Leveling the Academic Playing Field for Disadvantaged Youth through Participation in After-School Programs

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American school-age youth (grades K-12) spend a larger percentage of their weekly waking hours in discretionary activities than in school (Hofferth & Sandberg, 2001). This discretionary time is a byproduct of early 20th Century child labor law reforms and has long been a source of concern for parents, youth advocates, and policy makers. After-school programs (defined in more detail below) are a response to this concern and have been a part of the child-care landscape for more than 100 years (Halpern, 2002). Throughout the majority of the 20th century, after-school programs were primarily viewed as a way to protect youth from the dangers in their communities (Bodilly & Beckett, 2005; Halpern, 2002). More recently, the goals have shifted from a primary focus on the prevention of problem behavior to an emphasis on facilitating healthy growth and development (Pittman, Irby, & Ferber, 2000).

As schools struggle to meet achievement standards set forth by the federal No Child Left Behind Act (NCLB), after-school programs are also increasingly viewed as a potential source of academic support for youth at risk of school failure – a group that includes disproportionately large numbers of economically disadvantaged and ethnic minority youth. Youth advocates and policy makers hope that after-school programs can compensate for the inequities that plague our nation’s schools. Accordingly, federal, state, and local funds for after-school programs have increased substantially over the last decade. As this review of research suggests, however, access to after-school programs remains inequitably distributed across socio-demographic groups. Although research findings indicate that participation in after-school programs may lead to improvements in academic performance, they also suggest that youth who are most in need of academic assistance are often among the least likely to participate.

The following review highlights the sources of inequities in access to after-school programs and examines the proposition that increasing access among economically disadvantaged, minority students will lead to more equitable academic outcomes. First, we begin with a description of the current state of after-school programs, focusing on program content and structure, the myriad sources of program funding, and inequities in access to programs. Second, we review evidence on the academic benefits of participating in after-school programs and discuss the extent to which youth at risk of school failure may be particularly likely to derive academic benefits from participation. Third, we discuss some of the steps that must be taken in order to provide more equitable access to after-school programs. Fourth, we present results from some rough computations that quantify the potential impact of more equitable access to after-school programs on socio-demographic gaps in achievement. Finally, we conclude with a series of recommendations for further research on after-school programs and the policies that shape them.

The Current State of After-School Programs

After-school programs are only one of the many types of activities available to youth during the non-school hours. Although participation in any type of structured, organized activity may benefit youth, the goal of this paper is to evaluate the specific role that formal after-school...
programs can play in narrowing achievement gaps for youth from different socio-demographic backgrounds. Thus, we only review research on formal after-school programs.

**Defining After-School Programs**

We define formal after-school programs as those that: 1) operate on a regular basis (e.g., daily, weekly) during non-school hours (after school, before school, weekends) throughout the academic year; 2) are supervised by adults; 3) offer more than one activity (e.g., homework help, recreation, arts and crafts); and 4) involve other youth (i.e., group-based). These programs may be provided by schools or community-based agencies (e.g., Boys and Girls Clubs). The breadth of our definition reflects the diversity of available after-school programs; goals and activities vary widely across programs. Some program providers and funders believe that the primary goal of after-school programs should be to provide youth with extra time to master the academic skills taught in school. Others, however, believe that after-school programs should focus on promoting youth development opportunities and supports not available elsewhere. Some programs thus focus more heavily on academics and others focus more heavily on recreation and cultural enrichment. Despite the different emphases, most after-school programs — even those specifically aimed at improving academic achievement — are multifaceted and include a mix of academic, social, cultural, and recreational activities (Dynarski et al., 2003; Redd, Cochran, Hair, & Moore, 2002). The differences between formal after-school programs lie primarily in the proportion of time and resources devoted to these activities.

Despite its breadth, our definition of after-school programs does not include other out-of-school time pursuits like school- and community-sponsored extracurricular activities (e.g., sports teams, marching band, service clubs and activities), classes and lessons (e.g., dance classes, music lessons), and religious activities. These activities offer participants a venue for exploring and developing one specific interest. The broader aims of after-school programs, in contrast, are to provide youth with regular access to a safe and enriching environment during the non-school hours.

**Funding for After-School Programs**

Cost estimates for formal after-school programs vary widely, from as little as $449 to as much as $7,160 per child per year (Lind, Relave, Deich, Grossman, & Gersick, 2006). Despite this variability, it is clear that the costs of operating an after-school program are not inconsequential. Costs are typically covered by some combination of the following four revenue sources: fees paid by families, funds from private sources (e.g., foundations, local business partners, community-based organization), funds from public sources (i.e., federal, state, and local sources), and in-kind contributions (Halpern, Deich, & Cohen, 2000). Programs vary with respect to the percentage of costs covered by these four sources of revenue, and much of this variation is along socioeconomic lines. Although the vast majority of programs require participants to pay fees, the fees charged by programs that serve lower-income youth are often lower and cover a smaller percentage of program costs than programs that serve higher-income youth (Pittman, Wilson-Ahlstrom, & Yohalem, 2003). For instance, in a study of 60 after-school programs targeting primarily low-income youth in Chicago, Seattle, and Boston, investigators found that participant fees typically accounted for 15 to 20 percent of program revenue (Halpern, 1999). This is in contrast to programs for more affluent youth, where participant fees can account for up to 70 or 80 percent of program revenue (Halpern, 1999).

Because programs for lower-income youth cannot and should not require participants to pay more than nominal fees, these programs depend heavily on funding from external sources. After-school programs receive funds from a variety of private sources, including foundation
grants and partnerships with local businesses and community-based organizations. There are too many such private organizations to list and describe here, but the website of the New York City based After School Corporation contains a list of current funding opportunities from private organizations (The After-School Corporation, n.d.). Funding sources vary greatly from program to program, making it difficult to estimate the percentage of program costs that are typically covered by private funding.

Public funds – particularly at the federal and state level – are also a very important source of revenue for programs that serve lower-income youth. Although many agencies within the federal government provide funding for after-school programs (e.g., Department of Education, Department of Justice, Department of Health and Human Services, and the Department of Labor), the 21st Century Community Learning Centers (21st CCLC) is the only federal funding stream dedicated exclusively to after-school programs (Afterschool Alliance, 2007). The 21st CCLC funding stream, sponsored by the U.S. Department of Education, was originally authorized in 1994 under the Elementary and Secondary Education Act to create school-based programs to meet the educational, health, social service, cultural, and recreational needs of rural and inner-city communities (U.S. Department of Education, n.d.a). Reauthorization of 21st CLCC in 2001 under the NCLB Act resulted in several major changes. First, administrative responsibilities were transferred to State Education Agencies (SEAs). States now receive a portion of federal 21st CCLC funds based on their share of Title I funding for low-income students, and local education agencies and non-profit organizations may apply to the SEAs for these funds (Afterschool Alliance, 2007b; Fortune, Padgette, & Fickel, 2005).

NCLB requires that states give funding priority to programs that serve students in high-poverty and/or low-performing schools. Second, reauthorization under NCLB significantly narrowed the goals of 21st CCLC and strengthened its’ focus on academics. One of the primary goals of 21st CCLC is to help students meet state and local achievement standards in math and reading (U.S. Department of Education, n.d.b). The 2008 appropriation of 1.1 billion dollars makes 21st CCLC one of the largest existing sources of public funding for after-school programs. Appropriations reached a plateau after 2002, however, and the currently appropriated amount falls far short of the $2.5 billion dollars originally authorized for 21st CCLC under NCLB (Afterschool Alliance, 2007). As a consequence, only a relatively small percentage of applicants receive funding (28 percent in 2005; Naftzger, Kaufman, Margolin, & Ali, 2006). Furthermore, 21st CCLC funding authorization can easily fall victim of economic downturns in the U.S. For instance, in 2008, the Bush Administration proposed to cut $300,000 million from the program’s budget (Afterschool Alliance, 2008a). Such funding cuts will lead to even fewer applications being funded in the future.

Several state governments have also created separate funding streams for after-school programming. California’s After-School Education and Safety (ASES) Program Act of 2002 – better known as Proposition 49 – is one example of a state-level funding stream dedicated to after-school programs. Proposition 49 allows for more than a four-fold increase in California’s spending on after-school programs in elementary and middle schools – from $121.6 million prior to Proposition 49 to $550 million (California Department of Education, 2007a). Local education agencies and non-profit organizations working with the approval of local education agencies are eligible to apply for these funds (California Department of Education, 2007b). Although Proposition 49 aims to provide after-school funding for all elementary and middle school students, the legislation requires that priority be given to maintaining or increasing funding for programs already funded under ASES (California Department of Education, 2007a).
In distributing funds to schools under ASES, therefore, consideration is also given to the percentage of students who receive free or reduced lunch and other indicators of need (e.g., neighborhood SES, availability of programs in a community, juvenile crime rates; California Department of Education, 2007b). Like 21st CCLC, Proposition 49 has a strong academic component; the act requires that programs include an educational and literacy element. Proposition 49 is thus a state-level attempt to substantially increase access to academically-oriented after-school programs for all youth – particularly economically disadvantaged youth.

Other examples of state-level funding initiatives include Indiana’s School Age Child Care Project Fund, which provides more than a half million dollars to after-school programs, and North Carolina’s Support Our Students initiative, which administers funds for after-school programs through the state Department of Justice (see After-School Alliance, 2007b for a complete list of state efforts).

City governments constitute a third source of public funding for after-school programs. Local governments in a number of major cities have joined forces with public and private agencies to provide funds for citywide after-school initiatives (e.g., Los Angeles’ LA’s BEST, Chicago’s After School Matters, New York City’s TASC, Washington D.C.’s Children and Youth Investment Trust Corporation, and Boston’s After-School and Beyond initiative). Local funds are available in a variety of other locations as well. Although more recent data are needed, a 1995 survey conducted by the National League of Cities found that nearly 50 percent percent of surveyed municipalities provide funds for before- or after-school programs (Halpern et al., 2000). We found no information on how this figure varies as a function of socioeconomic status at the community level, nor did we find data on differences in the amount of local funds dispersed to after-school programs as a function community-level socioeconomic status. To the extent that local government revenue depends on property taxes, however, it follows that municipalities with a large percentage of lower-income residents would have less money for after-school programs.

A final source of revenue for after-school programs comes from in-kind contributions. Examples of in-kind contributions include: staff who work on a volunteer basis, free space for program activities provided by churches or community organizations, and donated learning materials. When participant fees and private and public funds fail to cover program costs, after-school programs – particularly those for lower-income youth – rely heavily on in-kind contributions (Halpern et al., 2000).

The funding landscape for after-school programs serving low-income youth is clearly more complex than the largely fee-based funding structure used by programs that serve higher income youth. Programs that serve economically disadvantaged youth must rely on funds from a wide variety of public and private sources, which may limit access to after-school programs among economically disadvantaged youth in several ways. First, public and private funds are limited and demands for funds are great. Consequently, the supply of programs funded through private and public sources may not be sufficient to meet the needs of lower-income youth. Second, funds obtained through public and private grants are often time-limited. Applications for renewal — a labor intensive endeavor — may be denied either because of constraints stipulated by the original grant award or because of shifting funding priorities. Finally, constraints on the specific uses of public and private after-school funds (e.g., requirements that funds must be used only for programming) may prohibit programs from spending on components that would increase youths’ access to existing after-school programs (e.g., transportation to and from programs). In light of the inequities in the current funding landscape, findings presented in the
next section – which suggest that economically disadvantaged youth are less likely to participate in after-school programs than their more advantaged peers – are not surprising.

**Participation Rates Across Socioeconomic and Race/Ethnic Groups**

Extant studies provide surprisingly few national estimates of the percentage of American school-age youth (K-12) who attend after-school programs. The results from two recent large-scale surveys (i.e., studies with sample sizes greater than 30,000) indicate that the number likely hovers around 10 percent (Afterschool Alliance, 2004; Carver & Iruka, 2006). Statistics also indicate that youth from different socioeconomic and ethnic backgrounds are not equally likely to participate in after-school programs.

National studies generally suggest that lower-income youth are less likely to participate in after-school programs than higher-income youth. For instance, the National Survey of American Families (NSAF) suggests that while 20 percent of children and adolescents in the highest income quintile participate in after-school programs, only 13 percent of children and adolescents in the lowest income quintile participate (Wimer et al., 2006). A national study of 20 high-quality after-school programs also found that low-income elementary and middle school students were underrepresented among program participants (Vandell et al., 2005). Finally, a study of elementary school children enrolled in the Child Development Project in Tennessee and Indiana found that children from families of higher socioeconomic status were more likely to participate in school-based after-school programs than children from families of lower socioeconomic status (Laird, Pettit, Dodge, & Bates, 1998). There is at least one exception to this pattern of findings, however. Analyses of data from the recent National Household Education Surveys Program (NHESP) did not reveal significant differences in participation as a function of income (Carver & Iruka, 2006).

Evidence on racial/ethnic differences in participation rates diverges from evidence on income and suggests that African American youth, a traditionally underserved group, are actually more likely to participate in after-school programs than youth of other races or ethnicities. Analyses of NASF data suggest that African American children and adolescents are more likely to participate in after-school programs (26 percent) than white (13 percent) or Latino (12 percent) youth (Wimer et al., 2006). Analyses of NHESP data also suggest that African American youth are more likely to participate in after-school programs than Latino youth, but this analysis also found that Latino youth are more likely to participate in after-school programs than white youth (Carver & Iruka, 2006). Despite evidence that minority youth participate at higher rates than white youth, it is important to note that participation rates are relatively low overall; the vast majority of African American and Latino youth do not participate in after-school programs. Slightly higher participation rates among minority youth (versus white youth) may thus belie a large unmet demand for after-school programs among minority youth who are often economically disadvantaged and, statistically speaking, at high risk for academic failure. Moreover, it is not known whether minority youth are more likely than white youth to participate in after-school programs across all socioeconomic strata. To our knowledge, research has not yet explicitly considered whether lower-income African American and/or Latino youth are more or less likely to participate in after-school programs than lower-income white youth or more middle-class African American and Latino students.

**Access to After-School Programs Across Socioeconomic and Race/Ethnic Groups**

In order to shed light on the above-described disparities in participation rates, this section examines socio-demographic (i.e., socioeconomic and ethnic) differences in access to after-school programs. Most of the research on disparities in access to after-school programs focuses
on measures of socioeconomic status such as income. Significantly less attention has been paid to disparities in access as a function of race/ethnicity. Thus, while our discussion addresses race/ethnicity-based disparities in access wherever possible, we focus largely on socioeconomic differences in access to after-school programs. We do not limit our discussion of access to the physical availability of after-school programs within youths’ communities. Rather, we examine three categories of barriers to participation, each of which plays a role in limiting access to after-school programs: 1) poor availability, or a shortage in the supply of after-school programs; 2) logistical barriers, or individual- and family-level barriers related to cost, transportation, scheduling, or other obligations; and 3) attitudinal barriers, or a lack of interest in participating. Availability of Programs

The first barrier to participation in after-school programs is poor availability. As mentioned above, the limited availability of public and private funds places constraints on the supply of after-school programs for disadvantaged youth. There is, however, debate about whether the current supply of after-school programs is sufficient to meet the demand, both among disadvantaged youth and youth in general. There are at least two different methods for estimating supply and demand, and these methods often yield conflicting results.

Studies that compare the number of school-aged children in a given region to the number of available slots in after-school programs often conclude that supply is insufficient to meet demand (e.g., Halpern, 1999; Pittman et al., 2003). For instance, a study of after-school programs (many of which serve lower-income youth) conducted in the late 1990s in Boston, Chicago, and Seattle found that there were only enough full-time slots (i.e., slots for daily participation throughout the year) in existing after-school programs to cover between 9 percent and 35 percent percent of the cities’ school-aged populations (Halpern, 1999). Based on these findings, the authors concluded that the supply of after-school programs in these regions failed to meet the demand.

Critics argue that the above-described method of estimating supply and demand makes many assumptions about the extent to which all school-aged youth need or demand after-school care (i.e., some may be involved in other extracurricular activities, or maybe supervised by their non-working parents or relatives; Bodilly & Beckett, 2005). Some researchers point to the unfilled slots that exist in many after-school programs throughout the nation as evidence that the supply of after-school programs actually exceeds demand. Though updated statistics are needed, a nationwide study of after-school programs conducted in 1991 revealed that the average utilization rate (the number of participants divided by the number of program slots) was only 59 percent percent (Seppanen et al., 1993). Surprisingly, utilization rates estimated in the 1991 nationwide study did not vary as a function of the income level of the population served (Seppanen et al., 1993), suggesting that programs for lower- and higher-income youth are similarly underutilized. Moreover, a more recent review of the after-school literature released by RAND found that only two after-school programs reported oversubscription (i.e., more demand than available slots) – programs created as part of the Extended School Initiative (which targets lower income youth) and a few of the elementary school programs that receive funds from the 21st CCLC initiative (Bodilly & Beckett, 2005). Based on these findings, some researchers conclude that the supply of after-school programs is more than sufficient to meet the demand, even among lower-income youth.

Logistical Barriers to Participation in Available Programs

The mere existence of a supply of after-school programs for disadvantaged youth does not necessarily mean that disadvantaged youth have equal access to after-school programs,
however. There are a variety of logistical barriers that may prevent participation in available programs. Among the most commonly cited barriers are cost, transportation, and conflicts with other responsibilities (e.g., employment, taking care of younger siblings). For obvious reasons, cost is a very salient barrier to participation among lower-income youth (Bodilly & Beckett, 2005; California Tomorrow, 2003). Participants are required to pay fees when revenue from public, private, and in-kind contributions fails to cover programming costs – even in programs that serve low-income youth. In a survey of 273 after-school programs across the nation, investigators found that nearly 30 percent percent of after-school programs that serve primarily low-income youth charged more than nominal participation fees and did not use a sliding scale to determine fees (California Tomorrow, 2003). Non-nominal fees are likely to deter participation among lower-income youth, thereby limiting equal access despite the availability of programs in the community. The results of a recent national telephone survey conducted by Public Agenda suggest as much. Public Agenda investigators found that parents of lower-income and minority youth were less likely than parents of higher income and white youth to report easy access to affordable after-school programs (the lower versus higher income difference was 30 percent percent versus 65 percent percent; minority versus white differences were 39 percent percent versus 62 percent percent Duffett & Johnson, 2002). Thus, statistics that report low utilization rates among lower-income youth may mask differences in utilization as a function of fee subsidization. While programs that charge prohibitive fees may have empty slots, there may be waiting lists for free or heavily subsidized programs (Halpern, 1999; Pittman et al., 2003).

Parents of lower-income and minority youth are also less likely than parents of higher-income and white youth to report easy access to conveniently located after-school programs (lower versus higher income – 45 percent percent versus 72 percent percent; minority versus white – 45 percent percent versus 73 percent percent; Duffett & Johnson, 2002). Sociodemographic disparities in access to nearby after-school programs may be further exacerbated by disparities in access to transportation. Transportation difficulties are among the most common barriers to participation in after-school programs (Bhanpuri, 2005; Bodilly & Beckett, 2005; Grossman, Walker, & Raley, 2001; Halpern, 1999; Lauver, Little, & Weiss, 2004; Walker & Arbreton, 2004). Transportation is likely to be especially problematic among economically disadvantaged youth whose families do not have easy access to cars or sufficient funds for public transportation.

Among disadvantaged youth who live in high-poverty, high-crime neighborhoods, transportation on foot or by public transportation may also pose a safety risk. Studies show that a lack of safe transportation between programs and home is, in fact, a considerable barrier to participation, particularly among traditionally disadvantaged populations (Lauver et al., 2004). A study of school-based after-school programs targeting lower-income youth in 17 U.S. cities further highlights the transportation difficulties faced by urban youth who are bused to schools that are not within walking distance of their homes (Grossman et al., 2001). The use of school district buses for transporting students between school-based after-school programs and homes is often prohibitively expensive, and those whose parents cannot pick them up at the end of the program often cannot participate (Grossman et al., 2001). Because funding agencies that support programs for lower-income youth may require that funds support direct programming only, few resources may be available to cover transportation costs. Unless funds can support both programming and transportation, access is likely to remain limited among economically disadvantaged youth.

Conflicting obligations and responsibilities are additional logistical barriers to participation in after-school programs. Such responsibilities, including employment to help
support the family or care for siblings, can disproportionately fall on the shoulders of disadvantaged youth. These barriers are likely to be particularly common among older youth and may partly account for declining rates of participation during adolescence (Lauver et al., 2004).

Indeed, the most common conflicting obligations include employment and caring for younger siblings (Bodilly & Beckett, 2005; Lauver et al., 2004). Although youth from more affluent homes are actually more likely to be employed during high school than youth from less affluent homes, youth from lower-SES homes (as indexed by parent education) who do work are likely to work longer hours than youth from higher-SES homes (Lerman, 2000). Thus, relative to employed youth from more economically advantaged homes, less advantaged employed youth may have fewer free non-school hours to participate in after-school programs. Lower-income youth whose parents cannot afford childcare for younger siblings may also be called on to provide childcare during non-school hours. As highlighted in a recent brief by the Harvard Family Research Project, “In some evaluations of welfare-to-work programs, the only group of adolescents who experienced gains in participation in formal after school activities were those without younger siblings” (Lauver et al., 2004, p. 3). The implication is that adolescents with employed, low-income parents were unable to participate in after-school activities because they were responsible for caring for younger siblings while their parents worked.

**Attitudinal Barriers to Participation**

Finally, access to after-school programs may be limited by attitudinal barriers to participation. Relatively few studies have examined the extent to which youths’ attitudes and preferences prevent or facilitate participation in after-school programs. One relatively recent study, however, found that students’ desire to “relax and hang out with friends” and boredom and disinterest were among the most common barriers to participation (Lauver et al., 2004). Similarly, studies of at least two after-school initiatives suggest that students’ negative attitudes toward school may deter youth from participating in school-based after-school programs (Grossman et al., 2001; Walker & Arbreton, 2004).

To our knowledge, researchers have not explicitly considered whether attitudes toward participation differ as a function of socioeconomic status or race/ethnicity. It is, however, reasonable to believe that negative attitudes toward academically-enriching after-school programs are even more common among low-performing youth – a group with disproportionately large numbers of economically disadvantaged and minority youth.

In summary, the findings reviewed above suggest that a multitude of factors contribute to disparities in access to after-school programs among youth from different socio-demographic groups. Although some are dubious about shortages in the supply of programs for at-risk youth, we have identified a number of other factors – logistical problems (i.e., costs, safe transportation, and conflicting obligations) and attitudes and preferences – that play an equally important role in determining whether economically disadvantaged and minority youth have equal access to after-school programs. Until these problems are addressed, access to after-school programs will remain limited among the very youth who are most at-risk for academic failure.

**The Academic Benefits of After-School Programs**

The public recognizes that the potential benefits of participation in after-school programs extend beyond improved academic performance (e.g., Afterschool Alliance, 2004), but taxpayers also want assurances that their dollars are being wisely spent. Funders thus increasingly
require programs to document effectiveness — defined as academic gains — in order to justify continued funding (Kane, 2004; California Department of Education, 2007a).

Defining Academic Benefits

Changes in standardized achievement test scores are popular measures of program effectiveness because they easily and objectively quantify academic gains. There are two problems with relying on test scores to measure the academic benefits of after-school programs, however. First, how much of a gain should be considered evidence of program success? Test scores change little after a full school year of classroom instruction. Scores on the Stanford reading and math achievement tests increase by only one-third and one-half of a standard deviation between fourth and fifth grade, respectively (Granger & Kane, 2004). Students spend much less time in after-school programs than in school (i.e., only a few hours per week versus roughly 30 hours per week), so we can only reasonably expect program participation to lead to small gains in test scores.

Furthermore, other dimensions of academic performance have important implications for later success and may be more amenable to change. Grades and high school graduation predict markers of successful transitions to adulthood, such as college graduation and employment (U.S. Department of Education, 2005), and academically-relevant attitudes and behavior (e.g., attendance, motivation, engagement, classroom behavior) likely have ultimate, if not immediate, implications for academic performance. These outcomes may thus play an equally important part in facilitating youths’ successful integration into the 21st Century workforce (Larson, Wilson, & Mortimer, 2002). Consequently, when the data permit, we do not limit our discussion of academic outcomes to achievement test scores.

Review of Research on the Relations between After-School Programs and Academic Gains

Before reviewing the extant research on the associations between participation in after-school activities and academic outcomes, it is important to point out that some evaluation studies use more methodologically sound research designs than others. The most frequently used approach, called the single group pre- and post-test research design, involves collecting data on program participants’ academic performance at the beginning and end of a program. These data may show improvements in participants’ academic performance, but they provide little information about the role of the after-school program in fostering improvements. Only when the gains of participants are compared to those of a similar group of students who did not attend the program can we know whether participants would have made similar gains without attending the program. Single group designs may serve other purposes, but cannot answer questions about the academic benefits of participating in an after-school program.

Quasi-experimental studies provide a better test of program effectiveness. When using this method, investigators collect outcome data at the beginning and end of a program for two groups of students — those who attended the after-school program and those who did not. This method does not rule out the possibility of self-selection, however. Self-selection biases occur when certain unaccounted for characteristics (e.g., attachment to school, parenting) encourage both participation in an after-school program and academic gains, thus suggesting that differences between students who participate in after-school programs and those who do not may be attributable to many non-programmatic factors. Similarity of the two student groups at the beginning of the program is therefore critical to the usefulness of this design. Gains among program participants can only be attributed to the program when the two groups of students are similar on characteristics, attitudes, and behaviors that could also influence academic performance. In practice, it is difficult to accurately quantify or eliminate the influence of self-
selection bias in quasi-experimental research since important predictors of academic outcomes are likely to remain unmeasured.

Experimental designs, on the other hand, largely eliminate the influence of self-selection bias. In experimental studies, researchers randomly assign students to either attend the program (the treatment group) or not to attend (the control group), thus equalizing the two groups on both known and unknown predictors of academic outcomes. Experimental designs are the only designs that can yield definitive conclusions about the academic impacts of participation, but they remain rare in after-school research due to implementation difficulties. For instance, ethical and logistical factors prevent random assignment of youth to programs because under such a scenario the students who want to participate the most and who have easier access to the program may not be assigned, while someone who has less commitment to the program or may face more barriers to participation will be assigned.

Although single group pre- and post-test designs still dominate the after-school literature, a growing body of methodologically sound studies permits broad conclusions about the academic benefits of after-school programs. Narrative reviews of the after-school literature, which compare and contrast findings across published studies, generally conclude that participation in after-school programs improves youths’ academic outcomes (e.g., better attitudes toward school; better performance; better attendance; Afterschool Alliance, 2003, 2006; Bodilly & Beckett, 2005; Little & Harris, 2003; Miller, 2003; Redd et al., 2002; Scott-Little, Hamann, & Jurs, 2002). Narrative reviews are often criticized, however, for failing to provide a balanced picture of the benefits of after-school programs; researchers sometimes choose to highlight studies that show statistically significant gains in academic performance among program participants without considering the number of studies that do not find significant gains (i.e., null results). The conclusions of narrative reviews are, nonetheless, largely consistent with those of more methodologically rigorous meta-analytic reviews.

Meta-analytic techniques combat the weaknesses of narrative reviews by systematically pooling numerical results from all extant studies and calculating the average size of program effects on academic outcomes. The statistical significance of the average effect indicates whether, across programs, the scores of program participants differ from those of non-participants, and the size of the effect reflects its practical significance (convention designates that an effect of .20 is small, .50 is moderate, and .80 is large; Cohen, 1988). Meta-analytic reviews of methodologically sound studies typically find statistically significant improvements in academic performance across studies of after-school programs, but effect sizes are often small. For instance, recent meta-analyses found that the average program effect on reading achievement (i.e., tests scores or grades) for at-risk students is .13 (Lauer et al., 2006), and that the average program effect on students’ combined math and reading test scores is .16 (Durlak & Weissberg, 2007). Program effects on other measures of academic success are similarly small (e.g., school bonding, .14) or not significant (e.g., school attendance; Durlak & Weissberg, 2007). Some researchers argue that small program effects should be viewed in light of the short periods of time that after-school programs have to alter students’ academic functioning. They argue that the effects of after-school programs should be compared to those from other types of remedial programs, which range from .11 for the year-long Title I programs to .24 for summer school (Lauer et al., 2006).

It is, however, important to note that not all after-school programs offer equal academic benefits for all youth. As discussed in the following paragraphs, the academic benefits of participation in after-school programs vary (1) across different programs with different
programmatic features, (2) as a function of program dosage, and (3) as a function of youths’ risks for academic failure.

**Differences in Academic Gains as a Function of Programmatic Features.**

Careful consideration of the above reviews and the empirical studies that they are based on reveals that some programs are more successful at improving participants’ academic functioning than others (Durlak & Weissberg, 2007; Lauer et al., 2006; Little & Harris, 2003; Redd et al., 2002). Research suggests that at least some of this unevenness is related to differences in programs’ programmatic features. As noted earlier, these differences are at least partly due to a tension that exists between the goals that different program providers and funders hold for after-school programs – some believe that programs should focus primarily on academic success while others believe that programs should focus more broadly on positive youth development. Based on extant theory and limited empirical research, researchers have identified eight program features that promote positive development: 1. physical and psychological safety; 2. appropriate structure; 3. supportive relationships; 4. opportunities to belong; 5. positive social norms; 6. youth input and leadership; 7. opportunities for skill building; and 8. integration of family, school, and community efforts (Eccles & Gootman, 2002). These features alone may not be sufficient to promote significant academic gains, however.

Findings from a handful of methodologically sound studies suggest that specific program content features — particularly providing a mix of activities that includes a strong academic component beyond the ubiquitous homework help — predict academic gains (Durlak & Weissberg, 2007; Lauer et al., 2006; Redd et al., 2002). For instance, a recent meta-analysis of after-school programs found that while providing an academic component did not impact school bonding or attendance, providing an academic component was the strongest predictor of achievement tests gains and accounted for 34 percent of the variance in test scores (Durlak & Weissberg, 2007). Findings from this study also highlight the importance of providing a mix of academic activities and activities aimed at promoting general youth development. Analyses revealed that programs which provided specific lesson plans for active learning activities and opportunities to develop personal and social skills (an approach referred to as “evidence based”) had significant, positive effects on academic outcomes (ranged in size from .24 for grades to .31 for test scores). Programs that did not provide both kinds of activities, on the other hand, did not have significant effects on academics (Durlak & Weissberg, 2007). Similarly, a recent meta-analysis of program evaluations for academically at-risk students found that programs with a combined academic and social focus had greater positive effects on math scores (.19) than did programs that primarily focused on academics (.07) (the same was not true for reading scores, however; Lauer et al., 2006).

Program process features, which refer to program atmosphere, may also have important implications for academic outcomes. Positive program processes are manifested in supportive and empowering environments created through positive interpersonal relationships within the program. Research documents the association between these process features and positive youth development outcomes (Roth & Brooks-Gunn, 2003) and academic success (Pierce, Hamm, & Vandell, 1999; Vandell et al., 2005). One narrative review of the after-school literature concludes that “it is not so much the type of program — the focus, strategies or location — as the environment that is created for youth that makes all the difference” (Miller, 2003, p. 69). Similarly, strong evidence exists to support the importance of a program’s emotional climate for youths’ academic success (Beckett, Hawken, & Jacknowitz, 2001).

**Differences in Academic Gains as a Function of Program Dosage**
Even when youth attend programs with similar programmatic features, they spend different amounts of time at the program. Youth differ both in how frequently they attend (intensity) and in how long they attend (duration) (Simpkins, Little, & Weiss, 2004). Most estimates from large national surveys, local initiatives, and individual program evaluations indicate that youth who do attend after-school programs spend only a fraction of their after-school time in these programs (i.e., between 7 to 10 hours per week). Additionally, only about half of participating students attend programs for more than one year (Roth, Malone, & Brooks-Gunn, under review). Common sense would imply that participants need to attend programs for an adequate number of hours over a significant period of time before one could reasonably expect the program to improve academic outcomes.

Surprisingly, the measures necessary to determine whether participants meet or exceed “dosage” thresholds are often not collected (Fiester & Policy Studies Associates, 2004; Roth et al., under review). Most evaluations of after-school programs simply compare the academic outcomes of participants and non-participants and do not consider differences in outcomes as a function of intensity or duration. Perhaps as a consequence, meta-analytic techniques have not, to our knowledge, been applied to extant research on dosage. The few methodologically sound studies that explore the implications of dosage yield inconsistent findings. Although there is some evidence to support the claim that students need to attend regularly over a period of months or years to make significant academic gains (Arbreton, 2004; Miller, 2003; Redd et al., 2002), null results are just as common as statistically significant results for most measures of academic success. In the following paragraphs, we provide a brief narrative review of studies that have examined relations between program dosage and two academic outcome domains – objective measures (e.g., test scores, grades, graduation rates) and school-related behavior (e.g., attendance).

Studies that use objective measures of achievement to assess program effects indicate that program dosage may be more important for adolescents than for elementary school-age students, except when duration and intensity are combined. The majority of studies find no association between program dosage, measured as either intensity or duration, and elementary school students’ grades or test scores (Anderson-Butcher, Newsome, & Ferrari, 2003; Arbreton, Goldsmith, & Sheldon, 2005; Dynarski et al., 2003; James-Burdumy et al., 2005; Leake & Gardner, 2006; Morrison, Storino, Robertson, Weissglass, & Dondero, 2000; NICHD Early Child Care Research Network, 2004; Pettit, Laird, Bates, & Dodge, 1997; Riggs & Greenberg, 2004; Vandell et al., 2005). When attendance occurs over multiple years, however, findings from a limited number of studies suggest that more intensive participation in after-school programs is associated with higher grades or test scores for elementary school students (Huang, Gibbons, Kim, Lee, & Baker, 2000; Reisner, White, Russell, & Birmingham, 2004; Texas Education Agency, 2007).

On the other hand, a number of studies find that adolescents who attend after-school programs more often or for more years earn significantly higher grades compared to non-participants or participants with lower program dosage (Arbreton & McClanahan, 2002; Dynarski et al., 2004; Espino, Fabiano, & Pearson, 2004; Goerge, Cusick, Wasserman, & Gladden, 2007; Lodestar Management/Research, 2005; Rodriguez, Hirschl, Mead, & Groggin, 1999). Limited evidence also suggests that participation over a longer period of time has beneficial effects on adolescents’ graduation rates (Goerge et al., 2007; Huang, Kim, Marshall, & Pérez, 2005). Adolescents’ test scores, however, typically do not vary based on program dosage (Dynarski et al., 2004; Dynarski et al., 2003; Espino et al., 2004; Leake & Gardner, 2006;
Findings on the association between program dosage and school-related behavior follow a pattern similar to that noted above for objective measures of achievement. That is, the majority of studies fail to show a significant relation between the intensity or duration of elementary school students’ participation in an after-school program and their regular school day attendance (Anderson-Butcher et al., 2003; Dynarski et al., 2004; James-Burdumy et al., 2005; Leake & Gardner, 2006; Lodestar Management/Research, 2005; Reisner et al., 2004). Among adolescents, greater intensity, but not duration, is typically associated with better attendance at school (Birmingham & White, 2005; Dynarski et al., 2004; Dynarski et al., 2003; Espino et al., 2004; Fabiano, Pearson, & Williams, 2005; Leake & Gardner, 2006; Walker & Arbreton, 2004). A few studies, however, show that longer duration combined with greater intensity is associated with fewer absences from school for both younger and older youth (Fabiano et al., 2005; Huang et al., 2000; University of Illinois Urbana-Champaign Center for Prevention Research and Development, 2004).

Differences in Academic Gains as a Function of Youths’ Risk for Academic Failure.

In a world of limited resources, many argue that funding for after-school programs should be directed to youth who are most in need of these programs, and in particular, to youth who are at risk for school failure (a group that includes disproportionately large numbers of economically disadvantaged and ethnic minority youth). After-school programs may provide these youth with supports and enrichment that their parents are unable to provide and that they are unlikely to find elsewhere in the community. Academically at-risk youth may thus benefit more than less-at-risk youth from the opportunities for skill development and positive relationships afforded by participation in after-school programs. One researcher proclaimed that, “a truism in the field might be that those who need the most, benefit the most” (Miller, 2003, p. 57).

Reviews of the few studies that have explored differences in the academic benefits of after-school programs as a function of youth characteristics generally support this claim; research documents greater gains for youth entering the programs at greater risk, whether based on prior achievement levels or family characteristics (e.g., income, race/ethnicity; Bodilly & Beckett, 2005; Dynarski et al., 2004; Policy Studies Associates, 2002).

A small number of studies have also examined the possibility that students at greater academic risk benefit more from greater program dosage than do students at lower risk. First, one study of high school students found that frequent participation in an after-school program had a greater positive impact on school-day attendance among those in the second lowest attendance quartile (i.e., those who attended school 88 percent to 94 percent of the time the previous year) than among those in higher attendance quartiles (similar risk-based differences in the benefits of intensity were not observed for other academic outcomes, however; Birmingham & White, 2005). Second, a recent quasi-experimental evaluation found that (1) two years of participation in an after-school program led to greater academic gains among academically at-risk elementary school children (those with lower test scores) than among children who were not at risk (James-Burdumy et al., 2005), and (2) academic benefits among at-risk children were only observed after two years of program participation (Dynarski et al., 2004).

Finally, one additional study found that, although students who scored at or above grade level on math proficiency tests showed larger than expected gains in test scores after both one and two years of participation in an after-school program, students who scored below grade level
only exhibited gains after two years of participation (Reisner et al., 2004). Taken together, these findings suggest that youth at risk for academic failure, when compared to more academically-able students, may (1) benefit more from greater involvement in after-school programs, and (2) require greater involvement in order to reap academic benefits. These conclusions are only tentative, however; results must be replicated in future research.

Conclusions on the Benefits of Participation in After-School Programs

The literature reviewed above indicates that participation in after-school programs – particularly those that offer both enriching youth development activities and a strong academic component – often leads to small gains in academic performance. Though inconclusive, research also provides tentative evidence that youth who spend more time in after-school programs – particularly during adolescence – sometimes derive greater academic benefits than youth who spend less time in activities. Perhaps most importantly, our review demonstrates that academically at-risk youth may benefit more from participation in after-school programs than their higher achieving peers. This is particularly, and sometimes only, true when at-risk youth participate intensively and over a period of multiple years.

Challenges in Providing Equitable Access to After-School Programs

Despite the promise of after-school programs, access to programs remains limited among youth in demographic groups at high risk for academic failure – particularly economically disadvantaged youth. Federal, state, and local governments have taken initial steps toward addressing this problem. We have highlighted several public initiatives designed to increase the amount of funding for after-school programs that serve disadvantaged youth (e.g., federal 21st CCLC initiative, California’s Proposition 49), but there are a number of other funding-related obstacles that continue to interfere with efforts to provide more equitable access to effective after-school programs.

First, narrow funding priorities often make it difficult to provide disadvantaged youth with access to high-quality after-school programs. One review of state legislative initiatives to fund youth services and programs found that state policy makers are often primarily concerned with creating programs, and are less attentive to ensuring program quality (Langford, 2001). A brief from the Forum for Youth Investment similarly suggests that funding agencies often focus on the provision of direct services and do not direct sufficient funds towards staff training (Pittman et al., 2003). These funds may increase the supply of after-school programs, but stipulations regarding the use of funds may adversely impact the quality of after-school programs, particularly for disadvantaged youth who attend programs that depend heavily on grant funding.

Second, evidence indicates that many current funding mechanisms do not facilitate the development of sustainable programs. The above-mentioned review of state legislative initiatives revealed that most statutes only provide start-up support for out-of-school time programs and do not provide sufficient support for more long-term operating needs (Langford, 2001). This review also found that most state legislatures leave funding for youth services and programs to traditional appropriations processes, which subjects funding to political maneuvering and uncertain allocation (Langford, 2001). Some state legislatures have taken steps to address these concerns – California’s Proposition 49 gives funding priority to existing grantees and requires voters to approve cuts in appropriations (Afterschool Alliance, 2008b) – but most state legislatures have not.

Reliance on federal funding often leads to similar sustainability problems. For instance, 21st CCLC grants are time-limited (though grants have been extended from three years to five
years) and were originally conceived as seed grants that would ultimately be replaced by other sources of funding (The Finance Project, n.d.). Many grantees, however, struggle to provide programming, or to provide the same level of programming, once 21st CCLC grants expire (The Finance Project, n.d.). The Finance Project, an organization which researches and provides technical support to youth service providers, argues that policy changes in six areas may lead to greater sustainability among 21st CCLC grantees. Areas targeted for change include 1) the length of grant periods (in focus groups, grantees argued that five years is a more reasonable grant period than three years), 2) the implementation of declining grant awards, which may allow grantees to slowly accumulate new sources of funding, 3) the large size of grants, which may be difficult for grantees to replace, 4) renewal of funds for existing grantees, 5) training/technical assistance on sustainability, and 6) permission for programs to charge nominal fees that would provide a small revenue stream without placing an undue financial burden on economically disadvantaged families (federal guidelines allow nominal fees, but many state education agencies prohibit it; The Finance Project, n.d.). It is not yet clear whether policy changes in these areas will lead to improved sustainability among 21st CCLC grantees, but they are worth investigating. Unless these funds can be used in a way that facilitates sustainability, access to programs will remain limited among disadvantaged youth.

Finally, we cannot increase access to after-school programs among disadvantaged youth unless service providers can navigate the complex array of potential funding sources and accountability requirements. As highlighted in a recent review of the after-school field, funding for a single after-school program may come from a variety of unrelated philanthropic and government programs with disparate goals that include crime prevention, educational enrichment, and promoting employment (McLaughlin, 2000; Proscio & Whiting, 2004). Attempting to combine funds from these varied sources creates time-consuming administrative challenges, detracts from time and resources that could be spent on the provision of direct services, and makes it difficult to provide programming with a coherent set of goals. Large-scale local after-school initiatives constitute one response to this problem. These initiatives centralize fund-raising processes, channel funds to local after-school programs, and facilitate the development of coherent programming. These centralized efforts make it possible to, “blend dozens of funding sources into a simpler stream, so that individual schools and nonprofit groups can use the money in a consistent way, without having to relate separately to every government program and private donor” (Proscio & Whiting, 2004, p 14.).

Longstanding examples of such local initiatives include TASC,\(^5\) which currently supports over 260 programs for elementary, middle, and high school students in New York City, and LA’s BEST,\(^6\) which supports programs for elementary school age children in over 160 schools in the city of Los Angeles. Both initiatives serve more than representative numbers of economically disadvantaged youths in their communities (Huang, Gibbons, Kim, Lee, & Baker, 2000; Reisner, White, Russell, & Birmingham, 2004), and both strive to provide these youth with high-quality after-school programs. The successes of TASC and LA’s BEST programs highlight the fact that when local initiatives obtain, channel, and oversee the use of myriad public and private funds, it is possible to provide economically disadvantaged youth with greater access to a higher quality, sustainable after-school programs.

**Academic Implications of Increasing Access to After-School Programs Among Economically Disadvantaged Youth**

Evidence reviewed thus far suggests that it is, in fact, possible to increase access to after-school programs among economically disadvantaged youth, and that doing so may narrow the
academic gaps that currently exist across socio-demographic groups. To illustrate this point quantitatively, we conducted some rough, “back-of-the-envelope” estimates that show how increasing participation rates among economically disadvantaged youth might narrow the “achievement gap” between White and minority students.\(^7\) Our calculations draw on estimates from a recent meta-analysis, which suggests that (1) participation in an average after-school program may improve test scores by .16 of a standard deviation, and (2) participation in a program that utilizes an evidence-based curriculum may improve test scores by .31 of a standard deviation (Durlak & Weissberg, 2007). We used these estimates to compute the expected reductions in the achievement gaps between school-age white and minority youth (Black and Hispanic) that would occur if rates of after-school participation among economically disadvantaged youth increased from their current levels to 100 percent. Our computations required data on after-school participation rates and race/ethnic gaps in achievement test scores (African American and Hispanic youth score .86 and .71 of a standard deviation below white youth, respectively), both of which were taken from the nationally representative Panel Study of Income Dynamics.

We first examined the impact of increasing rates of after-school participation to 100 percent among youth living below the poverty level – youth who are also disproportionately Black and Hispanic (see Table 1, scenario 1). Using the lower-bound estimate of after-school program effects (.16), our computations indicate that population-wide participation in after-school programs among youth living below the poverty line would decrease the Black-White achievement gap by .03 of a standard deviation (about 4 percent of the gap) and decrease the Hispanic-White gap by .04 of a standard deviation (about 5 percent of the gap). Using the upper-bound estimate of after-school program effects (.31), we found that population-wide participation in after-school programs among youth living below the poverty line would decrease the Black-White achievement gap by .06 of a standard deviation (about 7 percent of the gap) and decrease the Hispanic-White gap by .07 of a standard deviation (about 10 percent of the gap).

A focus on those who live below the poverty level includes only those who live in extreme poverty and excludes a large group of slightly less poor youth who also face significant economic hardships. Thus, we also examined the impact of increasing rates of after-school participation to 100 percent among youth who live below 200 percent of the poverty level (see Table 1, scenario 2). Our calculations suggest that this would result in even larger reductions in achievement gaps than would increasing participation among children living below the poverty level. At the lower bound (i.e., using a program effect size of .16), increasing participation among those living below 200 percent of the poverty level would reduce the Black-White gap by .06 of a standard deviation (about 7 percent of the gap) and the Hispanic-White gap by .08 of a standard deviation (11 percent of the gap). At the upper bound (i.e., using a program effect size of .31), increasing participation among youth in this group would reduce the Black-White gap by .12 of a standard deviation (about 14 percent of the gap) and the Hispanic-White gap by .15 of a standard deviation (about 22 percent of the gap).

Accepting these estimates clearly requires making a lot of assumptions. To the extent that the academic benefits of after-school programs differ for youth in different economic brackets, race/ethnic groups, or age groups, our calculations may over or underestimate the effect of increased participation for some youth. Nonetheless, these estimates roughly illustrate the potential impact that greater access to after-school programs could have on reducing socio-demographic gaps in achievement. As these estimates suggest, however, the provision of equal access to after-school programs may not be sufficient to narrow existing achievement gaps. Our
estimates indicate that achievement gaps begin to close when participation rates increase dramatically among economically disadvantaged youth, but remain relatively constant among more advantaged youth. This is consistent with the idea that economically disadvantaged youth may need greater access to after-school programs in order to achieve academic outcomes similar to those of their more advantaged peers. In other words, in order to make real progress in the struggle for educational equity, we must strive to provide disadvantaged youth with unprecedented access to after-school programs. As our estimates suggest, even population-wide participation in after-school programs among poor youth is highly unlikely to completely eliminate existing achievement gaps, but it may be an important part of a multifaceted approach toward achieving this goal.

**Recommendations for Research and Policy**

Our review indicates that the provision of greater access to high quality after-school programs among disadvantaged, minority youth should aid efforts to reduce socio-demographic disparities in academic performance. There are, however, a number of unanswered research questions that have important implications for our ability to provide more equitable access to effective after-school programs. Additionally, policies on after-school funding, as they currently stand, may prohibit truly equitable access to high-quality after-school programs. Here we provide research recommendations that are aimed at facilitating a better understanding of the barriers to access and the benefits of participation in after-school programs. We also present policy recommendations that are aimed at removing some of the barriers to after-school participation among disadvantaged youth.

**Research Recommendations**

1. **More Research on the Root Causes of Low Participation Rates among Disadvantaged Youth**

   Findings reviewed above show us that economically disadvantaged youth are often less likely to participate in after-school programs than their more advantaged peers (Laird et al., 1998; Wimer et al., 2006). Reliable data on the source of this discrepancy are much harder to come by. It is unclear whether low rates of participation among disadvantaged youth reflect a poor supply of after-school programs in disadvantaged communities, or whether logistical and attitudinal barriers prevent disadvantaged youth from utilizing the programs that exist in their communities. Most who make the argument that low participation rates reflect supply problems cite a 1989 Chicago study that compared one higher- and one lower-income neighborhood and found more youth activities in the higher-income neighborhood (71 activities per 1,000 youth in higher-income neighborhoods versus 23 activities per 1,000 youth in lower-income youth) (Pittman et al., 2003).

   Though intriguing, the results of a study of two neighborhoods in a single city cannot be considered generalizable. The last comprehensive, nationwide study of after-school programs was conducted in 1991 (Seppanen et al., 1993) and did not explicitly address the question of whether the supply of after-school programs varies across higher- and lower-income communities. A nationwide follow-up study is needed that explicitly addresses questions about socio-demographic disparities in program supply and barriers to participation in existing programs. These data are necessary in order to determine the most effective way to improve access to after-school programs among disadvantaged youth – whether by allocating funds to increase program supply, or by allocating funds to remove barriers to participation in existing programs.

2. **More Research on Differences in Program Quality for More Versus Less Advantaged Youth**
Researchers and youth advocates frequently speculate that programs for disadvantaged youth are of lower quality than programs for more affluent youth. Evidence for this position comes largely from survey research, which indicates that lower-income and minority parents have more difficulty finding high-quality after-school programs for their children than higher-income and white parents (e.g., Duffett & Johnson, 2002). Although the perceptions of parents are important and provide some insight into the reasons for low participation rates among disadvantaged youth, more systematic and objective research is needed to verify and expand on this finding. Studies that employ trained raters to assess programs on a well-defined and theoretically coherent set of evaluation criteria are necessary in order to determine whether programs for disadvantaged youth are truly of inferior quality, and if so, on what specific dimensions of quality. This kind of data is essential for efforts to improve the quality of programs for disadvantaged youth.

3. More Evaluation Research on “Evidence-based” After-school Programs for Disadvantaged Youth

Our review of the literature suggests that programs that offer a strong academic component – beyond homework help – are associated with the greatest academic gains (Durlak & Weissberg, 2007; Lauer et al., 2006; Redd et al., 2002). Based on this evidence, after-school initiatives for disadvantaged, low-achieving youth have begun to adopt program models that include a strong academic focus. The Community Organizing Resources to Advance Learning (CORAL) initiative, which provides programs that serve lower-income, low-achieving elementary school students in five California cities, is one example of such initiatives (Arbreton, Goldsmith, & Sheldon, 2005). CORAL programming was originally limited to enrichment activities and homework help, but recently added a literacy component that is offered roughly five hours per week (Arbreton et al., 2005). An evaluation study conducted after the first year of literacy programming found that participation was associated with small gains in reading for youth as a whole, and larger gains for children with the most serious reading deficits (Arbreton et al., 2005). Results of the study suggest that quality was positively associated with reading gains, but that, on average, programs were of moderate quality at the end of the first year of implementation (Arbreton et al., 2005). Future studies are needed to determine whether the quality of CORAL programs will continue to improve over time, and whether improvements in program quality will translate into greater literacy gains for youth participants. Evaluation studies of other such “evidence-based” programs for disadvantaged youth are also needed in order to make conclusive determinations about the specific program components that are most strongly associated with academic performance among disadvantaged youth.

4. More Research on Differences in the Benefits of Participation Across Socioeconomic Strata

Though limited in size, the extant literature generally supports the notion that disadvantaged, low-achieving students derive greater academic benefits from after-school programs than their more advantaged, higher-achieving peers (Bodilly & Beckett, 2005; Dynarski et al., 2004; Policy Studies Associates, 2002). This conclusion is based on a small number of quasi-experimental studies, however. More rigorously designed, controlled experiments are necessary to replicate and explain these findings. Such studies have the potential to shed light on the program components that are most strongly associated with academic gains among disadvantaged, low-achieving students. Moreover, we found only a few studies that have examined the extent to which program dosage has differential benefits for youth from different socio-demographic groups and youth at different levels of academic risk (Birmingham & White, 2005; Reisner et al., 2004). This is a question that has important implications for educational
equity. We must know how much participation is necessary to elicit academic gains before we can provide the kind of access to after-school programs that is necessary to boost academic performance among disadvantaged, low-achieving youth.

Policy Recommendations

1. Continue to Make Public Funding for After-school Programs a Priority

Unlike after-school programs for affluent youth that enjoy a steady fee-based revenue stream, programs for disadvantaged youth depend heavily on public funding. Public funding for after-school programs has increased dramatically during the last decade. This review highlights several public initiatives to increase the amount of funding for after-school programs that serve disadvantaged and academically at-risk youth (e.g., federal 21st CCLC initiative, California’s Proposition 49). That said, demand for funding, particularly from programs that serve disadvantaged youth, continues to outstrip the supply of public funds. A 2006 report on 21st CCLC programs indicates that only 28 percent of applicants were funded in 2005 (Naftzger et al., 2006).

More federal funds for after-school programs are clearly needed in order to meet the needs of youth in disadvantaged communities. As previously mentioned, appropriations for 21st CCLC reached a plateau after 2002 and the current appropriated amount, though substantial ($1.1 billion), falls far short of the $2.5 billion originally authorized for 21st CCLC under NCLB (Afterschool Alliance, 2007). Given recent White House proposals to cut $300,000 million from the 21st CCLC budget in 2009, future 21st CCLC applicants may have an even more difficult time securing funding. In order to make strides toward educational equity, federal, state, and local governments must continue to make funding for after-school programs a priority.

2. Align Funding Priorities with Activities that will Truly Improve Access and Program Quality

Increasing the quantity of public funds available for after-school programs is a necessary and critically important part of efforts to create more equitable access to after-school programs. It also important that the programs that rely on these funds – i.e., programs that serve disadvantaged youth – are able to use them in a way that will truly increase access to after-school programs. As previously mentioned, disadvantaged youth are confronted with a multitude of logistical barriers that often prohibit them from participating in the after-school programs that exist in their communities. Transportation to and from programs, for instance, is a major barrier to participation for lower-income youth whose families may not have cars or money for public transportation (Lauver et al., 2004). Funding agencies, however, often focus on the provision of direct programming (Pittman et al., 2003) and may not provide adequate resources for supplementary components like transportation that play an essential role in facilitating access to programs. Funding priorities must be realigned in order to accommodate these realities.

Funding agencies must also give greater priority to activities aimed at improving program quality. Well-intentioned efforts to increase the supply of programs, and to ensure that funds are primarily directed toward programming, often come at the expense of program quality. While funding for direct programming should clearly remain the highest priority, it is also important that sufficient funds be made available for staff training and program evaluation. We can only improve the quality of programs for disadvantaged youth if the funders that they rely on provide adequate resources for improvement activities.

3. Ensure that Public Funding Mechanisms Facilitate Program Sustainability

Evidence reviewed above indicates that many current funding mechanisms do not facilitate the development of sustainable programs. Initiatives at the federal and state level often provide only time-limited support for after-school programs (Langford, 2001; The Finance
Reviewed evidence also indicates that governing bodies frequently leave funding for youth services and programs to traditional appropriations processes rather than creating protected sources of funding (Langford, 2001). Although some legislative bodies have taken steps to address these concerns (e.g., California’s Proposition 49 gives funding priority to existing grantees and requires voters to approve cuts in appropriations), many have not. We urge policy makers to investigate the potential benefits of legislative action that (1) creates protected sources of funding for after-school programs, (2) allows renewal of public funds for existing grantees, and (3) provides resources for technical assistance on sustainability. Ensuring that public funds can be used in a way that facilitates sustainability is critical to efforts to increase access to after school programs among disadvantaged youth.
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Footnotes

1 The term *impact* is conventionally reserved for describing findings from experimental studies. Non-experimental studies can only determine if a *relation* or *association* exists between participation and academic success. Program advocates frequently disregard this convention, thereby lending undeserved authority to non-experimental findings.

2 Two of the cited narrative reviews (i.e., Afterschool Alliance, 2003, 2006; Miller, 2003) focus largely on quasi-experimental and experimental research, but do include some studies that employ the single group pre- and post-test design.

3 A statistically significant gain signifies that improvements in program participants’ scores are larger than improvements observed for non-participants, and that this difference is not due to chance.

4 Different conventions are used for different effect sizes, but these are the conventions used to interpret the effect sizes reported in this paper.

5 The New York City TASC initiative strives “to make after-school programs more available to low-income kids, to improve their quality, and to make after-school programming a public responsibility” (The After-School Corporation, 2006, p. 8). TASC is a non-profit organization based in New York City that secures funding and provides monitoring, evaluation, and support for after-school programs serving more than 250,000 youth in New York City and beyond (the TASC model has been adopted by the states of New York and New Jersey). The initiative began in 1998 with a large grant from the Open Society Institute (OSI) and has grown tremendously since its birth. TASC initially created 25 programs with contributions totaling just over $14 million. Today TASC supports over 260 programs for elementary, middle, and high school students. These programs are located in public schools and run by staff from community-based organizations (e.g., YMCA, local settlement houses). A report for year seven (2004-2005) indicates that TASC has secured revenue in excess of $79 million from a diverse array of sources (the majority of which are public sources; The After-School Corporation, 2006). An evaluation of the TASC initiative in its fifth year suggests that, while there is still room for improvement, TASC programs perform well on a number of measures of operational quality (e.g., hiring qualified staff, staff job satisfaction, good relationships with the community, provision of staff training).

6 LA’s BEST, which began in 1988, is one of the oldest large-scale after-school initiatives in the country (Proscio & Whiting, 2004). LA’s BEST is a non-profit organization based on a partnership between the City of Los Angeles, the Mayor’s Office, and the Los Angeles Unified School District. The initiative draws funding from a variety of federal, state, local, and private sources and channels these funds to after-school programs serving roughly 26,000 youth in 168 schools. LA’s BEST serves only elementary schools, and only provides programs in schools where more than 50 percent of students receive free or reduced lunches. Reflecting a commitment to provide programs to students most in need, eligible schools must also be, “located in an area of economic need, be vulnerable to crime and gang activity, and demonstrate low student test scores” (LA’s BEST, 2007). A review of LA’s BEST vision, mission, and statement of values also finds that their goals are consistent with a number of the criteria for quality endorsed by the National Research Council, including: safety; appropriate structure (e.g., supervision); supportive relationships; opportunities to belong; youth input and leadership; opportunities for skill building; and integration of family, school, and community efforts (Eccles & Gootman, 2002).
These estimates are modeled after those conducted by Magnuson and Waldfogel (2005) to demonstrate the effects of increased preschool enrollment on racial and ethnic gaps in school readiness. Those who wish to obtain detailed procedures for computing these estimates should contact the first author.
Table 1

*Effects on Achievement Scores of Increasing After-School Participation*

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<tr>
<th>Scenario</th>
<th>Increase in Population Average in SDs</th>
<th>Decrease in Gap in SDs</th>
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<td></td>
<td>After-School Program Effect Size</td>
<td>African American</td>
</tr>
<tr>
<td>1. All youth below poverty line participate</td>
<td>.16</td>
<td>.04</td>
</tr>
<tr>
<td>2. All youth below 200percent of poverty line participate</td>
<td>.16</td>
<td>.09</td>
</tr>
</tbody>
</table>

Sources and notes: SD=standard deviation. Estimates of the percentage of school-age youth (K to 12) in after-school programs were calculated using data weighted to national averages drawn from the 2001 Panel Study of Income Dynamics Child Development Supplement (PSID-CDS). National rates of after-school program participation by race and ethnicity are as follows: white, 8percent; Black, 10percent; Hispanic, 7percent. For youth below 100percent of poverty line the corresponding estimates are: white, 1percent; Black 9percent, Hispanic, 9percent. For youth below 200percent of the poverty line the corresponding estimates are: white, 4percent; Black, 8percent; Hispanic, 6percent. Prevalence rates for youth living below 100percent and 200percent of the poverty line were derived from PSID-CDS as well. Prevalence rates for school-age youth living below 100percent of the poverty line: white, 6percent; Black, 28percent; Hispanic, 31percent. Prevalence rates for school-age youth living below 200percent of the poverty line: white, 18percent; Black, 60percent, Hispanic, 71percent.