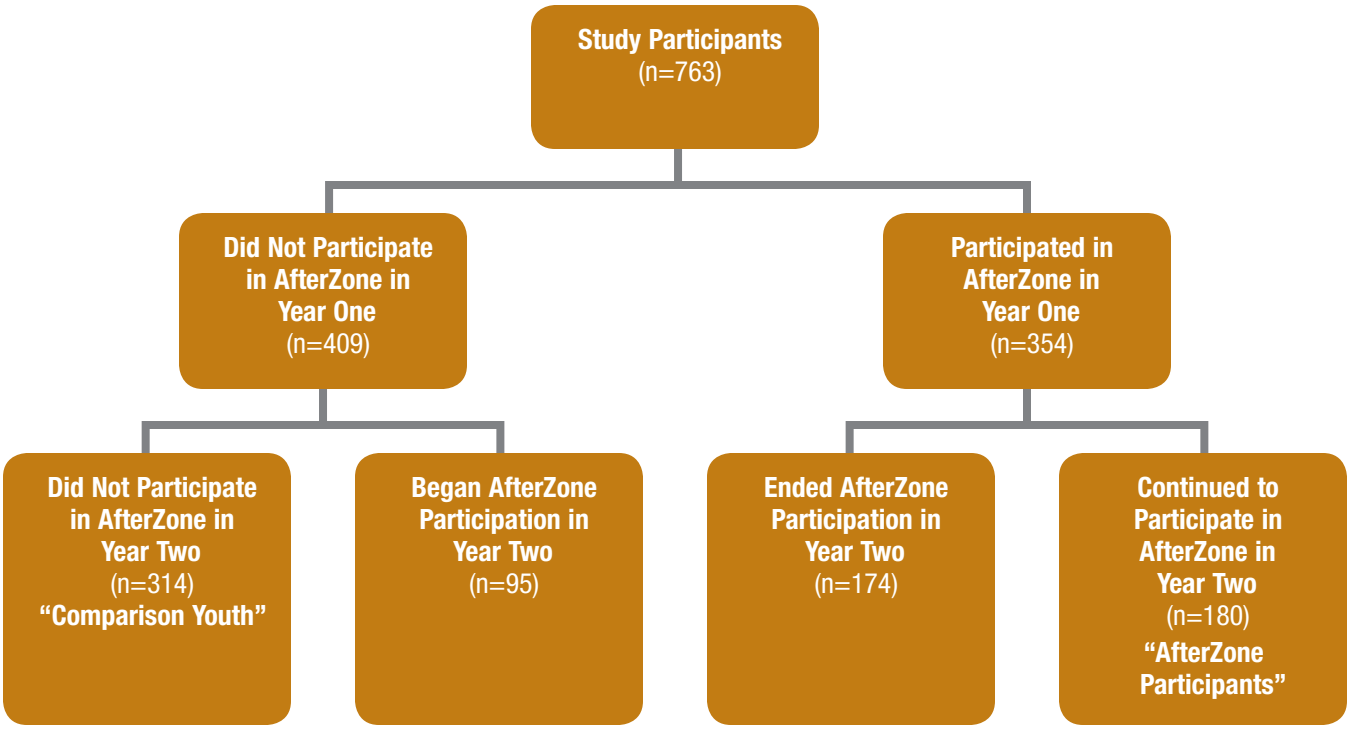
Health-related benefits were less clear. Although youth who participated in the AfterZone for two years were more physically active than their peers, they also reported spending more time on sedentary activities, as was observed for youth after one year of participation. We found no evidence of benefits in social and personal skills or community awareness and attitudes outcomes.

60 We conducted baseline equivalence tests between these two groups of youth to ensure they were similar at the start of the study, just as we had compared the youth who chose to participate in the sixth grade with those who did not. Our results indicate that the youth who participated in the AfterZone for two school years and those who did not participate at all differed on only two baseline outcome variables. "Two-year" AfterZone participants reported higher future connectedness and earned better grades in ELA classes during the first quarter of the sixth grade. To see the full list of baseline differences between these groups of youth, see Appendix G.

We also conducted attrition analyses to confirm that the AfterZone and comparison youth who did not leave the study by the end of the seventh grade were similar at baseline. Our results did not reveal any indication of differential attrition. See Appendix B for the full results.

61 See Durlak et al., 2010.

**Figure 8**
**Pattern of AfterZone Participation During the Two-Year Study Period**




Of the four significant program effects at the end of the seventh grade, only reduced absences constituted a *persisting* impact from the prior school year. That group difference, however, increased by the end of the second year by nearly 50 percent. Table 11 on page 43 summarizes the outcomes on which the two groups of youth differed significantly at the end of each school year.

## Did Specific Subgroups of AfterZone Participants Benefit More Than Others After Two School Years?

In the last chapter, we noted a lack of clear evidence suggesting that the benefits afforded to AfterZone participants depended on their academic performance, gender or supervision during the after-school hours. We also examined whether these different groups of youth benefited more from their two years of participation by the end of the seventh grade. As in the previous school year, we found little evidence of differential outcomes. (These analyses are discussed in greater detail in Appendix F.)

## Summary

The AfterZone yielded benefits for seventh graders that were particularly strong for school attendance among youth who participated during both the sixth and seventh grades. Findings from additional analyses examining differential effects across subgroups were consistent with those from the prior school year: No specific subgroups of youth benefited more from their participation. Whereas this chapter has focused on how *any level* of participation in the AfterZone is associated with youth outcomes, the following chapter examines how outcomes may vary by the amount and type of youth's participation.

## Table 10
## Differences in Outcome Variables Between Youth Who Participated in the AfterZone for Two Years and Comparison Youth at the End of the Seventh Grade

| Domain | Outcome Variable | Comparison Average | AfterZone Average | Difference in Averages |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | **Percentage of Days Absent in 2009–10 School Year (out of 180 Days)** | **12.22** | **9.30** | **-2.92+** |
| | Percentage of Days Tardy in 2009–10 School Year (out of 180 Days) | 8.55 | 7.09 | -1.46 |
| | ELA GPA in 2009–10 School Year (.33 to 7.33) | 3.43 | 3.52 | 0.09 |
| | **Math GPA in 2009–10 School Year (.33 to 7.33)** | **3.52** | **3.79** | **0.27*** |
| | Science GPA in 2009–10 School Year (.33 to 7.33) | 3.58 | 3.73 | 0.15 |
| | Time Spent Studying/Doing Homework (0 to 5) | 1.66 | 1.71 | 0.05 |
| | School Connectedness (1 to 4) | 2.96 | 3.02 | 0.06 |
| **Social and Personal Skills** | Future Connectedness (1 to 4) | 3.40 | 3.44 | 0.05 |
| | Conflict Management (1 to 4) | 2.72 | 2.80 | 0.08 |
| | Prosocial Behavior (1 to 4) | 3.30 | 3.27 | -0.03 |
| | Presence of Supportive Adults (0 to 6) | 2.60 | 2.76 | 0.16 |
| | Emotional Self-Efficacy (1 to 4) | 2.84 | 2.83 | -0.02 |
| | Misconduct (1 to 5) | 1.99 | 2.06 | 0.06 |
| | Social Skills (1 to 4) | 3.25 | 3.26 | 0.01 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places (1 to 4) | 3.04 | 2.91 | -0.13 |
| | Feeling Safe (1 to 4) | 3.12 | 3.22 | 0.11 |
| **Healthful Activity and Nutrition** | Healthy Eating (0 to 7) | 3.88 | 4.08 | 0.20 |
| | Unhealthy Eating (0 to 7) | 3.72 | 3.92 | 0.20 |
| | **Time Spent on Sedentary Activity (0 to 5)** | **2.74** | **3.12** | **0.38*** |
| | **Time Spent Being Physically Active (0 to 5)** | **2.34** | **2.68** | **0.34*** |

Notes: +p<.10; *p<.05.

Column 1 shows the actual observed averages among comparison youth in Spring 2010. Column 2 shows the average among youth who participated in the AfterZone for two years, after adjusting for several background characteristics. Column 3 shows the difference between the two groups of youth, or the estimated effect of the AfterZone. N = 494.

## Table 11
## Summary of Significant Group Differences Between Two-Year AfterZone Participants and Comparison Youth at the End of the Sixth and Seventh Grades

| Domain | Outcome Variable | End of Sixth Grade Adjusted Group Difference[a] | End of Seventh Grade Adjusted Group Difference |
|---|---|---|---|
| **School-Related Outcomes** | School Connectedness (1 to 4) | 0.11* | NS |
| | Percentage of Days Absent (out of 180 Days) | -1.99** | -2.92+ |
| | Percentage of Days Tardy (out of 180 Days) | -2.34* | NS |
| | Science GPA (.33 to 7.33) | 0.22* | NS |
| | Math GPA (.33 to 7.33) | NS | 0.27* |
| **Social and Personal Skills** | Social Skills (1 to 4) | 0.08+ | NS |
| | Prosocial Behavior (1 to 4) | 0.10* | NS |
| | Misconduct (1 to 5) | -0.13+ | NS |
| **Health-Related Outcomes** | Time Spent After School on Sedentary Activities (0 to 5) | NS | 0.38* |
| | Time Spent After School Exercising/Doing Sports (0 to 5) | NS | 0.34* |

a Program effects in Column 1 differ slightly from those reported in Chapter 5 because the AfterZone participants are restricted to the sample of youth who participated for two years.

Notes: +p<.10; *p<.05; **p<.001; NS = not significant.

Column 1 shows the statistically significant differences between two-year AfterZone participants and comparison youth in Spring 2009, after adjusting for several background characteristics. Column 2 shows the statistically significant differences between the two groups in Spring 2010. N = 494.

# Do Levels of Participation Affect Youth Outcomes?

**Chapter VII**

Research suggests that after-school programs are capable of improving youth's social and personal skills, behavior and school performance but that benefits may depend, in part, on the extent to which youth are active participants. After all, to be affected by a program, youth must have attended and been engaged to at least some minimal extent.

In this chapter, we explore how varying levels of participation in the AfterZone across the different indicators are associated with youth outcomes at the end of the two-year study period. We focus our analyses on the sample of 180 youth who participated for both years of the study and their 314 peers who did not participate at all (see Figure 8 on page 41 for greater clarification).[62] Specifically, we addressed two key questions. After two school years:

- Is a higher amount of participation, in terms of dosage, associated with better outcomes?[63]
- Is participation in a broader array of activities (i.e., greater breadth of participation) related to better outcomes?
- Is greater emotional engagement in the AfterZone—in terms of youth's sense of belonging, perception of staff as supportive, and enjoyment—correlated with better outcomes?

62 We also examined the association between participation and outcomes at the end of the sixth grade (i.e., the first year of the study), but the general pattern of results was similar to that of the two-year analyses. We present these findings for dosage in "How Much AfterZone Is Enough?" on page 48.

63 We also conducted analyses to examine how consistency of participation was associated with youth's outcomes at the end of the seventh grade, controlling for baseline characteristics. Because consistency of participation was highly correlated with the number of days youth attended the AfterZone ($r = .80$, $p<.0001$), the results of these analyses were similar to those for dosage. Our results provide some evidence that consistent participation over time may be important for school-related outcomes. Youth who participated for more sessions earned higher grades in math and were absent less often. Although enrolling in more sessions was associated with greater physical activity, it was also associated with greater sedentary activity.

(We summarize only the statistically significant associations between different indicators of participation and youth outcomes in this chapter; the full set of findings, including nonsignificant associations, is summarized in Appendix H.) It is important to note that these analyses are exploratory, as participation and engagement can be strongly related to characteristics about the youth (e.g., factors that motivated them to enroll in the AfterZone in the first place, or a greater propensity for actively engaging in activities) that explain why some youth demonstrate higher participation or become more engaged in the program, as well as why they fare better over time.

## Dosage

Numerous studies have found a positive association between the amount of youth's after-school participation and a broad range of outcomes. For instance, Arbreton et al. found in their study of youth attending Boys & Girls Clubs that teens who attended more days also had higher levels of civic engagement and integrity, better social skills, fewer days of skipping school, more positive academic attitudes and less involvement in risky behavior.[64] In their review of after-school program evaluations linking participation with youth outcomes, however, Roth, Malone and Brooks-Gunn found much more limited impacts.[65] Greater dosage was associated only with better school attendance and not with other academic or developmental outcomes, including school performance, problem behaviors and peer relationships.

Over the course of our two-year study, we found wide variation in the number of days youth attended the network of programs offered through the AfterZone, ranging from 3 to 154 days.[66] To

64 Arbreton, A. with M. Bradshaw, J. Sheldon and S. Pepper. 2009. *Making Every Day Count: Boys & Girls Clubs' Role in Promoting Positive Outcomes for Teens.* Philadelphia: Public/Private Ventures.

65 Roth, J.L., L.M. Malone and J. Brooks-Gunn. 2010. "Does the amount of participation in afterschool programs relate to developmental outcomes? A review of the literature." *American Journal of Community Psychology,* 45 (3-4), 310–324.

66 During the two-year study period, the AfterZone was offered for a total of 209 days. On average, two-year participants attended a total of 57 days during that period.

explore how youth outcomes were associated with dosage, we divided our sample into three groups—those considered "high dosage", "low dosage" and those who did not participate over the two years at all—and compared their outcomes at the end of the seventh grade, after statistically controlling for baseline characteristics (see Appendix C for details about the measurement model).

We found that youth who received a higher dosage—50 days or more over two years—fared significantly better than their peers (comparison youth) on several school-related outcomes.[67] Specifically, these high-dosage AfterZone youth reported devoting more time to schoolwork, were absent less often in the seventh grade and earned higher grades in ELA, math and science. In addition, these youth reported spending more time being physically active, even as they also reported being engaged more often in sedentary activity. In contrast to high-dosage participants, the outcomes of low-dosage participants (those who attended the AfterZone 49 or fewer days over the two-year study period) were no different at the end of the seventh grade from their peers who did not participate in the AfterZone at all. (See page 48 for more information about how dosage is related to outcomes after one school year.)

### Breadth of Participation

Prior research has found that participating in a broader array of activities in after-school programs is associated with better youth outcomes. For instance, Fredricks and Eccles found that the more different types of activities in which youth were engaged, the stronger their sense of school belonging, the higher their grades, the better their psychological adjustment and the more positive their peer group.[68] Experiencing greater breadth of participation might be beneficial for youth because it exposes them to a wider array of learning experiences, thereby increasing their developmental skill set.[69]

One of the potential strengths of the AfterZone is that it offers youth a wide variety of activities from which to choose. We examined the extent to which participation in a broader array of activities is associated with outcomes at the end of the seventh grade, controlling for background characteristics. Our results suggest that youth who demonstrated greater breadth of participation (i.e., participated in more types of activities) reported better school-related outcomes—specifically, having a stronger connection to school, earning higher grades in math, and being absent and tardy less often. Again, greater breadth of participation was also associated with both more physical activity and more sedentary activity.

## Engagement

Prior research has shown a linkage between youth's emotional engagement in after-school programming and positive outcomes.[70] For instance, in their evaluation of Communities Organizing Resources to Advance Learning (CORAL), a five-city initiative in California designed to improve educational performance among low-income students, Arbreton et al. found that children's sense of belonging to their program was consistently related to positive changes in youth's academic attitudes.[71] In this study, we examined three indicators of program engagement: youth's sense of belonging to the program, their perception of adult program staff as supportive and their level of enjoyment of the program relative to other places where they spend time. (Details on these analyses can be found in Appendix C.)

67 A threshold lower than 50 days for dosage may exist. The cutoff of 50 days was based on a median split, whereby 50 percent of the two-year AfterZone participants attended 49 days or fewer while the upper 50 percent attended 50 days or more over the two years of the study.

68 Fredricks, J. A. and J.S. Eccles. 2006. "Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations." *Developmental Psychology,* 42 (4), 698–713.

69 Hansen, D. M., R. W. Larson and J. B. Dworkin. 2003. "What Adolescents Learn in Organized Youth Activities: A Survey of Self-Reported Developmental Experiences." *Journal of Research on Adolescence,* 13, 25–55.

70 See: Bartko, T. 2005. "The ABCs of Engagement in Out-of-School Time Programs." In Heather Weiss, Priscilla M. Little and Suzanne Bouffard (Eds.), *Participation in Youth Programs: Enrollment, Attendance and Engagement: New Directions for Youth Development,* No. 105. San Francisco: Jossey-Bass. See also: Shernoff, D. J. 2010. "Engagement in After-School Programs as a Predictor of Social Competence and Academic Performance." *American Journal of Community Psychology,* 45, 325–37.

71 Arbreton et al., *Advancing Achievement.*

## How Much AfterZone Is Enough?

In this chapter, we explored how dosage over the course of two school years was associated with outcomes at the end of the seventh grade. Programmatically, it might also be useful to know how dosage is related to outcomes after just one school year, particularly given that more than half (60 percent) of the AfterZone participants in the study enrolled in the AfterZone for only one year (either during the first or second year of the study).

We found that school-related benefits peaked at 32 days at the end of the sixth grade: Youth who attended the AfterZone for at least 32 days during the first year of the study reported being more connected to school; missed and were tardy on fewer days of school; earned better grades in ELA, math and science; and performed better on the standardized math test (the New England Common Assessment Program [NECAP]) than youth who did not participate in the AfterZone. In contrast, youth who attended fewer than 32 days that year differed from comparison youth only on absences.

A similar pattern emerged for community awareness and attitudes—but at 40 days: Youth who attended at least 40 days of AfterZone programming reported being more knowledgeable about and feeling safer at community resource sites available for youth their age than comparison youth, while youth who attended fewer than 40 days were no different from their nonparticipating peers. No clear pattern of benefits emerged for social and personal skills or for health-related outcomes.

**Significant Differences in Sixth Grade Outcomes Between Two-School-Year AfterZone Participants and Comparison Youth by Dosage Level**

| Domain | Outcome Variable | 32 Days | | 40 Days | |
|---|---|---|---|---|---|
| | | Low | High | Low | High |
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | | ● | | |
| | Time Spent Studying/Doing Homework | | | | |
| | Percentage of Days Absent in Sixth Grade | ● | ● | | |
| | Percentage of Days Tardy in Sixth Grade | | ● | | |
| | ELA GPA in Quarters 2–4 of 2008–09 School Year | | ● | | |
| | Math GPA in Quarters 2–4 of 2008–09 School Year | | ● | | |
| | Science GPA in Quarters 2–4 of 2008–09 School Year | | ● | | |
| | NECAP Reading Proficiency Level | | | | |
| | NECAP Math Proficiency Level | | ● | | |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | | | | ● |
| | Feeling Safe | | | | ● |

Note: These results are from a series of analyses examining program effects by dosage level during the 2008–09 school year (controlling for background characteristics) among youth who participated in the AfterZone for two school years and those who did not participate at all. The dot in each cell indicates statistically significant ($p<.10$) relationships between low and high dosage and outcomes at two levels: 32 and 40 days of attendance. "High" dosage indicates minimum attendance at each level. (N = 494)

**Table 12**
**Summary of Associations Between Program Engagement and Youth Outcome Domains**

| | Belonging | Supportive Staff | Fun |
|---|---|---|---|
| School-Related Outcomes | ● | ● | ● |
| Social and Personal Skills | ● | ● | ○ |
| Health-Related Outcomes | | | |
| Community Awareness and Attitudes | ● | ● | |

Key:

● = Consistent pattern of association was found—50 percent or more of the outcomes within the domain are significantly associated with the dimension of participation in a consistent direction.

○ = Moderate evidence for a consistent pattern of association was found—25 to 49 percent of the outcomes within the domain are significantly associated with the dimension of participation in a consistent direction.

Blank = No clear, consistent pattern of association was found—fewer than 25 percent of the outcomes within the domain are significantly associated with the dimension of participation in a consistent direction.

## Sense of Belonging

To examine how participants' sense of belonging affected their outcomes, we compared three groups of youth: those with a strong sense of belonging at the AfterZone, those with a weaker sense of belonging at the AfterZone and those who did not participate in the AfterZone at all during the two-year study period. We found evidence suggesting that a strong sense of belonging at the AfterZone is associated with a broad range of positive outcomes, while the failure to develop that sense of belonging is negatively associated with several outcomes.[72]

Specifically, relative to their peers who did not participate in the AfterZone during the two years of the study, youth with a strong sense of belonging reported feeling a stronger connection to school, earned higher grades in both math and science, and had fewer absences; they also thought more about their future, had better social skills, demonstrated more positive behavior, perceived a higher prevalence of supportive adults in their lives (not specific to AfterZone program staff) and were more physically active. These youth also reported engaging in more sedentary activity, however.

The pattern of findings for youth with a weak sense of belonging at the AfterZone offers a stark contrast to that for youth with a strong sense of belonging. Relative to both their peers who had a strong sense of belonging and those who did not participate in the AfterZone at all, these youth thought less about their future, had weaker social skills, were less able to control their emotions, behaved less positively with their peers and felt less safe at community-based facilities. These disengaged youth also felt significantly lower connectedness to school and had fewer supportive adults in their lives.

## Supportive Adult Staff

We conducted a similar set of analyses to better understand the association between youth's perception of AfterZone staff as supportive and their outcomes. Our results suggest that youth who strongly believed that supportive adult staff were present at the AfterZone seemed to benefit most from their participation in terms of social and personal skills.[73] Compared with youth who did not participate in the AfterZone at all, those who saw the staff as supportive reported thinking more about their future, had better social skills, were more able to control

72 Average scores greater than or equal to three on the "sense of belonging" scale are considered "strong." Scores lower than three are considered "weak."

73 The split of supportive adult staff is based on youth's average response to the items making up the "supportive adult staff" scale. Those with an average score greater than or equal to three on the scale are considered "strong." Scores lower than three are considered "weak."

their emotions, behaved more positively with their peers and had more supportive adults in their lives (not specific to AfterZone program staff). These youth also reported being more connected to school and being more physically active.

Conversely, youth who did not believe that AfterZone staff were supportive reported having a weaker ability to control their emotions, behaved less positively with their peers and engaged in more sedentary activity compared with their peers who had not participated in the AfterZone during the study period. In addition, these youth seemed to fare worse than their highly supported peers on their connectedness to the future, their social skills and the prevalence of supportive adults in their lives (again, outside AfterZone staff). These youth, however, did report feeling safer at community-based facilities than comparison youth.

### Program Enjoyment

Finally, we compared the outcomes of youth who indicated the AfterZone was more fun than other places where they spend time, youth who indicated the AfterZone was not more fun and those who did not spend any time at the AfterZone during the study period. We found that youth only benefited from their participation in the AfterZone if they had fun there.[74] At the end of the seventh grade, these youth reported feeling more connected than their peers to school, were absent and tardy less often, earned higher grades in math and science, thought more about their future and had more supportive adults in their lives (not specific to AfterZone program staff) relative to comparison youth. These youth also reported being more physically active but also more frequently engaged in sedentary activities.

In contrast, the outcomes of youth who did not have fun while at the AfterZone were no different at the end of the seventh grade than the outcomes of their peers who did not participate at all. We did not find many statistically significant differences between youth who reported having fun and those who did not, however. While youth who had more fun at the AfterZone reported higher levels of future connectedness and earned better grades in science than youth who did not have more fun, they also reported spending more time engaged in sedentary activities.

## Summary

Consistent with findings from prior research, these in-depth participation analyses suggest that the amount and breadth of youth's participation in the AfterZone are associated with better school-related outcomes. Dosage seems to be particularly important: Youth need to have attended the AfterZone for an adequate number of days (at least 50 over the two-year period in this study) to benefit from their participation. Finally, the results consistently suggest that youth might only experience widespread benefits—including outcomes related to social and personal skills, school, and community awareness—if they feel highly engaged in the program.

74 We asked youth whether or not they considered the AfterZone more fun than other places where they spend time. Those who agreed were tagged "fun" AfterZone participants; those who disagreed were counted "no fun" AfterZone participants.

# Conclusions

**Chapter VIII**

The AfterZone was developed to address the need for high-quality after-school programs among older youth—in a city facing numerous economic and social challenges that put these youth at risk for later academic disengagement, future unemployment and poverty. Prior research has suggested that after-school programs may be one way to provide these youth with opportunities to negate these risk factors. Such opportunities become increasingly important for older youth whose participation in after-school programs often declines, in part because programs that meet their needs and interests are few and far between.

The AfterZone model is a unique systems-level approach to providing a wide variety of after-school programs to this challenging population. While offering carefully coordinated activities and transportation for a citywide network of after-school programs and providers, the model maintains a strong connection to the school context. While P/PV's earlier work has examined the development and implementation of the AfterZone model,[75] the current study is the first evaluation of its effects on participants as well as one of the few rigorous (quasi-experimental) evaluations of an after-school *system*. The findings also extend the after-school programming field's understanding of the relationship between program participation and youth outcomes by examining, in depth, multiple dimensions of participation (amount, breadth and engagement).

## Key Findings

Findings from this two-year evaluation suggest that youth can benefit from participating in a system modeled after the AfterZone, which includes a coordinating body (like PASA), a network of school- and community-based programs and a strong connection to the school context. Many of the benefits youth experience are not long-lasting, however, which may be due in part to the short periods of time for which youth typically participate and to their limited exposure to programming overall. The AfterZone seems most effective at yielding benefits that are related to school outcomes, and increasing participation may be necessary to reach its full potential.

Although we took several steps to increase our confidence that any differences in outcomes we observed in this study could be attributed to true program impacts (see Appendix E), it is important to recognize that these differences may instead be attributable to some unmeasured difference between participants and comparison youth that was not captured in our quasi-experimental evaluation. In addition, research stresses the importance of program quality in achieving benefits for youth, but in this study, we were unable to account for the quality of the AfterZone programs in which our study participants were enrolled.

### Participation

**_How much_ are middle school youth participating in the AfterZone?**

*Youth demonstrated intense participation but for only short periods of time.* From Fall 2008 through Spring 2010, more than half the study participants (59 percent) attended an AfterZone program for at least one day. Participants attended AfterZone programs with a high level of intensity during the sessions in which they were enrolled: On average, each year youth attended approximately two thirds of the days they were enrolled, a proportion that compares favorably to middle school youth's attendance in other after-school systems. Yet nearly half of the AfterZone youth in our study enrolled in the AfterZone for only *one* of the three sessions offered during the school year. As a result, the total number of days youth attended the AfterZone was relatively low; youth attended only a small percentage of the days that, in theory, were available to them over the course of the year (on average, about one quarter of available days).

75 Kotloff and Korom-Djakovic, *AfterZones*.

**What is the *breadth* of youth's participation across the wide range of activities offered through the AfterZone?**

*The extent to which AfterZone youth are taking advantage of the broad range of activities available to them depends, to some degree, on the consistency of their participation.* Youth who enrolled in the AfterZone for at least two sessions during a single school year were much more likely to participate in more than one kind of activity than youth who enrolled for only one session (75 percent compared with 26 percent). Among the more consistent participants (i.e., those who enrolled for at least two sessions), nearly one third participated in *all* three types of activities. Further, students' breadth of participation declined from the sixth to the seventh grade, perhaps suggesting that youth gained a better sense of their own interests over the course of the sixth grade and then chose to focus on these interests the following year.

**To what extent are AfterZone youth *emotionally engaged* in their AfterZone program(s)?**

*AfterZone youth are generally engaged in their AfterZone program(s), but their relationships with staff are a potential area for improvement.* The majority of AfterZone participants in our study reported that they felt a sense of belonging, perceived the program staff to be supportive and had more fun at the programs than at other places where they spent time. While most AfterZone participants perceived program staff as supportive, the actual rates (62 percent in 2008–09 and 56 percent in 2009–10) are somewhat low compared with those of their peers who attended after-school programs outside the AfterZone system. In addition, AfterZone youth were less likely to perceive staff as supportive in the seventh grade than in the sixth.

## Program Benefits

**Do participants in the AfterZone experience improvements in school- and health-related outcomes, social and personal skills, and awareness of and attitudes about participants' communities compared with similar youth who did not participate in the AfterZone?**

*Yes. We found that participation in the AfterZone yielded a broad range of benefits—which were particularly strong for attendance—after one school year. However, most of these benefits diminished by the end of the second school year. Interestingly, effects on attendance increased in magnitude with longer participation in the AfterZone.* When AfterZone participants reached the end of the sixth grade, they had more positive attitudes about community resources for youth, had better social skills, felt a stronger connection to school and demonstrated better school attendance. The school-related benefits that emerged we re particularly strong—one-and-a-half times the magnitude of impacts typically achieved by after-school programs. Benefits associated with social and personal skills, however, were smaller than we would have expected (at only about two thirds the size suggested by previous studies).

Among youth who participated in the AfterZone during both years of the study, benefits persisted through the seventh grade in only one of seven areas tested: school attendance. The effect on absences, however, increased from one-and-a-half times the expected impact to more than double the expected impact. In addition, one new program benefit emerged at the end of the second school year: AfterZone participants earned higher grades in math—by about one third of a grade—than comparison youth. Taken together, our findings suggest that the AfterZone yields benefits for seventh graders that are limited in scope but fairly large in magnitude.

**Is participation (in terms of amount, breadth and engagement) associated with better youth outcomes?**

*Yes. We found that more participation and greater breadth of participation in the AfterZone were associated with better school-related attitudes, behavior and performance, while greater emotional engagement in the AfterZone was associated with improvements in social and personal skills.* Youth who attended their AfterZone program for more days and those who participated in a broader range of activities had better school attitudes, behavior and performance at the end of each year.

Dosage (the number of days youth attended) seems to be particularly important. In the sixth grade, benefits appeared to peak for youth after attending the AfterZone for 32 days, or approximately

eight weeks—around the length of a single session.[76] However, at the end of the seventh grade, youth who attended AfterZone programs for fewer than 50 days (or roughly 13 weeks) over the course of the two-year study period (less than 25 percent of the days possible) were no different from their peers who did not participate in the AfterZone at all. Taken together, these findings suggest that although short-term benefits can be experienced after participating for just eight weeks (or one session), youth need to continue their participation for a longer period of time to experience long-term benefits from the AfterZone. These findings are in keeping with other studies of after-school programming suggesting that longer participation is necessary to achieve sustained impacts.

While the amount and breadth of youth's participation in the AfterZone were associated with school-related outcomes, youth's emotional engagement was related to changes in social and personal skills. Youth who felt a sense of belonging and perceived the program staff as supportive reported having better social skills, were better able to control their emotions, thought more about their future and had more supportive adults in their lives than AfterZone youth who did not feel a strong sense of belonging or did not perceive the staff as supportive. Moreover, in many cases, youth who were emotionally engaged in AfterZone programs fared better socially and personally than their peers who did not participate in the AfterZone. Interestingly, however, youth who were emotionally *disengaged* in AfterZone programming fared worse than their peers who did not participate at all.

## Implications

Taken together, these findings have important implications for PASA as well as other practitioners and funders involved in the development and implementation of citywide after-school systems.

*After-school systems that are strongly grounded in the school context can have a positive impact on school-related outcomes, even without significant resources directed toward intensive academic support.*

One association that emerged consistently across the numerous analyses conducted in this study was between participation in the AfterZone and reduced absences. It is rather striking that a network of after-school programs that does not directly target school attendance seems to reduce absences among its participants by 25 percent after two years—especially given that the AfterZone has no explicit school-day attendance policy, as does Chicago's ASM. (It is possible that because of the young age of AfterZone participants, relative to those in ASM, youth might not be able to attend the AfterZone without having attended during the school day, thereby making an explicit policy unnecessary.) Moreover, individual after-school programs, on average, have not been found to yield significant impacts on attendance.[77] In addition to reduced absences, we found that youth who participated in the AfterZone for two school years earned math grades that were higher than those of their peers.

The improvements we found in school-related outcomes are notable for three reasons: First, as mentioned earlier, youth did not attend the AfterZone with *that much* frequency—only about 25 days out of each year on average. Second, programs offered through the AfterZone do not provide intensive tutoring or remediation. Some programs, particularly skill-building programs, do provide enrichment by introducing academic concepts, with the goal of getting youth interested and excited to learn. But overall, AfterZone programs are not academically focused. Third, the AfterZone consists of more than a hundred programs each year. Although information about program quality based on P/PV's earlier implementation study and PASA's internal assessments suggests that, on average, AfterZone programs are well implemented, these data are only "snapshots" of the entire system. It is quite likely that the programs within the AfterZone system vary in the quality of their programming and staffing. Even given that variation, we found evidence of program benefits.

76 Conversion to weeks is based on the assumption that youth attend each of the four days the AfterZone is offered throughout the week.

77 Durlak et al., "A Meta-Analysis of After-School Programs."

The AfterZone offers programs from a wide range of substantive areas that take place in both school and community settings. The system, however, is *grounded* within the school environment. The participating middle schools act as the hub of AfterZone activities for program participants: Each day, the program begins and ends on school grounds, and for most participants (94 percent), the program itself takes place on the school campus.[78] Our results suggest that after-school systems that are deeply connected to the school campus—for instance, through operation of the daily check-in and check-out process at school or inclusion of numerous school-based programs—can improve youth's school attendance.

*More research is necessary to determine whether changes in school-related behaviors lead to long-term improvements.*

Perhaps the most immediate effect of AfterZone participation is that it motivates youth to come to school more regularly, which has the potential to lead to important long-term benefits. Youth who are absent from school receive fewer hours of instruction and have fewer opportunities to interact with their peers and teachers and to develop bonds to the school environment. In fact, prior research has shown that absenteeism is linked to poor academic performance and alienation from classmates, teachers and school as a whole.[79] Research has also shown that chronic absences are associated with engaging in substance use, delinquency, dropping out of high school and unemployment in adulthood—problems that numerous truancy-prevention programs have been developed to address.[80] Future research is needed to assess whether better school attendance as a result of participation in after-school systems actually leads to the kinds of long-term benefits in which school districts around the country are intensely interested—such as better standardized test scores and higher graduation rates.

78 Estimate is based on youth who enrolled in at least one activity during either year of the study.

79 Gottfried, M. A. 2009. "Excused Versus Unexcused: How Student Absences in Elementary School Affect Academic Achievement." *Educational Evaluation and Policy Analysis,* 31 (4), 392–415.

80 Sutphen, R. D., J. P. Ford and C. Flaherty. 2010. "Truancy Interventions: A Review of the Research Literature." *Research on Social Work Practice,* 20 (2), 161–71.

*To improve youth's social and personal skills, after-school systems must find ways to emotionally engage youth.*

Through its wide range of activities, the AfterZone aims to have a broad positive effect on youth, improving their social, personal and academic skills. Past research suggests that programs like those offered through the AfterZone typically have their greatest success at influencing youth's social and personal skills.[81] But, somewhat surprisingly, we did not find clear and consistent evidence of such benefits among AfterZone participants. We did find evidence, though, that youth who were more emotionally engaged in the AfterZone—in terms of their sense of belonging, how supportive they felt staff to be and how much fun they thought the AfterZone was relative to other places where they spend time—experienced bigger improvements in their social and personal skills than those who were emotionally disengaged.

One potential benefit of the AfterZone model is that a larger number and broader array of after-school programs are more accessible to youth throughout the school year, and that increased accessibility might lead to higher participation overall *across* the system. However, more varied participation also means that youth's involvement in any one particular program within the system is rather short-lived. Systems utilizing the AfterZone model should identify strategies that foster the deeper bonds to the program and the strong relationships with staff that our results suggest are important for having an impact on social and personal skills. For instance, a core component of the model is Club AfterZone (CAZ)—which offers a prime opportunity to provide consistency for participants, through its staffing, across sessions and even school years. During the second year of the study, CAZ had begun taking steps to fulfill this potential by assigning youth to relatively permanent same-grade peer groups led by the same staff member on consistent days and times each week. Due to the timing of these changes relative to the study, we were unable to assess if they helped increase youth's emotional engagement in the AfterZone, but future research should address this question.

81 Durlak et al., "A Meta-Analysis of After-School Programs."

*The AfterZone model must incorporate strategies for increasing consistent participation over the course of the school year.*

System developers who plan to implement the AfterZone model should focus efforts not only on recruiting as many youth as possible in the sixth grade but also on retaining those same youth over time. Findings throughout this report point to the importance of increasing the consistency of youth participation over the course of the school year. First, the total number of days youth can participate in the AfterZone depends somewhat on the number of sessions in which they enroll. Second, breadth of participation is higher among youth who participate for more sessions. Third, consistent with prior research, both dosage and breadth of participation are strongly related to youth's academic outcomes, such that more programming and greater variety are desirable attributes. However, at the time the study was conducted, the AfterZone model did not encompass an explicit goal to recruit the *same* set of youth session after session. Rather, it operated on a first-come, first-served philosophy each session, based on when registration forms were returned, and had little focus on targeting its recruitment strategies.

After-school systems that aim to employ the AfterZone model need to identify strategies for increasing the consistency of youth's participation throughout the school year. Other after-school systems have employed various strategies for increasing program retention over time. For instance, HFRP and P/PV found that offering more leadership opportunities for youth participants was the strongest single predictor of retention in programs serving older youth.[82] However, P/PV's AfterZone implementation study found that program instructors within the AfterZone system were not fully enabling youth to make plans and decisions during activities.[83] At the program level, this aspect of the AfterZone model may be a key area for improvement.

At the system level, intermediaries (or other organizations that coordinate the registration process) could make a more concerted effort to encourage "alumni" participants to reenroll by individually contacting those youth and/or their parents or guardians *before* registration is opened to other students. This individual-level attention might also help bolster youth's emotional engagement in the programs, increasing their sense of belonging and the extent to which they perceive staff to be supportive. Moreover, AfterZone staff could take this opportunity to personally introduce different types of programs offered during upcoming sessions, thereby encouraging greater breadth of participation. Alternatively, a certain percentage of slots for each program within the system could be reserved for returning participants, perhaps giving them a sense of importance within the system.

Finally, a broader systemwide change could entail adding a programming component for elementary school students that specifically targets younger siblings of AfterZone participants. Prior research has found that at least one in five youth who do not participate in after-school programs are *unable* to do so because of family responsibilities, like caring for siblings.[84] In this study, youth (on average) were needed at home after school about one day per week for sibling care; providing programming for the younger siblings of these youth could address an unmet need. Such proposed system-level strategies would require significant resources, and without any expansion beyond current funding levels, these intensive services would likely require focusing programming on a smaller number of participants.

*The AfterZone model must balance sometimes competing approaches to increase youth's participation in after-school programs.*

In line with prior research, our findings suggest that extended, consistent and more varied participation is important for achieving benefits. Current "best practices" also suggest that after-school programs that succeed in recruiting and retaining participants are characterized by being appropriate for the specific age group of their participants.[85] The AfterZone

82 Deschenes et al., *Engaging Older Youth.*

83 Kotloff and Korom-Djakovic, *AfterZones*.

84 Harvard Family Research Project. 2004. "Moving Beyond the Barriers: Attracting and Sustaining Youth Participation in Out-of-School Time Programs." *Issues and Opportunities in Out-of-School Time Evaluation,* 6, 1–16.

85 See: Kauh, T. J. June 2010. *Recruiting and Retaining Older African American and Hispanic Boys in After-School Programs:*

model, for instance, seeks to increase participation by breaking the school year into three relatively brief, independent sessions—a structure that enables youth to participate even if they have other commitments or activities during the remainder of the school year. The freedom this system affords is likely valued by older youth and may initially encourage their involvement in after-school programs. Yet this structure also creates a fairly short window of time for each session, perhaps inadvertently deterring sustained participation, an attribute suggested by findings from this study as well as past research to be vital for long-term benefits. System developers interested in employing the AfterZone model need to be cognizant of how some efforts to increase participation may actually counter other aspects of "what works" and must identify strategies for maneuvering around those competing approaches.

## Final Thoughts

After-school systems are developed to improve youth's access to high-quality after-school programs. Currently, though, relatively little is known about how these coordinated citywide efforts that include a wide range of programs affect the lives of the youth who participate in them. The AfterZone model, in particular, has generated significant interest across the country because of its unique approach of offering a large network of school- and community-based programming to older youth. P/PV's previous implementation study documented PASA's success in brokering partnerships among the schools, city departments and nonprofit community to create the AfterZone model. And, findings from the current evaluation lend preliminary support to the notion that systems modeled after the AfterZone can bring about short-term positive changes in youth's lives. But to yield long-term impacts, particularly in academic areas, these systems must work to ensure that youth participate for a sustained period of time. Along such lines, system administrators may need to make the difficult decision to focus their resources on reaching more youth for shorter periods of time or on making more intensive efforts to keep the same youth involved over longer periods.

*What We Know and What We Still Need to Learn.* Philadelphia: Public/Private Ventures. See also: Deschenes et al., *Engaging Older Youth.*

# Appendices

# Appendix A
# Measures

As summarized in Chapter 1, data for this evaluation were collected from several sources. We provide a brief description of each source in this appendix.

## PASA Participation Records

PASA employed an online data management system known as youthservices.net to track student attendance on a daily basis. The system was developed specifically for the AfterZone and plays a vital role in enabling PASA to coordinate the daily transportation needs of its participants. The system tracks information at both the student and program levels, and this information was extracted for analysis by PASA for both the 2008–09 and 2009–10 school years.

Student Level—Student-level data reflect information that describes the youth participating in the AfterZone:

- The names of all AfterZone programs the student attended,
- The total number of days the student attended the AfterZone, and
- The total number of days the student was enrolled in the AfterZone.

Program Level—Program-level data reflect information that describes the program attended by participants within the AfterZone network:

- The program session (fall, winter or spring), and
- The program type (sports, skills or arts).

## Administrative School Records

In addition to participation data, we collected data on the study participants from their school records. These data, which are listed below, were extracted for each study participant by the Providence school district's Office of Research, Assessment & Evaluation for analysis in this study.

Attendance—Attendance data were collected for the 2007–08, 2008–09 and 2009–10 school years:

- Number of days tardy,
- Number of days absent, and
- Number of days enrolled in the Providence school district during the school year.

Academic Performance—Standardized test score data are based on the New England Common Assessment Program (NECAP) and were collected for the October 2008 and October 2009 test administrations (which correspond to the baseline and end of sixth grade outcomes). Because the October 2010 test had not been administered prior to the conclusion of this evaluation, we were unable to test for program effects on standardized test scores at the end of the seventh grade. Data used in this study reflect students' proficiency (on a scale of 1 to 4) within a subject area for their grade level. Proficiency levels of 1 or 2 indicate performance below grade level while proficiency levels of 3 or 4 indicate performance at or above grade level. Specifically, we examined test performance in math and reading.

School Performance—School grades were collected for each quarter during the 2008–09 and 2009–10 school years. Grades were weighted to account for the difficulty of each course—honors courses were adjusted by increasing the numeric grade by one unit while remedial courses were adjusted by decreasing the numeric grade by one unit. No adjustments were made to numeric grades for standard-level courses. For instance, a B in Advanced Math was converted to a 6.0, a B in Standard Math was converted to a 5.0, and a B in Remedial Math was converted to a 4.0.

Grades from the first quarter of the 2008–09 school year reflect the baseline measure. Grades for quarters two through four of that school year were averaged; that average reflects youth's outcomes at the end of the sixth grade. Grades for all four quarters in the 2009–10 school year were averaged, which reflects youth's outcomes at end of the seventh grade. Grades were collected for three subject areas:

- English language arts (ELA),
- Math, and
- Science.

## Youth Survey

Finally, we also collected self-reported data from youth surveys, which were administered in Fall 2008 (the start of the study), Spring 2009 (end of sixth grade) and Spring 2010 (end of seventh grade). Data were collected for variables used as statistical controls, outcomes and indicators of afterschool program participation.

Control Variables—We collected data in the baseline survey on several control variables (also referred to as "covariates") to account for any baseline differences that might exist among study participants. These variables were:

- Stress,
- Participation in an after-school program in fifth grade,
- Number of days needed at home to care for younger siblings,
- Number of days needed at home for other responsibilities,
- Gender,
- Ethnic minority status,
- Household structure (single-parent status),
- Time spent at non-AfterZone after-school program prior to study, and
- Baseline measures of the outcome variable.

Outcome Variables—We collected self-reported data on 15 of our 22 outcome variables. These outcomes fell into one of four domains: school-related outcomes, social and personal skills, health-related outcomes, or community awareness and attitudes. The measures used to assess these outcomes—as well as their alpha reliabilities, where applicable—are summarized in Appendix Table 1.

Participation Variables—We collected self-reported data on one indicator of participation—program engagement—using three different measures: sense of belonging, perception of supportive adult staff present and program enjoyment. The measures used to assess program engagement—as well as their alpha reliabilities, where applicable—are summarized in Appendix Table 1.

## Appendix Table 1
## Summary of Youth Survey Measures

| Youth Survey Construct | Sample Item | Response Scale | Number of Items | Alphas | | |
|---|---|---|---|---|---|---|
| | | | | T1 | T2 | T3 |
| **School-Related Attitudes, Behavior and Performance** | | | | | | |
| School Connectedness[1] | Doing well in school is important to me. | 1 = Not at all true to 4 = Very true | 6 | 0.74 | 0.75 | 0.73 |
| Time Spent Studying/Doing Homework[2] | About how many hours total last week after school did you spend doing homework or studying? | 0 = None to 5 = 10 hours total | 1 | NA | NA | NA |
| **Social and Personal Skills** | | | | | | |
| Future Connectedness[1] | I do lots of things to prepare for my future. | 1 = Not at all true to 4 = Very true | 5 | 0.64 | 0.63 | 0.66 |
| Social Self-Efficacy[3] | I am good at becoming friends with other kids my age. | 1 = Not at all true to 4 = Very true | 7 | 0.54 | 0.57 | 0.68 |
| Emotional Self-Efficacy[3] | I can cheer myself up when something bad has happened. | 1 = Not at all true to 4 = Very true | 7 | 0.71 | 0.76 | 0.81 |
| Conflict Management[4] | When I have problems with other people my age, I yell at them. | 1 = Not at all true to 4 = Very true | 3 | 0.68 | 0.66 | 0.67 |
| Prosocial Behavior[5] | I offer to share my things with other kids. | 1 = Not at all true to 4 = Very true | 6 | 0.69 | 0.70 | 0.70 |
| Misconduct[6] | In the last three months, have you broken something on purpose? | 1 = I have never done this to 5 = I did it five or more times in the last three months | 10 | 0.82 | 0.84 | 0.83 |
| Adult Support[7] | How many adults who are not relatives pay attention to what's going on in your life? | 0 = 0 adults to 6 = 10 or more adults | 5 | 0.83 | 0.83 | 0.85 |
| **Healthful Activity and Nutrition** | | | | | | |
| Time Spent After School on Sedentary Activities[2] | About how many hours total last week after school did you spend watching TV or playing video games? | 0 = None to 5 = 10 hours total | 1 | NA | NA | NA |
| Time Spent After School Being Physically Active[2] | About how many hours total last week after school did you spend exercising (e.g., running, Rollerblading or playing sports)? | 0 = None to 5 = 10 hours total | 1 | NA | NA | NA |
| Healthy Eating[2] | In a usual week, how many days do you eat fruits? | "0 days" to "7 days" a week | 3 | 0.60 | 0.59 | 0.57 |
| Unhealthy Eating[2] | In a usual week, how many days do you eat sweet snacks like muffins, cookies, cupcakes or candy? | "0 days" to "7 days" a week | 4 | 0.81 | 0.82 | 0.80 |

## Appendix Table 1 *continued*
## Summary of Youth Survey Measures

| Youth Survey Construct | Sample Item | Response Scale | Number of Items | Alphas | | |
|---|---|---|---|---|---|---|
| | | | | T1 | T2 | T3 |
| **Community Awareness and Attitudes** | | | | | | |
| Knowledge[2] | I know what places are available in my community/neighborhood where it's safe for kids to hang out with each other. | 1 = Not at all true to 4 = Very true | 1 | NA | NA | NA |
| Feelings[2] | I feel safe going to different places in my neighborhood to hang out (e.g., recreation centers, libraries, community centers). | 1 = Not at all true to 4 = Very true | 1 | NA | NA | NA |
| **Program Engagement** | | | | | | |
| Sense of Belonging[7] | You feel like you matter. | 1 = Not at all true to 4 = Very true | 7 | NA | 0.98 | 0.99 |
| Supportive Adult Staff[7] | There are adult staff who you could go to if you need some advice about personal problems. | 1 = Not at all true to 4 = Very true | 5 | NA | 0.96 | 0.97 |
| Program Enjoyment[7] | You have more fun at the program than you do at other places you spend time. | 1 = Not at all true to 4 = Very true | 1 | NA | NA | NA |

Note: NA = not applicable

1 Karcher, M.J. 2005. *The Hemingway: Measure of Adolescent Connectedness*. Thousand Oaks, CA: Sage Publications.

2 Developed for the current study.

3 Muris, P. 2001. "A Brief Questionnaire for Measuring Self-Efficacy in Youths." *Journal of Psychopathology and Behavioral Assessment*, 23, 145–149.

4 Connell, J.P., J. Grossman and N. Resch. 1994. *Precursors of Connectedness: Applying a Youth Development Perspective to the Early Prediction of African-American Males' Attachment to the Labor Force.* Philadelphia: Public/Private Ventures.

5 Matson, J. 1995. *The Matson Evaluation of Social Skills for Individuals with Severe Retardation.* Baton Rouge, LA: Scientific Publishers, Inc.

6 Brown, B. B., D.R. Clasen and S.A. Eiche. 1986. "Perceptions of Peer Pressure, Peer Conformity, Dispositions, and Self-Reported Behavior among Adolescents." *Developmental Psychology*, 22, 521–530.

7 Gambone, M.A. and A.J. Arbreton. 1997. *Safe Havens: The Contributions of Youth Organizations to Healthy Adolescent Development.* Philadelphia: Public/Private Ventures.

# Appendix B
# Attrition

For most longitudinal studies, attrition (i.e., the loss of study participants) can be an issue. Likewise, over the course of this two-year study, some students either moved out of the district or were absent on the day of survey administration at their respective schools and could not be reached by phone to complete the youth survey. Other students chose not to continue their participation in the study following the baseline survey administration. At the end of the sixth grade, we experienced a 4 percent overall attrition rate among the youth who completed a survey in Fall 2008. At the end of the seventh grade, we experienced a 12 percent overall attrition rate.

Because our outcome analyses must be based on only the respondents for whom we have complete data, we wanted to ensure that *differential* attrition did not occur among the AfterZone youth and comparison youth, which could introduce selection bias into our estimates. In other words, although we found that, overall, the AfterZone and comparison youth were fairly comparable at the start of the study, it is possible that different kinds of youth among the AfterZone participants may have attrited from the study than those who had attrited among the comparison youth. If such a distinction existed, then the two groups of youth we compared at the end of the sixth and seventh grades would no longer have been comparable at the start of the study.

To test the comparability of the AfterZone and comparison samples we will use for our analyses, we only compared the baseline outcomes among youth who remained in the study at the end of the sixth (T2) or seventh (T3) grades. (See Appendix Table 2 on the next page for baseline group differences among nonattriters.) At both time points, we found no overall pattern of differences between the two groups of youth outside the range of normal chance variation ($p<.15$).[1] These results suggest that our outcome analyses do not suffer from selection bias that would lead us to falsely accept or reject the null hypothesis of no AfterZone program effect.

1 The overall pattern of differences between T2 and T3 attriters and nonattriters was tested using a MANOVA (at T2: $F(26,539) = .81$, $p = .73$; at T3: $F(26,311) = .79$, $p = .76$).

## Appendix Table 2

### Baseline Group Differences Between AfterZone Youth and Nonparticipants Among Nonattriters at the End of the Sixth and Seventh Grades

| | Baseline Characteristics | Baseline Group Difference Among Sixth Grade Nonattriters | Baseline Group Difference Among Seventh Grade Nonattriters |
|---|---|---|---|
| **Background Characteristics** | Age | -0.06 | -0.08 |
| | Number of Days at Home Caring for Younger Siblings | 0.10 | 0.02 |
| | Number of Days at Home for Other Responsibilities | 0.01 | 0.05 |
| | Stress | -0.06 | 0.02 |
| **School-Related Attitudes, Behavior and Performance** | **Number of Days Absent in Fifth Grade** | **-2.09*** | **-1.97+** |
| | Number of Days Tardy in Fifth Grade | 0.08 | -0.41 |
| | Math GPA in Quarter 1 of 2008–09 School Year | 0.17 | 0.10 |
| | **ELA GPA in Quarter 1 of 2008–09 School Year** | **0.16+** | 0.18 |
| | Science GPA in Quarter 1 of 2008–09 School Year | 0.14 | 0.01 |
| | **NECAP Reading Proficiency Level** | **0.13*** | 0.04 |
| | **NECAP Math Proficiency Level** | **0.14*** | 0.03 |
| | Time Spent Studying/Doing Homework | 0.14 | 0.21 |
| | School Connectedness | 0.06 | -0.01 |
| **Social and Personal Skills** | **Future Connectedness** | **0.09*** | **0.11*** |
| | Conflict Management | -0.02 | -0.09 |
| | Prosocial Behavior | 0.05 | 0.06 |
| | Presence of Supportive Adults | 0.00 | -0.11 |
| | Emotional Self-Efficacy | 0.01 | 0.04 |
| | Misconduct | -0.04 | -0.04 |
| | **Social Skills** | **0.06+** | 0.06 |
| **Healthful Activity and Nutrition** | Healthy Eating | 0.04 | 0.17 |
| | Unhealthy Eating | -0.17 | -0.03 |
| | Time Spent After School on Sedentary Activities | 0.10 | 0.17 |
| | Time Spent After School Being Physically Active | -0.03 | 0.01 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.10 | 0.03 |
| | Feeling Safe | 0.06 | 0.11 |

Notes: +p<.10, *p<.05.

Baseline differences were calculated by subtracting the comparison group value from the AfterZone participant value.

# Appendix C
# Analyses

We conducted three sets of analyses to assess the program effect of the AfterZone on participants: (1) an overall outcome analysis, (2) subgroup analyses to understand whether the AfterZone is more or less effective for youth with different background characteristics and (3) participation analyses to examine whether the AfterZone is more or less effective for youth with higher levels of participation. We briefly describe the three sets of analyses here.

## Differences in Youth Outcomes

Full Sample—The overall outcome analyses examined what effects participation in the AfterZone had on the outcome measures outlined in Appendix A. The results illustrate how the average outcomes of youth who participated in the AfterZone differed from the average outcomes of the comparison group (youth who chose not to participate in the AfterZone) while controlling for several background characteristics as well as outcome variables on which the two groups differed at baseline. While outcomes could have been estimated simply by examining differences between average scores on outcome measures for the AfterZone participants and the comparison group at the end of the sixth and seventh grades, we obtained more precise estimates by estimating outcomes using the following ordinary least squares (OLS) regression model:

$$y = \beta_0 + \beta_1 \mathrm{Pre} + \beta_2 \mathrm{AZ} + \boldsymbol{\beta}_k \mathbf{X}_k \qquad (1)$$

for K = 3, …, K baseline individual-level covariates.

where $y$ is the outcome of interest.

Pre is the baseline measure taken at the start of the study.

AZ is an indicator variable equal to 1 if the student attended the AfterZone or 0 if he or she did not.

$\beta_2$ is the estimate of the difference between AfterZone youth and comparison youth (i.e., the "program effect").

$\mathbf{X}_k$ is a vector of baseline student-level covariates.

Covariates were included in all of our analysis models to reduce variance and enable us to obtain more precise estimates of program benefits. We chose variables that were theoretically associated with the outcomes. As noted in Appendix A, these variables were minority status, gender, household structure (single-parent status), number of youth-reported stressful life events in the six months prior to the baseline survey, participation in an after-school program in the fifth grade, amount of time spent at after-school programs outside the AfterZone prior to the baseline survey, and number of days typically needed at home after school to care for younger siblings or for other responsibilities. We also included the baseline value of the outcome measure being assessed. Finally, all outcome measures for which the full sample of AfterZone youth and the comparison group significantly differed at baseline were included as covariates (absences in fifth grade, Quarter 1 grades during the 2008–09 school year in ELA courses, math and reading performance based on standardized test scores, and self-reported future connectedness).

Subgroup Analyses—We also tested whether the AfterZone had different effects on different types of youth based on their baseline characteristics (gender, academic performance in math, academic performance in reading, amount of parental/guardian supervision). To do this, we included interaction terms in equation (1) between AfterZone participation status and individual-level covariates:

$$y = \beta_0 + \beta_1 \mathrm{Pre} + \beta_2 AZ + \boldsymbol{\beta}_k \mathbf{X} + \boldsymbol{\gamma}_k \mathrm{AZ}\mathbf{X}_k \qquad (2)$$

where $\mathrm{AZ}\mathbf{X}_k$ is the interaction of the AfterZone participation variable with one of the four possible subgroup dummy variables, such as being a girl, struggling academically in math or reading, or lacking parental/guardian supervision immediately after school. All the subgroups we examined had only two categories (boys or girls, low-performing or high-performing students, youth with or without parental/guardian supervision after school).

$\beta_2$ is the estimate of the treatment effect that affects both subgroups.

$\boldsymbol{\gamma}_k$ is the estimate of the differential program effect on AfterZone participants who fall into this subgroup.

## Association Between Participation and Outcomes

For all of the analyses examining the association between participation and outcomes, we employed an OLS regression model similar to the model used for the overall outcome analysis, with slight variations depending on the specific indicator of participation. For all analyses, we also included the same set of covariates.

Dosage—To estimate the association between dosage of the AfterZone and youth outcomes, we used the following regression model:

$$y = \beta_0 + \beta_1 \text{Pre} + \beta_2 \text{Low} + \beta_3 \text{High} + \boldsymbol{\beta}_k \mathbf{X}_k \quad (3)$$

where Low is a dummy variable coded as 1 if youth attended 1 to 49 days of the AfterZone over the two years of the study and 0 if youth either attended more than 49 days of the AfterZone or did not attend at all.

High is a dummy variable coded as 1 if youth attended more than 49 days of the AfterZone and 0 if youth attended 1 to 49 days of the AfterZone or did not attend at all.

$\beta_2$ is the average difference between the comparison group and AfterZone participants who attended a low number of days.

$\beta_3$ is the average difference between the comparison group and AfterZone participants who attended a high number of days.

We also tested a planned comparison between $\beta_2$ and $\beta_3$ to determine if the outcomes for "low participants" and "high participants" differed significantly from each other.

Consistency—To estimate the association between consistency of participation in the AfterZone and outcomes, we employed the following regression model:

$$y = \beta_0 + \beta_1 \text{Pre} + \beta_2 \text{Session} + \boldsymbol{\beta}_k \mathbf{X}_k \quad (4)$$

where Session indicates the number of AfterZone sessions attended by youth. Due to the distribution of sessions, we collapsed the variable to 4 for youth who attended more than 3 sessions. Thus, Session ranged from 1 to 4.

$\beta_2$ is the estimate of the added effect of each additional session of participation.

Intensity—To estimate the association between intensity of participation in the AfterZone and youth's outcomes, we used the following regression model:

$$y = \beta_0 + \beta_1 \text{Pre} + \beta_2 \text{Intensity} + \boldsymbol{\beta}_k \mathbf{X}_k \quad (5)$$

where Intensity indicates the percentage of days that youth attended the AfterZone of the total number of days they were actually enrolled. Nonparticipants were coded as 0.

$\beta_2$ is the estimate of the added effect of each additional percentage point of participation intensity.

Breadth—To estimate the association between outcomes and the number of activity types in which youth participated, we employed the following regression model:

$$y = \beta_0 + \beta_1 \text{Pre} + \beta_2 \text{Type} + \boldsymbol{\beta}_k \mathbf{X}_k \quad (6)$$

Where Type indicates the number of types of activities in which youth participated through the AfterZone. Nonparticipants were coded as 0.

$\beta_2$ is the estimate of the added effect of each additional activity type.

Engagement—Finally, for each of the three indicators of program engagement (sense of belonging, supportive adult staff and enjoyment), we examined its association with youth outcomes using the following regression model:

$$y = \beta_0 + \beta_1 \text{Pre} + \beta_2 \text{Low} + \beta_3 \text{High} + \boldsymbol{\beta}_k \mathbf{X}_k \quad (7)$$

where Low is a dummy variable coded as 1 if youth reported low engagement in the AfterZone and 0 if youth were either nonparticipants or did participate in the AfterZone but reported high engagement.

High is a dummy variable coded as 1 if youth reported high engagement in the AfterZone and 0 if youth were either nonparticipants or did participate in the AfterZone but reported low engagement.

$\beta_2$ is the average difference between the comparison group and AfterZone participants who reported low levels of program engagement.

$\beta_3$ is the average difference between the comparison group and AfterZone participants who reported high levels of program engagement.

We also tested a planned comparison between $\beta_2$ and $\beta_3$ to determine if the outcomes for "low-engaged" and "high-engaged" participants differed significantly.

# Appendix D
# Effect Sizes

Some of the outcomes assessed in this study are measured on meaningful scales—for instance, percentage of days absent. For these variables, it is easier to interpret the practical significance of any differences we find between the AfterZone participants and their nonparticipating peers. However, most of the outcome variables presented in this report are measured on abstract scales—for instance, school connectedness is measured on a scale from 1 to 4. But what does it really mean that youth who attended the AfterZone were 0.08 units more connected to school at the end of the sixth grade than their nonparticipating peers?

"Effect size" represents one way of creating a meaningful standardized scale that can be applied across different variables. It is expressed as the standardized difference in the AfterZone youth's average score on an outcome and the comparison group's average score on the outcome.[2] As such, the effect size represents an index of how effective a particular program or treatment is. Researchers often discuss their findings in terms of *statistical* significance—i.e., their level of confidence that differences they find between groups are not simply due to chance. Effect size, however, acts as a better indicator of *practical* significance—the actual size of the difference between groups, or how well the program worked.

For many measures, study participants' responses can be plotted on curves—if these outcomes are "normally distributed" around the average score of the group, the curve has a bell shape. Effect size can be thought of as an indicator of the extent to which the curves, or distributions, of the AfterZone and comparison groups overlap. If little overlap exists between the two distributions, the effect of the program (i.e., the effect size) is large. In contrast, a small effect size indicates a great deal of overlap in the distributions of the two groups, suggesting that the groups do not differ by much. An effect size of 0.0 indicates that the averages and corresponding distributions of the two groups overlap perfectly.[3]

In this study, consider the case of school connectedness. Our analyses suggest that, relative to their nonparticipating peers, AfterZone participants' school connectedness increased by .08, yielding an effect size of .14.[4] This size of effect indicates that the distributions of AfterZone and comparison youth mostly overlap—in fact, only about 11 percent of the AfterZone youth's distribution does not overlap with the distribution of the comparison group.[5] Thus, in this example, although the AfterZone does appear to improve school connectedness, its participants would only be outperforming a small minority of their nonparticipating peers.

As illustrated in Appendix Table 3 on the next page, effect sizes in this study ranged from 0.01 to 0.15 at the end of the sixth grade and from 0.01 to 0.18 at the end of the seventh grade. Accordingly, the amount of "nonoverlap" between the distributions among all outcomes examined in this study ranged from 0 percent to approximately 14 percent.[6]

2 Cohen, J. 1988. *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillside, NJ: Lawrence Erlbaum Associates.

3 Positive effect sizes indicate that the average AfterZone youth scored higher on the outcome of interest than the average comparison youth. Conversely, negative effect sizes indicate that the average AfterZone youth scored lower than the average comparison youth.

4 The effect size for each outcome was calculated as: $(X_1 - X_2)/(\text{sqrt}((n_1\text{-}1)S_1^2 + (n_2\text{-}1)S_2^2)/(n_1+n_2\text{-}2))$, where $X_1$ and $X_2$ equal the adjusted post-test means, $n_1$ and $n_2$ equal the sample sizes, and $S_1$ and $S_2$ are the standard deviations for AfterZone and comparison youth, respectively.

5 Visit the applet at http://www.bolderstats.com/jmsl/doc/CohenD.html to calculate percentages of overlap by effect size.

6 Ibid.

## Appendix Table 3

### Effect Sizes for Outcomes at the End of the Sixth and Seventh Grades Based on Sixth Grade Participation in the AfterZone

| Domain | Outcome | Adjusted Group Difference at End of Sixth Grade | Effect Size at End of Sixth Grade | Adjusted Group Difference at End of Seventh Grade | Effect Size at End of Seventh Grade |
|---|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | **School Connectedness** | **0.08*** | **0.14** | **0.08*** | **0.15** |
| | Time Spent Studying/Doing Homework | 0.07 | 0.06 | 0.02 | 0.02 |
| | **Percentage of Days Absent** | **-0.99*** | **-0.15** | **-1.55+** | **-0.12** |
| | **Percentage of Days Tardy** | **-1.51*** | **-0.15** | -1.09 | -0.11 |
| | ELA GPA | 0.05 | 0.04 | -0.01 | -0.01 |
| | Math GPA | 0.05 | 0.03 | 0.12 | 0.09 |
| | Science GPA | 0.11 | 0.08 | 0.01 | 0.01 |
| | NECAP Reading Proficiency Level | -0.03 | -0.04 | NA | NA |
| | NECAP Math Proficiency Level | -0.01 | -0.01 | NA | NA |
| **Social and Personal Skills** | Future Connectedness | 0.04 | 0.09 | 0.00 | 0.01 |
| | **Social Skills** | **0.06+** | **0.13** | 0.03 | 0.06 |
| | Emotional Self-Efficacy | 0.05 | 0.07 | -0.03 | -0.04 |
| | Conflict Management | -0.01 | -0.01 | 0.07 | 0.09 |
| | **Prosocial Behavior** | **0.06+** | **0.12** | 0.03 | 0.06 |
| | Misconduct | -0.07 | -0.09 | 0.01 | 0.01 |
| | Presence of Supportive Adults | 0.11 | 0.08 | 0.05 | 0.03 |
| **Healthful Activity and Nutrition** | **Time Spent After School on Sedentary Activities** | **0.20** | **0.14** | **0.27*** | **0.18** |
| | **Time Spent After School Being Physically Active** | **0.22*** | **0.15** | **0.20** | **0.13** |
| | Healthy Eating | 0.16 | 0.10 | 0.18 | 0.11 |
| | Unhealthy Eating | 0.05 | 0.03 | -0.09 | -0.05 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.07 | 0.07 | -0.06 | -0.06 |
| | **Feeling Safe** | **0.14*** | **0.15** | 0.08 | 0.08 |

Note: Columns 1 and 3 indicate the difference between the AfterZone youth and the comparison youth at the end of the sixth and seventh grades, respectively, after adjusting for several baseline characteristics. Columns 2 and 4 show the effect sizes of these group differences, or the standardized group differences, at the end of the sixth and seventh grades, respectively.

As noted in Chapter 5, we compared the effect sizes in this study with the average impact of after-school programs based on the meta-analysis conducted by Durlak, Weissberg and Pachan. Column 1 of Appendix Table 4 summarizes all the differences between AfterZone youth and nonparticipants that were statistically significant at the end of the sixth grade. Column 2 shows the group difference, or program effect in this study, in terms of the *observed* effect size. And Column 3 shows the expected effect size, or the benchmark to which we are comparing AfterZone effects.

## Appendix Table 4
## Observed and Expected Sizes of Significant AfterZone Program Effects at the End of the Sixth Grade

| Outcome Variable (Response Scale) | Adjusted Group Difference | Observed Effect Size[a] | Expected Effect Size[b] |
|---|---|---|---|
| School Connectedness (1–4) | 0.08* | 0.14 | 0.14* |
| Percentage of Days Absent | -0.99* | 0.15 | 0.10 |
| Percentage of Days Tardy | -1.51* | 0.15 | 0.10 |
| Community Awareness: Feeling Safe (1–4) | 0.14* | 0.15 | NA |
| Social Skills (1–4) | 0.06+ | 0.13 | 0.19* |
| Prosocial Behavior (1–4) | 0.06+ | 0.12 | 0.19* |
| Time Spent After School on Sedentary Activities (1–5) | 0.20+ | 0.14 | NA |
| Time Spent After School Being Physically Active (1–5) | 0.22* | 0.15 | NA |

Note: +p<.10; *p<.05.

a Observed effect size is based on the program effect observed in this study.

b Expected effect size is based on the average effect size of after-school programs calculated by Durlak, Weissberg and Pachan (2010).

# Appendix E
# Accounting for Baseline Group Differences

The most reliable method to assess the extent to which a program causes behavioral changes in its participants is a random assignment study, for which applicants would be selected to participate in the AfterZone or not at random. This design would ensure (if the groups were large enough) that AfterZone participants and nonparticipants would be, on average, identical on all observable and unobservable characteristics except for their involvement in the AfterZone; any differences in average outcomes between the two groups could therefore be attributed to the AfterZone.

In this evaluation, we were unable to implement a random assignment design for two reasons. First, excluding a large number of youth from participating in the AfterZone would directly oppose PASA's mission, which is to increase the accessibility of after-school programs to youth. Second, the AfterZone does not typically experience a large surplus of potential participants, a necessary condition for successful random assignment.

As a result, we instead employed a comparison group design (a quasi-experiment) in which the outcomes of AfterZone participants were compared with outcomes of similar peers who chose not to participate. The latter constitute the "comparison group." The determination of who participates in the AfterZone is not done randomly; rather it is systematically related to a characteristic of the youth. As such, it is more difficult to know definitively that differences in outcomes between AfterZone participants and comparison group members are actually *caused* by the AfterZone due to possible selection bias.

The What Works Clearinghouse (WWC) of the US Department of Education stipulates guidelines for quasi-experimental studies, such as this evaluation, as to how to assess the comparability of program participants and nonparticipants to ultimately determine the extent to which selection bias may be a significant concern. Here we discuss how our data compare to these established standards. We also describe sensitivity analyses we conducted to increase our level of confidence in our outcome analyses.

## Meeting WWC Standards of Evidence for Quasi-Experimental Studies

The WWC requires that all quasi-experimental studies demonstrate that program participants and nonparticipants are, in fact, similar at the start of the study to avoid selection bias. The WWC guidelines indicate that, regardless of the statistical significance of baseline group differences, program and comparison groups cannot differ by more than 0.25 of a standard deviation on any measured characteristic (based on the variation of that characteristic in the pooled sample) and that any group differences greater than a standard deviation of 0.05 must be statistically adjusted for in the outcome analysis.[7]

As noted in Chapter 4, we estimated differences between youth who participated in the AfterZone and youth who chose not to participate during the sixth grade and found five statistically significant differences. However, as shown in Appendix Table 5, all standardized group differences ("effect sizes") fell within the acceptable range (standard deviations less than 0.25), suggesting that the analyses in this evaluation do not suffer from significant selection bias. Further, as noted in Appendix C, all of the analyses in this study included the baseline outcome variable as a covariate, even for outcomes on which the two groups differed by standard deviations of less than 0.05. All outcome analyses also included as covariates those five variables that yielded statistically significant differences between the two groups at baseline.

## Propensity Score Matching

Although WWC standards did not require it, we conducted additional sensitivity analyses to bolster our confidence in our results. We reanalyzed our data using a reduced sample in which AfterZone youth were statistically matched with nonparticipants who were most similar to them based on propensity scores.[8] For this study, we based our propensity score estimates on all of the outcome variables assessed at baseline as well as the background variables included as covariates in our outcome analyses (see Appendix C for a list of these variables). Comparison youth (nonparticipants) were then matched to their most similar AfterZone participant based on their propensity score. To be matched, AfterZone and comparison youth must have been within

7 US Department of Education, Institute of Education Sciences (IES). 2008. *WWC Procedures and Standards Handbook.* Retrieved 11/6/2010 from the IES at http://ies.ed.gov/ncee/wwc/references/idocviewer/Doc.aspx?docId=19&tocId=4#equivalence.

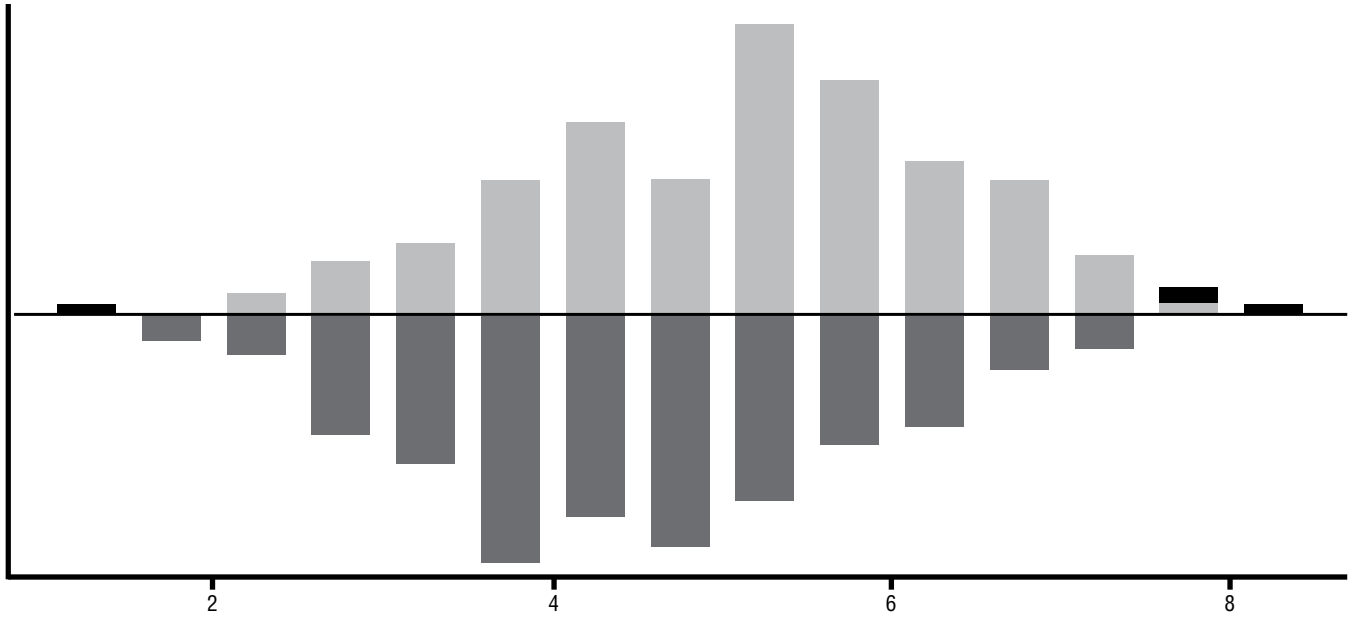
8 Propensity scores represent the likelihood that youth would have chosen to participate in the AfterZone based on their observed background characteristics (i.e., those that were measured in this study). It is important to note, however, that causality can only be assumed when the propensity score accounts for *all* differences between program participants and comparison group youth, which is most often an unfounded assumption. Nonetheless, propensity scores can increase confidence in the results for this study.

## Appendix Table 5
## Standardized Group Differences at Baseline on All Outcome Variables

| Domain | Outcome | Group Difference | Effect Size |
|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.05 | 0.09 |
| | Time Spent Studying/Doing Homework | 0.14 | 0.11 |
| | **Number of Days Absent in 2007–08 School Year (Fifth Grade)** | **-2.30**** | **0.21** |
| | Number of Days Tardy in 2007–08 School Year (Fifth Grade) | -0.39 | 0.04 |
| | **ELA GPA in Quarter 1 of 2008–09 School Year** | **0.20*** | **0.17** |
| | Math GPA in Quarter 1 of 2008–09 School Year | 0.18 | 0.12 |
| | Science GPA in Quarter 1 of 2008–09 School Year | 0.16 | 0.12 |
| | **NECAP Reading Proficiency Level** | **0.15*** | **0.17** |
| | **NECAP Math Proficiency Level** | **0.15*** | **0.18** |
| **Social and Personal Skills** | **Future Connectedness** | **0.10**** | **0.21** |
| | Social Skills | 0.06 | 0.12 |
| | Emotional Self-Efficacy | 0.00 | 0.00 |
| | Conflict Management | -0.03 | 0.03 |
| | Prosocial Behavior | 0.04 | 0.08 |
| | Misconduct | -0.03 | 0.04 |
| | Presence of Supportive Adults | -0.02 | 0.01 |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 0.13 | 0.08 |
| | Time Spent Being Physically Active | -0.02 | 0.01 |
| | Healthy Eating | 0.04 | 0.02 |
| | Unhealthy Eating | -0.15 | 0.08 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.09 | 0.08 |
| | Feeling Safe | 0.04 | 0.04 |

Note: *p<.05, **p<.01.

**Appendix Figure 1**
**Distribution of Propensity Scores Among the Matched Sample**




Source: Stata 11, using the command "psgraph," created by Edwin Leuven, École Nationale de la Statistique et de l'Administration Économique.

the region of common support (i.e., have overlapping propensity scores); this process yielded a final analysis sample of 556 youth.[9] Appendix Figure 1 shows the high degree of overlap in propensity scores between the AfterZone participants (shown in light grey) and the matched comparison group (shown in dark grey), illustrating the comparability of the two groups.

Because the sample size decreased significantly after matching, our power (or ability to detect group differences) also declined. As such, we focus our interpretation of the sensitivity analyses on the direction of group differences and their consistency with those of the full sample (outcomes for which we found significant group differences among the full sample are bolded in Appendix Table 6). For the most part, the sensitivity analyses using only the matched sample yielded results similar in direction to those of the full sample.

Two notable changes, however, emerged for tardiness and prosocial behavior (see the highlighted rows in Appendix Table 6). While the outcome analyses suggested that AfterZone youth were tardy on significantly fewer days and were more prosocial than comparison youth, results from the sensitivity analyses suggest that there may not be any differences between the two groups at the end of the sixth grade after all.

9 We employed nearest neighbor (1:1) matching with replacement and imposed common support using the following settings: (1) We dropped AfterZone participants whose propensity score was higher than the maximum or lower than the minimum propensity score of nonparticipants (i.e., outside the region of common support); (2) we dropped 5 percent of the AfterZone participants whose propensity score overlapped with the lowest density of nonparticipants; and (3) we restricted matching to those nonparticipants who were within one-quarter units from the standard deviation of the AfterZone participants' propensity scores. Study participants outside the region of common support are shown in black in Appendix Figure 1.

## Appendix Table 6

### Adjusted Group Differences Between AfterZone Participants and Nonparticipants at the End of the Sixth Grade

| Domain | Outcome | Adjusted Group Difference Among Matched Sample | Adjusted Group Difference Among Unmatched Sample |
|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | **School Connectedness** | **0.05** | **0.08** |
| | Time Spent Studying/Doing Homework | 0.16 | 0.07 |
| | **Percentage of Days Absent in 2008–09 School Year** | **-0.65** | **-0.99** |
| | **Percentage of Days Tardy in 2008–09 School Year** | **0.03** | **-1.51** |
| | ELA GPA in Quarters 2–4 of 2008–09 School Year | 0.14 | 0.05 |
| | Math GPA in Quarters 2–4 of 2008–09 School Year | 0.14 | 0.05 |
| | Science GPA in Quarters 2–4 of 2008–09 School Year | 0.14 | 0.11 |
| | NECAP Reading Proficiency Level | 0.05 | -0.03 |
| | NECAP Math Proficiency Level | 0.11 | -0.01 |
| **Social and Personal Skills** | Future Connectedness | -0.01 | 0.04 |
| | **Social Skills** | **0.03** | **0.06** |
| | Emotional Self-Efficacy | -0.02 | 0.05 |
| | Conflict Management | 0.01 | -0.01 |
| | **Prosocial Behavior** | **-0.02** | **0.06** |
| | Misconduct | 0.01 | -0.07 |
| | Presence of Supportive Adults | -0.18 | 0.11 |
| **Healthful Activity and Nutrition** | **Time Spent After School on Sedentary Activities** | **0.23** | **0.20** |
| | **Time Spent Being Physically Active** | **0.24** | **0.22** |
| | Healthy Eating | 0.15 | 0.16 |
| | Unhealthy Eating | 0.2 | 0.05 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.04 | 0.07 |
| | **Feeling Safe** | **0.16** | **0.14** |

# Appendix F
# Subgroup Analyses

As we noted in Chapters 4 and 5, we found limited evidence that youth experienced differential benefits from AfterZone participation based on their background characteristics. In this appendix, we summarize the full set of findings for outcomes by gender, academic performance in math and reading (based on NECAP scores) and parental/guardian supervision after school at the end of the sixth and seventh grades.

## End of Sixth Grade

### Academic Proficiency

Although the AfterZone is not a network of programs with a *direct* focus on academics, it does provide academic enrichment to its participants—particularly through the activities offered during Club AfterZone (CAZ). Indeed, the results described earlier in Chapter 4 suggest that participation in the AfterZone can, in fact, lead to improvements in school-related outcomes. Youth who are struggling academically are more likely to be disengaged from school and to demonstrate poorer attendance habits. Therefore, participation in the AfterZone may be *particularly* beneficial for these youth.

We examined the possibility of differential benefits for low- and high-performing youth and found some support for stronger program benefits among low-performing students, particularly those struggling in reading.[10] As shown in Appendix Table 7, AfterZone youth who were not proficient in reading fared better at the end of the sixth grade than their nonparticipating peers who were experiencing the same difficulties. Specifically, they had fewer absences and days tardy, a stronger connection to school, greater social and personal skills, and more time spent being physically active. A similar pattern emerged among students performing below proficiency in math (see Appendix Table 8 on page 77): AfterZone youth had fewer absences and days tardy, a stronger connection to school, and greater social and personal skills.

The pattern was somewhat less clear among high-performing students. Although AfterZone youth with high proficiency in reading were faring better than their peers in only one outcome (future connectedness), those demonstrating high achievement in math were also reporting greater adult support, greater future connectedness and more time spent studying and being physically active relative to their high-achieving peers at the end of the sixth grade.

When comparing the outcomes of low- and high-performing students, however, we found no strong evidence that the AfterZone yields significantly stronger benefits for one group over the other. The benefit for students struggling in reading was significantly larger on only absences. The benefit for students struggling in math was significantly larger only for emotional self-efficacy, while benefits for high-achieving students in math were significantly larger for NECAP reading proficiency and the amount of time they devoted to studying or doing homework.

10 "Low-performing" students are those scoring below grade-level proficiency on the NECAP math or reading standardized test. "High-performing" students are those scoring at or above expected grade-level proficiency.

## Appendix Table 7
## Differential Outcomes by Level of Academic Proficiency in Reading at the End of the Sixth Grade

| Domain | Outcome | Effect on Low Performers in Reading | Effect on High Performers in Reading | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | **0.11*** | 0.05 | No |
| | Time Spent Studying/Doing Homework | 0.06 | 0.09 | No |
| | Percentage of Days Absent in 2008–09 School Year | **-1.61**** | -0.11 | **YES+** |
| | Percentage of Days Tardy in 2008–09 School Year | **-2.46**** | -0.11 | No |
| | ELA GPA in Quarters 2–4 of 2008–09 School Year | 0.06 | 0.03 | No |
| | Math GPA in Quarters 2–4 of 2008–09 School Year | 0.10 | 0.00 | No |
| | Science GPA in Quarters 2–4 of 2008–09 School Year | 0.07 | 0.15 | No |
| | NECAP Reading Proficiency Level | -0.04 | -0.04 | No |
| | NECAP Math Proficiency Level | -0.07 | -0.16 | No |
| **Social and Personal Skills** | Future Connectedness | 0.00 | **0.09+** | No |
| | Social Skills | **0.08+** | 0.03 | No |
| | Emotional Self-Efficacy | **0.13*** | -0.03 | No |
| | Conflict Management | 0.02 | -0.04 | No |
| | Prosocial Behavior | 0.05 | 0.06 | No |
| | Misconduct | -0.06 | -0.09 | No |
| | Presence of Supportive Adults | 0.03 | 0.22 | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | **0.25+** | 0.12 | No |
| | Time Spent After School Being Physically Active | **0.30*** | 0.12 | No |
| | Healthy Eating | 0.07 | 0.29 | No |
| | Unhealthy Eating | 0.11 | -0.02 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.11 | 0.02 | No |
| | Feeling Safe | 0.13 | 0.16 | No |

Note: +p<.10, *p<.05, **p<.01.

## Appendix Table 8
## Differential Outcomes by Level of Academic Proficiency in Math at the End of the Sixth Grade

| Domain | Outcome | Effect on Low Performers in Math | Effect on High Performers in Math | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | **0.10*** | 0.01 | No |
| | Percentage of Days Absent in 2008–09 School Year | **-1.10*** | -0.65 | No |
| | Percentage of Days Tardy in 2008–09 School Year | **-1.65*** | -0.91 | No |
| | ELA GPA in Quarters 2–4 of 2008–09 School Year | 0.05 | 0.06 | No |
| | Math GPA in Quarters 2–4 of 2008–09 School Year | 0.04 | 0.09 | No |
| | Science GPA in Quarters 2–4 of 2008–09 School Year | 0.11 | 0.09 | No |
| | NECAP Reading Proficiency Level | -0.08 | 0.11 | **YES+** |
| | NECAP Math Proficiency Level | -0.06 | 0.13 | No |
| | Time Spent Studying/Doing Homework | -0.03 | **0.38*** | **YES+** |
| **Social and Personal Skills** | Future Connectedness | 0.02 | **0.11+** | No |
| | Social Skills | 0.06 | 0.06 | No |
| | Emotional Self-Efficacy | **0.11*** | -0.10 | **YES+** |
| | Conflict Management | 0.00 | 0.00 | No |
| | Prosocial Behavior | 0.06 | 0.05 | No |
| | Misconduct | -0.10 | 0.00 | No |
| | Presence of Supportive Adults | 0.02 | **0.39+** | No |
| **Healthful Activity and Nutrition** | Healthy Eating | 0.10 | 0.35 | No |
| | Unhealthy Eating | -0.04 | 0.31 | No |
| | Time Spent After School on Sedentary Activities | 0.18 | 0.24 | No |
| | Time Spent After School Being Physically Active | 0.17 | **0.40+** | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.05 | 0.11 | No |
| | Feeling Safe | 0.13 | 0.16 | No |

Note: +p<.10, *p<.05.

### Gender

Early adolescence marks a developmental period of increased differentiation in interests and activities between boys and girls. Likewise, in this study, girls participating in the AfterZone were significantly more likely than boys to enroll in arts activities (46 percent compared with 18 percent) and skills-related activities (39 percent compared with 29 percent), while boys were more likely than girls to enroll in sports (46 percent compared with 40 percent).[11] As such, it is possible that boys and girls may have been differentially affected by their participation in the AfterZone.

Our results, shown in Appendix Table 9 on the next page, provide some—though limited—support for the idea of differential effects by gender. Benefits for girls were stronger for school-related outcomes, while for boys they were stronger for social and personal outcomes. Specifically, girls enrolled in the AfterZone had significantly fewer absences and days tardy than their nonparticipating female peers; however, these benefits were not significantly larger than the benefit experienced by boys. AfterZone girls also reported spending significantly more time on sedentary activities than their peers. For their part, AfterZone boys reported higher social and personal skills and lower engagement in misconduct than their male peers.

When comparing the outcomes of boys and girls, we found that boys benefited more in terms of their emotional self-efficacy, use of negative conflict management strategies, the amount of time they spent on sedentary activities and their engagement in misconduct. Taken together, these results suggest that boys may have benefited more from their participation in the AfterZone than did girls.

### Parental/Guardian Supervision

Nearly half of the AfterZone participants (43 percent) in this study reported lacking parental/guardian supervision from 3 p.m. to 6 p.m. It is therefore possible that the youth who stand to benefit most from having a structured, supervised, safe environment to visit immediately after school ends are those who lack parent/guardian supervision during that window. Without the option of after-school programs, the only alternative for many of these youth may be hanging out with friends in unsupervised settings, participating in unproductive or even delinquent activities.

Our results in Appendix Table 10 on page 80, however, do not provide strong support for this theory. While AfterZone youth lacking parental/guardian supervision during the hours after school reported greater connectedness to school and the future and were tardy fewer days than their nonparticipating peers, AfterZone youth who had parental/guardian supervision during those hours also experienced positive effects. They reported greater adult support, more time spent being physically active, more prosocial behavior and fewer absences than their peers who did not participate in the AfterZone. When comparing the effects between the two subgroups, we found only one statistically significant difference: AfterZone youth with after-school supervision reported spending more time being physically active during the after-school hours than their peers, while AfterZone youth lacking supervision were no different from their peers.

11 Gender differences were significant at $p<.0001$ for arts, $p<.01$ for skills and $p<.10$ for sports.

## Appendix Table 9
## Differential Outcomes for Boys and Girls at the End of the Sixth Grade

| Domain | Outcome | Effect on Girls | Effect on Boys | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.08 | 0.09 | No |
| | Percentage of Days Absent in 2008–09 School Year | **-1.49*** | -0.49 | No |
| | Percentage of Days Tardy in 2008–09 School Year | **-1.85+** | -1.16 | No |
| | ELA GPA in Quarters 2–4 of 2008–09 School Year | -0.02 | 0.12 | No |
| | Math GPA in Quarters 2–4 of 2008–09 School Year | -0.02 | 0.13 | No |
| | Science GPA in Quarters 2–4 of 2008–09 School Year | 0.06 | 0.16 | No |
| | NECAP Reading Proficiency Level | -0.02 | -0.04 | No |
| | NECAP Math Proficiency Level | -0.01 | -0.01 | No |
| | Time Spent Studying/Doing Homework | 0.10 | 0.05 | No |
| **Social and Personal Skills** | Future Connectedness | 0.06 | 0.02 | No |
| | Social Skills | 0.02 | **0.09*** | No |
| | Emotional Self-Efficacy | -0.03 | **0.16*** | **YES*** |
| | Conflict Management | 0.08 | -0.10 | **YES+** |
| | Prosocial Behavior | 0.03 | 0.08 | No |
| | Misconduct | 0.05 | **-0.20**** | **YES*** |
| | Presence of Supportive Adults | 0.21 | 0.01 | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | **0.47**** | -0.08 | **YES**** |
| | Time Spent After School Being Physically Active | 0.22 | 0.23 | No |
| | Healthy Eating | 0.12 | 0.20 | No |
| | Unhealthy Eating | 0.01 | 0.08 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.02 | 0.12 | No |
| | Feeling Safe | 0.11 | **0.17+** | No |

Note: +p<.10, *p<.05, **p<.01.

## Appendix Table 10
## Differential Outcomes for Youth With and Without After-School Supervision at the End of the Sixth Grade

| Domain | Outcome | Effect on Youth With No After-School Supervision | Effect on Youth With After-School Supervision | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | **0.11+** | 0.07 | No |
| | Percentage of Days Absent in 2008–09 School Year | -0.19 | **-1.54**** | No |
| | Percentage of Days Tardy in 2008–09 School Year | **-2.43*** | -0.87 | No |
| | ELA GPA in Quarters 2–4 of 2008–09 School Year | 0.12 | 0.00 | No |
| | Math GPA in Quarters 2–4 of 2008–09 School Year | 0.13 | 0.00 | No |
| | Science GPA in Quarters 2–4 of 2008–09 School Year | 0.15 | 0.08 | No |
| | NECAP Reading Proficiency Level | -0.03 | -0.03 | No |
| | NECAP Math Proficiency Level | -0.07 | 0.03 | No |
| | Time Spent Studying/Doing Homework | 0.01 | 0.12 | No |
| **Social and Personal Skills** | Future Connectedness | **0.10*** | 0.00 | No |
| | Social Skills | 0.05 | 0.06 | No |
| | Emotional Self-Efficacy | 0.05 | 0.07 | No |
| | Conflict Management | -0.06 | 0.03 | No |
| | Presence of Supportive Adults | -0.08 | **0.25+** | No |
| | Prosocial Behavior | 0.01 | **0.09*** | No |
| | Misconduct | -0.08 | -0.07 | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 0.16 | 0.22 | No |
| | Time Spent After School Being Physically Active | 0.01 | 0.12 | No |
| | Healthy Eating | 0.11 | 0.20 | No |
| | Unhealthy Eating | 0.21 | -0.07 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.02 | 0.11 | No |
| | Feeling Safe | 0.17 | 0.12 | No |

Note: +p<.10, *p<.05, **p<.01.

## End of Seventh Grade

As noted in Chapter 5, we tested for differential effects among these same subgroups at the end of the seventh grade and found similar results.

### Academic Proficiency

As shown in Appendix Table 11, AfterZone youth who were not proficient in reading demonstrated better school performance in math and had fewer absences in the seventh grade than their peers who had never participated in the AfterZone and were experiencing the same academic struggles. A similar pattern emerged among students performing below proficiency in math: AfterZone youth had fewer absences, were earning better grades in both math and science, and were more physically active (see Appendix Table 12 on page 83).

As with the year-one subgroup analyses, the pattern was somewhat less clear among high-performing students. Although AfterZone youth with high proficiency in reading were faring better than their peers academically (in terms of their math and science GPA), they also reported having fewer positive adult supports and spending less time being physically active. Those AfterZone youth demonstrating high achievement in math only reported eating more healthfully than their high-performing peers.

When comparing the effects between the two subgroups, we found only one statistically significant difference based on reading performance: High-performing AfterZone youth experienced bigger benefits in science. We also found that AfterZone participants who were high-performers in math experienced bigger benefits in social skills.

## Appendix Table 11
## Differential Outcomes by Level of Academic Performance in Reading at the End of the Seventh Grade

| Domain | Outcome | Effect on Low Performers in Reading | Effect on High Performers in Reading | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.06 | 0.04 | No |
| | Percentage of Days Absent in 2009–10 School Year | **-2.97*** | -1.94 | No |
| | Percentage of Days Tardy in 2009–10 School Year | -0.88 | -0.63 | No |
| | ELA GPA in 2009–10 School Year | 0.03 | 0.19 | No |
| | Math GPA in 2009–10 School Year | **0.30*** | **0.29+** | No |
| | Science GPA in 2009–10 School Year | 0.03 | **0.43*** | **YES+** |
| | Time Spent Studying/Doing Homework | -0.07 | 0.17 | No |
| **Social and Personal Skills** | Future Connectedness | 0.02 | 0.07 | No |
| | Social Self-Efficacy | -0.04 | 0.06 | No |
| | Emotional Self-Efficacy | -0.02 | 0.03 | No |
| | Conflict Management | 0.09 | 0.03 | No |
| | Prosocial Behavior | -0.05 | 0.03 | No |
| | Misconduct | 0.09 | -0.05 | No |
| | Presence of Supportive Adults | 0.19 | **0.35+** | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 0.19 | 0.29 | No |
| | Time Spent After School Being Physically Active | 0.26 | **0.35+** | No |
| | Healthy Eating | 0.09 | 0.37 | No |
| | Unhealthy Eating | 0.02 | 0.27 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.06 | -0.11 | No |
| | Feeling Safe | 0.20 | -0.03 | No |

Note: +p<.10, *p<.05.

## Appendix Table 12
## Differential Outcomes by Level of Academic Performance in Math at the End of the Seventh Grade

| Domain | Outcome | Effect on Low Performers in Math | Effect on Youth High Performers in Math | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.09 | -0.08 | No |
| | Percentage of Days Absent in 2009–10 School Year | **-2.88**** | -1.24 | No |
| | Percentage of Days Tardy in 2009–10 School Year | -1.12 | 0.66 | No |
| | ELA GPA in 2009–10 School Year | 0.18 | -0.18 | No |
| | Math GPA in 2009–10 School Year | **0.35**** | 0.12 | No |
| | Science GPA in 2009–10 School Year | **0.28*** | -0.09 | No |
| | Time Spent Studying/Doing Homework | -0.01 | 0.17 | No |
| **Social and Personal Skills** | Future Connectedness | 0.07 | -0.06 | No |
| | Social Skills | -0.05 | 0.13 | **YES+** |
| | Emotional Self-Efficacy | -0.01 | 0.01 | No |
| | Conflict Management | 0.06 | 0.06 | No |
| | Prosocial Behavior | -0.03 | 0.04 | No |
| | Misconduct | 0.01 | 0.13 | No |
| | Presence of Supportive Adults | 0.20 | 0.40 | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 0.16 | 0.38 | No |
| | Time Spent After School Being Physically Active | **0.27+** | 0.40 | No |
| | Healthy Eating | 0.10 | **0.51+** | No |
| | Unhealthy Eating | 0.03 | 0.38 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.06 | -0.16 | No |
| | Feeling Safe | 0.16 | -0.10 | No |

Note: +p<.10, *p<.05, **p<.01.

## Appendix Table 13
## Differential Outcomes for Boys and Girls at the End of the Seventh Grade

| Domain | Outcome | Effect on Girls | Effect on Boys | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.08 | 0.04 | No |
| | Percentage of Days Absent in 2009–10 School Year | **-3.64*** | -2.24 | No |
| | Percentage of Days Tardy in 2009–10 School Year | **-2.62+** | -0.37 | No |
| | ELA GPA in 2009–10 School Year | 0.02 | 0.16 | No |
| | Math GPA in 2009–10 School Year | **0.32*** | 0.23 | No |
| | Science GPA in 2009–10 School Year | 0.19 | 0.10 | No |
| | Time Spent Studying/Doing Homework | -0.07 | 0.16 | No |
| **Social and Personal Skills** | Future Connectedness | 0.00 | 0.08 | No |
| | Social Skills | -0.01 | 0.02 | No |
| | Emotional Self-Efficacy | -0.12 | 0.08 | No |
| | Conflict Management | 0.11 | 0.05 | No |
| | Prosocial Behavior | -0.03 | -0.03 | No |
| | Misconduct | 0.02 | 0.11 | No |
| | Presence of Supportive Adults | 0.16 | 0.16 | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 0.33 | **0.42*** | No |
| | Time Spent After School Being Physically Active | 0.16 | **0.52**** | No |
| | Healthy Eating | 0.09 | 0.31 | No |
| | Unhealthy Eating | 0.25 | 0.15 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.10 | -0.16 | No |
| | Feeling Safe | 0.15 | 0.06 | No |

Note: +p<.10, *p<.05, **p<.01.

### Gender

At the end of the first school year, we saw that girls who participated in the AfterZone demonstrated significantly better attendance than their nonparticipating female peers, while boys who participated in the AfterZone experienced benefits that were primarily socio-emotional. A consistent set of findings emerged at the end of the seventh grade for girls: Female AfterZone participants continued to demonstrate better attendance (in terms of absences and tardiness) and earned higher grades in math than their female peers (see Appendix Table 13). Boys who participated in the AfterZone, however, did not continue to experience clear benefits: While they reported spending more time engaging in sports and other exercise, they also reported greater involvement in sedentary activities. Further, when comparing the effects for boys and girls, we found no significant differences, suggesting that in their second year of AfterZone participation, boys and girls experienced comparable levels of benefits.

## Appendix Table 14
### Differential Outcomes for Youth With and Without After-School Supervision at the End of the Seventh Grade

| Domain | Outcome | Effect on Youth With After-School Supervision | Effect on Youth With No After-School Supervision | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.01 | 0.09 | No |
| | Percentage of Days Absent in 2009–10 School Year | -2.33 | **-3.33**** | No |
| | Percentage of Days Tardy In 2009–10 School Year | **-2.59+** | -0.86 | No |
| | ELA GPA in 2009–10 School Year | -0.04 | 0.18 | No |
| | Math GPA in 2009–10 School Year | 0.13 | **0.38**** | No |
| | Science GPA in 2009–10 School Year | 0.03 | 0.21 | No |
| | Time Spent Studying/Doing Homework | 0.10 | 0.02 | No |
| **Social and Personal Skills** | Future Connectedness | -0.03 | 0.08 | No |
| | Social Skills | -0.07 | 0.06 | No |
| | Emotional Self-Efficacy | 0.04 | -0.05 | No |
| | Conflict Management | 0.06 | 0.09 | No |
| | Prosocial Behavior | **-0.14+** | 0.03 | **YES+** |
| | Misconduct | 0.14 | 0.01 | No |
| | Presence of Supportive Adults | -0.07 | 0.28 | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 0.25 | **0.43*** | No |
| | Time Spent After School Being Physically Active | **0.46*** | 0.24 | No |
| | Healthy Eating | 0.02 | 0.29 | No |
| | Unhealthy Eating | **0.67**** | -0.11 | **YES*** |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.19 | -0.11 | No |
| | Feeling Safe | -0.02 | 0.18 | No |

Note: +p<.10, *p<.05, **p<.01

#### Parental/Guardian Supervision

As with the subgroup findings at the end of the sixth grade, after seventh grade, we again failed to find clear evidence that youth who lack parental/guardian supervision during the after-school hours benefit more or less from their participation in the AfterZone relative to their peers who did not participate (see Appendix Table 14). When comparing the program effects between the two subgroups, we found only two statistically significant differences: AfterZone youth with after-school supervision reported eating significantly less healthfully and behaving less prosocially than their peers, while those lacking supervision did not differ from their peers in these areas.

# Appendix G
# Two-Year AfterZone Participants

In Chapter 5, we compared the program effects for youth who participated in the AfterZone for two school years with those who did not participate at all. We conducted analyses to ensure that these two groups of youth were comparable at the start of the study. Results (shown in Appendix Table 15) reveal that the two groups differed on only two outcome variables at the start of the study. Two-year AfterZone participants reported being more connected to the future and earned higher grades in ELA courses than youth who chose not to participate at all. These findings suggest that the two groups of youth are comparable on characteristics measured in this study.

## Appendix Table 15
## Baseline Differences Among Two-Year AfterZone Participants and Nonparticipants

| Domain | Outcome | Baseline Average Among Youth Who Never Participated | Baseline Average Among Two-Year Participants | Group Difference |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 3.10 | 3.11 | 0.01 |
| | Time Spent Studying/Doing Homework | 1.81 | 2.02 | 0.21 |
| | Number of Days Absent in Fifth Grade | 12.13 | 9.93 | -2.20 |
| | Number of Days Tardy in Fifth Grade | 6.23 | 5.40 | -0.83 |
| | Math GPA in Quarter 1 of Sixth Grade | 3.94 | 4.06 | 0.12 |
| | ELA GPA in Quarter 1 of Sixth Grade | 4.03 | 4.26 | **0.23*** |
| | Science GPA in Quarter 1 of Sixth Grade | 4.21 | 4.25 | 0.04 |
| | NECAP Reading Proficiency | 2.15 | 2.19 | 0.04 |
| | NECAP Math Proficiency | 1.72 | 1.75 | 0.03 |
| **Social and Personal Skills** | Future Connectedness | 3.47 | 3.58 | **0.11*** |
| | Conflict Management | 2.62 | 2.51 | -0.11 |
| | Prosocial Behavior | 3.33 | 3.37 | 0.04 |
| | Presence of Supportive Adults | 2.64 | 2.54 | -0.10 |
| | Social Skills | 3.13 | 3.18 | 0.05 |
| | Emotional Self-Efficacy | 2.82 | 2.83 | 0.01 |
| | Misconduct | 1.78 | 1.73 | -0.05 |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 2.80 | 3.03 | 0.24 |
| | Time Spent After School Being Physically Active | 2.54 | 2.51 | -0.03 |
| | Healthy Eating | 4.44 | 4.61 | 0.16 |
| | Unhealthy Eating | 4.10 | 4.09 | 0.00 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 2.94 | 2.99 | 0.05 |
| | Feeling Safe | 3.14 | 3.23 | 0.09 |

Note: *p<.05.

# Appendix H
# Participation Analyses

Chapter 6 summarized the significant associations found between youth outcomes at the end of seventh grade and several indicators of AfterZone participation—including amount, breadth and engagement—among two-year AfterZone participants and youth who never participated. Here we present the full set of findings. (See Appendix C for a description of the approach employed for each of these analyses.)

## Appendix Table 16
## Association Between Dosage and Youth Outcomes at the End of the Seventh Grade

| Domain | Outcome | Low Dosage (Fewer Than 50 Days Over Two School Years) | High Dosage (50 Days or More Over Two School Years) | Are the Indicators Significantly Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.06 | 0.07 | No |
| | Percentage of Days Absent in 2009–10 School Year | -1.72 | **-4.22**** | No |
| | Percentage of Days Tardy in 2009–10 School Year | -1.18 | -1.67 | No |
| | ELA GPA in 2009–10 School Year | -0.12 | **0.30*** | **YES*** |
| | Math GPA in 2009–10 School Year | 0.03 | **0.48***** | **YES**** |
| | Science GPA in 2009–10 School Year | -0.18 | **0.38*** | **YES**** |
| | Time Spent Studying/Doing Homework | -0.24 | **0.31*** | **YES**** |
| **Social and Personal Skills** | Future Connectedness | -0.02 | 0.10 | No |
| | Social Skills | -0.04 | 0.03 | No |
| | Emotional Self-Efficacy | -0.02 | -0.04 | No |
| | Conflict Management | -0.01 | 0.15 | No |
| | Prosocial Behavior | -0.01 | -0.05 | No |
| | Misconduct | 0.12 | 0.04 | No |
| | Presence of Supportive Adults | 0.10 | 0.27 | No |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | 0.18 | **0.59**** | **YES+** |
| | Time Spent After School Being Physically Active | 0.08 | **0.63***** | **YES*** |
| | Healthy Eating | 0.14 | 0.27 | No |
| | Unhealthy Eating | 0.13 | 0.21 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.19 | -0.10 | No |
| | Feeling Safe | 0.14 | 0.07 | No |

Notes: +p<.10, *p<.05, **p<.01, ***p<.001.

The comparison group represents the reference group in these analyses. The results presented in this table are unstandardized regression coefficients. All analyses controlled for the following variables at baseline: minority status, gender, single-parent status, number of youth-reported stressful life events in the six months prior to the baseline survey, participation in an after-school program in the fifth grade, amount of time spent at after-school programs outside the AfterZone prior to the baseline survey, number of days typically needed at home after school to care for younger siblings or for other responsibilities, number of absences in fifth grade, quarter-one grades during the 2008–09 school year in ELA courses, math and reading performance based on standardized test scores, self-reported future connectedness and the baseline value of the outcome measure being assessed.

## Appendix Table 17

### Association Between the Number of Types of AfterZone Activities in Which Youth Participated and Youth Outcomes at the End of the Seventh Grade

| Domain | Outcome | Number of Activity Types |
|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | **0.04+** |
| | Percentage of Days Absent in 2009–10 School Year | **-1.32**** |
| | Percentage of Days Tardy in 2009–10 School Year | **-0.70+** |
| | ELA GPA in 2009–10 School Year | 0.05 |
| | Math GPA in 2009–10 School Year | **0.13**** |
| | Science GPA in 2009–10 School Year | 0.08 |
| | Time Spent Studying/Doing Homework | 0.03 |
| **Social and Personal Skills** | Future Connectedness | 0.02 |
| | Social Skills | 0.01 |
| | Emotional Self-Efficacy | -0.01 |
| | Conflict Management | 0.04 |
| | Prosocial Behavior | -0.01 |
| | Misconduct | 0.03 |
| | Presence of Supportive Adults | 0.07 |
| **Healthful Activity and Nutrition** | Time Spent After School on Sedentary Activities | **0.16*** |
| | Time Spent After School Being Physically Active | **0.13*** |
| | Healthy Eating | 0.07 |
| | Unhealthy Eating | 0.08 |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.04 |
| | Feeling Safe | 0.04 |

Notes: +p<.10, *p<.05, **p<.01.

The results presented in this table are unstandardized regression coefficients. All analyses controlled for the following variables at baseline: minority status, gender, single-parent status, number of youth-reported stressful life events in the six months prior to the baseline survey, participation in an after-school program in the fifth grade, time spent at after-school programs outside the AfterZone prior to the baseline survey, number of days typically needed at home after school to care for younger siblings or for other responsibilities, number of absences in fifth grade, quarter-one grades during the 2008–09 school year in ELA courses, math and reading performance based on standardized test scores, self-reported future connectedness and the baseline value of the outcome measure being assessed.

## Appendix Table 18

### Association Between Youth's Sense of Belonging at the AfterZone and Outcomes at the End of the Seventh Grade

| Domain | Outcome | Strong Sense of Belonging | Weak Sense of Belonging | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | **0.16**** | -0.12 | **YES**** |
| | Percentage of Days Absent in 2009–10 School Year | **-2.64*** | -2.79 | No |
| | Percentage of Days Tardy in 2009–10 School Year | **-1.28** | -2.62 | No |
| | ELA GPA in 2009–10 School Year | 0.17 | 0.27 | No |
| | Math GPA in 2009–10 School Year | **0.34**** | 0.23 | No |
| | Science GPA in 2009–10 School Year | **0.31*** | 0.17 | No |
| | Time Spent Studying/Doing Homework | 0.21 | 0.03 | No |
| **Social and Personal Skills** | Future Connectedness | **0.19***** | **-0.17+** | **YES***** |
| | Conflict Management | 0.08 | -0.02 | No |
| | Prosocial Behavior | **0.10+** | **-0.25**** | **YES***** |
| | Adult Support | **0.47**** | -0.43 | **YES**** |
| | Emotional Self-Efficacy | 0.13 | **-0.32*** | **YES**** |
| | Misconduct | 0.00 | 0.17 | No |
| | Social Skills | 0.12* | **-0.25**** | **YES***** |
| **Healthful Activity and Nutrition** | Healthy Eating | 0.27 | -0.15 | No |
| | Unhealthy Eating | 0.12 | 0.23 | No |
| | Time Spent After School on Sedentary Activities | **0.35*** | 0.29 | No |
| | Time Spent After School Being Physically Active | **0.32+** | 0.20 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.06 | **-0.33+** | **YES+** |
| | Feeling Safe | 0.15 | -0.11 | No |

Note: +p<.10, *p<.05, **p<.01., ***p<.001.

The comparison group represents the reference group in these analyses. The results presented in this table are unstandardized regression coefficients. All analyses controlled for the following variables at baseline: minority status, gender, single-parent status, number of youth-reported stressful life events in the six months prior to the baseline survey, participation in an after-school program in the fifth grade, amount of time spent at after-school programs outside the AfterZone prior to the baseline survey, number of days typically needed at home after school to care for younger siblings or for other responsibilities, number of absences in fifth grade, quarter-one grades during the 2008–09 school year in ELA courses, math and reading performance based on standardized test scores, self-reported future connectedness and the baseline value of the outcome measure being assessed.

## Appendix Table 19

### Association Between Perceived Supportiveness of Adult Staff and Youth Outcomes at the End of the Seventh Grade

| Domain | Outcome | Strongly Believe Staff Are Supportive | Do Not Strongly Believe Staff Are Supportive | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School-Related Attitudes, Behavior and Performance** | School Connectedness | 0.16* | 0.01 | No |
| | Percentage of Days Absent in 2009–10 School Year | **-2.82*** | -2.45 | No |
| | Percentage of Days Tardy in 2009–10 School Year | -1.44 | -1.81 | No |
| | ELA GPA in 2009–10 School Year | 0.22 | 0.16 | No |
| | Math GPA in 2009–10 School Year | **0.34*** | **0.28+** | No |
| | Science GPA in 2009–10 School Year | **0.39*** | 0.11 | No |
| | Time Spent Studying/Doing Homework | 0.22 | 0.10 | No |
| **Social and Personal Skills** | Future Connectedness | **0.21***** | -0.03 | **YES**** |
| | Conflict Management | 0.00 | 0.14 | No |
| | Prosocial Behavior | **0.14*** | **-0.17*** | **YES***** |
| | Adult Support | **0.59***** | -0.25 | **YES***** |
| | Emotional Self-Efficacy | **0.16+** | **-0.19+** | **YES**** |
| | Misconduct | 0.00 | 0.09 | No |
| | Social Skills | **0.11+** | -0.07 | **YES*** |
| **Healthful Activity and Nutrition** | Healthy Eating | 0.25 | 0.10 | No |
| | Unhealthy Eating | 0.27 | -0.04 | No |
| | Time Spent After School on Sedentary Activities | 0.25 | **0.47*** | No |
| | Time Spent After School Being Physically Active | **0.39*** | 0.15 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | 0.17 | **-0.34*** | **YES**** |
| | Feeling Safe | 0.17 | -0.04 | No |

Notes: +p<.10, *p<.05, **p<.01, ***p<.001.

The comparison group represents the reference group in these analyses. The results presented in this table are unstandardized regression coefficients. All analyses controlled for the following variables at baseline: minority status, gender, single-parent status, number of youth-reported stressful life events in the six months prior to the baseline survey, participation in an after-school program in the fifth grade, amount of time spent at after-school programs outside the AfterZone prior to the baseline survey, number of days typically needed at home after school to care for younger siblings or for other responsibilities, number of absences in fifth grade, quarter-one grades during the 2008–09 school year in ELA courses, math and reading performance based on standardized test scores, self-reported future connectedness and the baseline value of the outcome measure being assessed.

## Appendix Table 20

### Association Between How Much Fun Youth Perceived the AfterZone to Be Relative to Other Places They Spend Time and Youth Outcomes at the End of the Seventh Grade

| Domain | Outcome | AfterZone Is More Fun | AfterZone Is Not More Fun | Are the Effects Statistically Different From Each Other? |
|---|---|---|---|---|
| **School, Attitudes, Behavior and Performance** | School Connectedness | **0.11+** | 0.09 | No |
| | Percentage of Days Absent in 2009–10 School Year | **-2.58*** | -2.81 | No |
| | Percentage of Days Tardy in 2009–10 School Year | **-1.93+** | 0.29 | No |
| | ELA GPA in 2009–10 School Year | 0.19 | 0.24 | No |
| | Math GPA in 2009–10 School Year | **0.32*** | 0.25 | No |
| | Science GPA in 2009–10 School Year | **0.38**** | -0.12 | **YES*** |
| | Time Spent Studying/Doing Homework | 0.18 | 0.17 | No |
| **Social and Personal Skills** | Future Connectedness | **0.16**** | -0.05 | **YES*** |
| | Conflict Management | 0.05 | 0.00 | No |
| | Prosocial Behavior | 0.02 | -0.05 | No |
| | Adult Support | **0.29+** | 0.04 | No |
| | Emotional Self-Efficacy | 0.04 | -0.03 | No |
| | Misconduct | 0.04 | 0.01 | No |
| | Social Skills | 0.03 | 0.01 | No |
| **Healthful Activity and Nutrition** | Healthy Eating | 0.16 | -0.04 | No |
| | Unhealthy Eating | 0.16 | -0.04 | No |
| | Time Spent After School on Sedentary Activities | **0.45**** | -0.20 | **YES*** |
| | Time Spent After School Being Physically Active | **0.38*** | 0.05 | No |
| **Community Awareness and Attitudes** | Knowledge of Safe Places | -0.08 | 0.08 | No |
| | Feeling Safe | 0.10 | 0.03 | No |

Notes: +p<.10, *p<.05, **p<.01.

The comparison group represents the reference group in these analyses. The results presented in this table are unstandardized regression coefficients. All analyses controlled for the following variables at baseline: minority status, gender, single-parent status, number of youth-reported stressful life events in the six months prior to the baseline survey, participation in an after-school program in the fifth grade, amount of time spent at after-school programs outside the AfterZone prior to the baseline survey, number of days typically needed at home after school to care for younger siblings or for other responsibilities, number of absences in fifth grade, quarter-one grades during the 2008–09 school year in ELA courses, math and reading performance based on standardized test scores, self-reported future connectedness and the baseline value of the outcome measure being assessed.

# Appendix I
# Correlations Among Dimensions of Participation

As described in Chapter 4, we examined the association among the three indicators of AfterZone participation at the end of the seventh grade: amount, breadth and engagement. These Pearson correlations are based on the participation data of the 180 youth who took part in the AfterZone for both school years of the study. The magnitude of the correlations indicates the strength of the relationship between two variables. Correlations near zero suggest that there is no relationship between the two variables, while correlations near one suggest a very strong relationship. The sign of the correlation (positive or negative) indicates the direction of that relationship. For instance, a correlation of +.37 between dosage and intensity indicates that youth who attended more days of the AfterZone also enrolled in a broader range of activities. However, if that correlation had been -.37, this would suggest that youth who attended more days of the AfterZone enrolled in fewer different types of activities. Correlations are presented in Appendix Table 21.

## Appendix Table 21
## Associations Among Dimensions of Participation at the End of the Seventh Grade

| | Dosage (Number of Days) | Consistency (Number of Sessions) | Intensity (Percentage of Days Enrolled) | Breadth (Number of Activity Types) | Sense of Belonging | Supportive Adult Staff |
|---|---|---|---|---|---|---|
| **Consistency** | **0.80*****| — | — | — | — | — |
| **Intensity** | **0.58***** | **0.28**** | — | — | — | — |
| **Breadth** | **0.37***** | **0.42***** | **0.18*** | — | — | — |
| **Sense of Belonging** | **0.15+** | **0.17*** | 0.10 | **0.15+** | — | — |
| **Supportive Adult Staff** | 0.05 | -0.01 | 0.05 | -0.01 | **0.56***** | — |
| **Fun** | 0.09 | -0.01 | 0.12 | 0.08 | **0.32***** | **0.37***** |

Note: +p<.10, *p<.05, **p<.001, ***p<.0001.

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August 2011