A Snapshot of After-School Program Research Literature

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After-school programs, also commonly referred to as out-of-school time and expanded learning opportunities, are typically described as safe, structured programs that offer an array of adult supervised activities to promote the learning and development of kindergarten through high school students outside of the school day (Beckett et al., 2009; Harvard Family Research Project, 2008; Lauer et al., 2004). Most after-school programs operate for two to three hours after the school day ends, although they also occur over the summer break, and less frequently before school, on the weekends, and during school holidays (Afterschool Alliance, 2013a; Lauer et al., 2004; Harvard Family Research Project, 2008). Since the mid-1990s, after-school programs have gained popularity for a variety of reasons including:

- elevated educational standards within the test-based accountability movement that have prompted the use of after-school programs to offer additional time and learning supports to help raise the achievement of lower performing students,
- greater public interest in after-school programs to build children's social skills and to reduce teenage delinquent behavior,
- increased federal government funding for after-school programs, and
- growing maternal employment rates and dual-earner families which have created a need for children to be supervised after school (Afterschool Alliance, 2013a; Beckett et al., 2009; Gayl, 2004; Granger & Kane, 2004; Hammond & Reimer, 2006; Harvard Family Research Project, 2008; Lauer et al., 2004).

Abstract

A wide range of after-school programs have become available to students in grades K-12 over the past 15 years. Programs are generally grouped within those meeting needs related to academic performance (such as improved school attendance, grades, and achievement scores), social/emotional development, and prevention/behavioral outcomes. High quality studies have identified key components of the most effective after-school programs. Programs best support effective outcomes when they are directed by a clear vision, yet flexible to the changing needs of participants; managed by high quality staff who maintain an adult to student ratio between 1:10 and 1:16, and operate for a sufficient length of time (at least 45 hours). Active and consistent student participation in the program is also necessary to reap the full benefits. Additionally, partnerships with schools, families, and the community strengthen after-school programs. Depending on the type of program and how costs are measured, the annual cost can range between $450 and $7,000 per child.

As the need for after-school programs has increased, so has the diversity and availability of such programs. Programs may be unilaterally or jointly focused on academic enhancement, recreation, youth development and safety (Hammond & Reimer, 2006). Typical site locations include schools, youth-service agencies, faith and community-based organizations, museums, and county parks and libraries (Harvard Family Research Project, 2003). Additionally, after-school programs range from small single-site programs to city and statewide multi-site programs to national programs like the 21st Century Community Learning Center (CCLC) program which serves over 1.6 million young people in over 10,000 school- and community-based centers (Afterschool Alliance, 2013b; Gayl, 2004; Harvard Family Research Project, 2008). The 21st CCLC program grants federal funds to schools, post-secondary institutions, and other public, community and nonprofit agencies that provide after-school academic enrichment opportunities to children, particularly to students who attend high-poverty and low-performing schools (U.S. Department of Education, 2013).

Extant Research

As after-school programs have gained popularity and become a topic of national discourse, the U.S. Department of Education and policymakers have emphasized the importance of gathering research-based evidence of program outcomes. There has been a progression over the past 10-15 years toward conducting more rigorous research and evaluation studies and reviews. Nevertheless, the body of extant research on after-school school programs has its limitations. The purpose, practices, and goals of after-school programs vary depending on the needs they are trying to meet and the type of students they are targeting for service, which can pose difficulty in assessing the general impact of such programs (Beckett et al., 2009; Harvard Family Research Project, 2008; Redd et al., 2012).

The basis for the information snapshot presented in this bulletin is a variety of sources that have pointed to strong evidence of common after-school program outcomes, including academic performance, social/emotional development, and preventive/behavioral outcomes, as well as critical program components that support these outcomes. These resources consist of published syntheses of after-school program research and evaluations (Gayl, 2004; Hammond & Reimer, 2006; National Institute on Out-of-School Time, 2009), including those focused on experimental, quasi-experimental, meta-analyses, and some informative, non-experimental studies (Lauer et al., 2004; Harvard Family Research Project, 2003; Harvard Family Research Project, 2008; Redd et al., 2012), as well as a review of independent evaluations commissioned by federal and state governments and large foundations with a focus on examining student outcomes (Afterschool Alliance, 2013a).

Summary of Program Outcomes

After-school program outcomes are commonly classified into three major areas: academic performance, social/emotional development, and prevention/behavioral outcomes. Programs tend to be more successful at impacting these positive effects when they are specifically designed to do so. Table 1 provides a snapshot summary of these outcomes.

Table 1
Common Outcomes of After-School Programs

Academic Performance	Social/Emotional Development	Prevention/Behavioral Outcomes
Extant research provides evidence that students who participate in after-school programs can reap a variety of academic benefits when raising achievement through a balance of academic support and structured extracurricular activities is a program goal.	Many after-school programs also function to support students' social and emotional development.	After-school programs that focus on prevention outcomes are less common, yet effective when prevention is identified as a program component.
Empirically based positive outcomes may consist of:	The positive benefits may include:	Among the positive benefits are:
- more positive attitudes toward school - improved school attendance - deeper engagement in learning - higher homework completion - enhanced school performance in terms of achievement scores and grades - better chance of on-time promotion - reduced likelihood of being suspended or dropping out of school	- higher levels of self-confidence and self-esteem - increased social, communication, and leadership skills - greater community involvement, desire to help others, and respect for diversity - reduced chance of being anxious or depressed	- fewer incidents of delinquent and criminal behavior - gains in knowledge about safe sex - avoidance of sexual activity and alcohol or drug use
Variability in the extent of outcomes exists by subject among populations at different grade levels. After-school programs tend to have the greatest impact on reading among students in grades K-2 and the greatest impact on mathematics among middle and high school students (Gayl, 2004; Hammond & Reimer, 2006; Lauer et al., 2004).		Data indicate that the peak time for juvenile crime and experimentation with sex, alcohol, and drugs occurs between 3:00 to 6:00. Youth who receive supervision within preventive after-school programs are more likely to reap the aforementioned benefits than unsupervised youth (Gayl, 2004; Harvard Family Research Project, 2008).
Resources: Afterschool Alliance, 2013a; Gayl, 2004; Harvard Family Research Project, 2003; Harvard Family Research Project, 2008; Redd et al., 2012		

Factors that Promote Successful Outcomes

Evidence points to several critical components of after-school programs that can support positive outcomes. In some cases, key features may be more effective for after-school programs, depending on whether they focus on improving reading or mathematics. Common factors include after-school program structure, participation, and partnerships.

Program Structure

After-school programs which are structured to provide high quality yet flexible and extensive interventions tend to have more successful outcomes. High quality after-school programs have the following features in common: appropriate supervision by well-trained, professional staff and a clear vision and goals for the program (Harvard Family Research Project, 2008). The quality of the staff has been found to be an especially important feature of after-school programs that emphasize reading. In particular, staff should have training in the program curriculum being implemented, have content knowledge, and be flexible in modifying program components to accommodate diverse student needs (Hammond & Reimer, 2006; Lauer et al., 2004).

It is also important that programs maintain a low adult to student ratio, which for groups of children age six and older should be between 1:10 and 1:16 (U.S. Department of Justice and U.S. Department of Education, 2000). Low ratios are essential for providing individual tutoring within after-school programs that want to improve the reading outcomes of lower performing students and for offering additional time for remediation within mathematics after-school programs (Hammond & Reimer, 2006; Lauer et al., 2004). In addition, programs should be flexible and responsive to the changing needs of program participants, utilize age-appropriate materials and activities, and be mindful of evaluating their progress and effectiveness (Hammond & Reimer, 2006).

The duration and intensity of the after-school program matters as well. It appears that short-term interventions, particularly for reading, are not effective, especially in the longer-term. Evidence shows that after school programs specifically intended to improve student achievement in reading and mathematics that were implemented for at least 45 hours had statistically significant positive results. Such programs should not run indefinitely, as the results started to decline as reading programs exceeded 210 hours and mathematics program ran for more than 100 hours (Lauer et al., 2004).

Program Participation

In order for students to reap the benefits associated with after-school programs, they first must have access to them, and then, their participation must be frequent and active. Often times, children and youth from families with lower socioeconomic status and those with an increased risk of academic failure or of dropping out of school do not participate in after-school programs for a variety of reasons, including lack of information and resources, no availability, or by choice (Gayl, 2004). When these students do participate, studies indicate that they are most likely to benefit from involvement (Afterschool Alliance, 2013a; National Institute on Out-of-School Time, 2009; Redd et al., 2012).

For students who opt to join after-school programs, it is critical that they continue their involvement in order to meet the program objectives. Programs that appeal to students' interests and needs and offer new opportunities are often attractive and can help sustain participation (Harvard Family Research Project, 2008). High interest programs that allow autonomy and creativity and are staffed by fun, energetic, and nurturing adults trained to work with youth are especially important for keeping older students involved (National Institute on Out-of-School Time, 2009).

Program Partnerships

After-school programs are stronger when they establish partnerships with schools, families, and communities (Harvard Family Research Project, 2008). Creating partnerships to involve families in program planning and activities, encourage parent-staff communication, and gain community collaboration are essential elements to program success (Hammond & Reimer, 2006). In some instances, parents and community members may also serve as volunteers whose contributions support program staff and functioning.

Program Costs

Families may pay a fee to participate in after-school programs or they may be provided at no charge. For instance, supplemental education services (SES) offered by state-approved public and private providers supply free tutoring and academic support to students outside the school day (Beckett et al., 2009; Redd et al., 2012). Even if programs are free of charge, they are not free of cost. Findings from cost studies of after-school programs indicate that program costs can range from about $450 to $7,000 per child per year depending on the type and length of the program and whether in-kind resources and startup, operating, and system-building costs are used in cost calculations (National Institute on Out-of-School Time, 2009). A cost-effectiveness analysis by staff at the Rose Institute at Claremont McKenna College in California reports that for every dollar invested in after-school programming, including those providing educational enrichment, academic tutoring, and homework assistance, $3-$13 can be saved in potential costs incurred from low educational achievement such as in-grade retention and future incarceration (Brown, Frates, Rudge, & Tradewell, 2002).

General Recommendations

Recommendations for after-school programs vary according to which stakeholder group they are intended to inspire. Three general recommendations are proposed for Wake County Public School System (WCPSS) staff who design, implement, or maintain after-school programs as well as those who evaluate them. Suggestions include whom to target for participation and optimal methods for structuring and evaluating programs.

Target program resources to efficiently and effectively reach academically vulnerable children. Educational policy procedures should ensure that after-school program staff place priority on targeting students who would most benefit from the educational, developmental, and extracurricular activities and opportunities afforded by such programs (Gayl, 2004). As such, it

is very important to actively invite students and families into after-school programs, particularly students who are at-risk of academic failure or of dropping out of school. In addition, after-school programs need to sustain the participation of these students. Rather than mandate a certain level of participation or face removal from the program, research indicates that a more effective strategy is for program staff to make home visits or personal phone calls to encourage participation (Granger & Kane, 2004). Ensuring that students have available transportation from after-school programs is also important for enlisting and sustaining participants. WCPSS provides a range of educational support to struggling students during and outside of the school day. Further study of the effectiveness of current programs is needed to determine whether additional or novel after-school programs should be implemented within the district.

Offer high quality after-school programs that are sufficient in duration and intensity and purposefully designed to impact outcomes. As previously mentioned, a wide range of program types are characterized as after-school. These varied models can make a difference in the lives of students when they change students' daily experiences. Such positive transformations are most likely to occur within high quality, goal-oriented programs that run often and for a substantial length of time (Granger & Kane, 2004; Lauer et al., 2004). It is important that WCPSS programs operate for at least 45 hours during the school year, which could be met by following a variety of structures (four hours a week for at least 12 weeks, two hours a week for at least 24 weeks, etc.).

Evaluate the effectiveness of after-school programs based on a range of short-term, intermediate, and long-term outcomes using rigorous evaluation methods. In their review of after-school programs, Hammond & Reimer (2006) indicate that positive impacts should not be expected for at least six months after program implementation. However, researchers should not ignore the potential incremental benefits (the smaller, more immediate outcomes) that impact longer-range results (The Forum for Youth Investment, 2002). Consequently, improved test scores should not be the only outcome that is evaluated. Improvements in shorter-term outcomes that can impact academic performance should be examined such as homework completion, grades, higher-order thinking, content knowledge, and study habits as well as increased self-confidence and social skills. Identifying the impacts of preventive outcomes, such as delinquent or criminal behavior, may be more difficult yet is still important (Gayl, 2004; Granger & Kane, 2004). Ideally, rigorous studies employing experimental or quasi-experimental designs should be conducted on programs that serve a large number of students who have high levels of participation. There should also be a shift in program evaluation focus beyond outcomes to offering empirical evidence about program conditions that best promote the positive outcome (Redd et al., 2012).

Resources

To obtain more detailed information on after-school programs, please peruse the sources used in this bulletin. Many of the resources offer information about specific after-school programs that have been effective at producing a variety of outcomes. One resource in particular offers research on effective after-school program practices based on experimental and quasi-experimental studies meeting the *What Works Clearinghouse* standards for determining evidence (Beckett et al., 2009). Additionally, the Harvard Family Research Project has developed and

maintains a national after-school program evaluation database that serves as the basis of many of their publications. Within the database are profiles that contain an overview of the program or initiative that was evaluated and detailed information about each report produced about that program. For more information and to access the database, please go to http://www.hfrp.org/out-of-school-time/ost-database-bibliography

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