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How to Provide Quality Opportunities for Young People in the Summer Months

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About This Paper

This paper summarizes knowledge about summer programs for young people. We discuss academic programs, employment programs, recreational programs, and programs that address specific health, behavioral, or learning needs. We consider implications for practice, policy, and funding to help communities effectively leverage the opportunity of summer. Government policymakers, philanthropic funders, district and school leaders, and community, county, and city organizations should find this synthesis helpful.

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KEY INSIGHTS

- All children and youth can benefit from participating in summer programs to learn, make new friends, develop a new hobby, exercise, eat well, and receive mentoring from trusted adults.
- Research has found that summer programs can benefit children and youth in terms of reading, career, health, social, behavioral, educational persistence, and science, technology, engineering, and mathematics outcomes.
- Many types of summer programs can be effective in promoting positive outcomes and developing skills and interests, including academic programs, employment programs, and programs that address specific health, behavioral, or learning needs.
- Summer programs that target children and youth who have fewer opportunities for enrichment and academic advancement are worthy of public investment and should be funded at levels that support high-quality programming.
- Districts should consider offering voluntary summer learning programs as part of their efforts to advance student achievement, particularly if they can offer these programs over multiple consecutive summers.
- High-quality programs require advance planning and attention to program content, duration, staff expertise, and youth attendance.
- Policymakers and communities should consider summer as part of their investment efforts to advance youth development.

The 2011 report *Making Summer Count: How Summer Programs Can Boost Children's Learning* (McCombs et al., 2011) documented what was known at that time about summer learning loss and the effectiveness of summer learning programs and what remained unknown. Since then, there have been many studies about the impact that summer has on youth trajectories, the effectiveness of summer programs, and how to create and sustain high-quality summer programs. This paper summarizes knowledge about K–12 summer programs in the United States and discusses the implications of summer programs for practice, policy, and funding to help communities effectively leverage summertime.

Summer provides an opportunity to advance multiple goals for children and youth. Summer program participants have the potential to learn, make new

friends, feel safe, develop a new hobby, exercise, eat well, receive mentoring, and more. Public funding for summer programs often targets children and youth with particular needs, such as children from under-resourced families who tend to be disadvantaged during the summer in terms of not just academic growth but also access to nutritious meals and enriching activities.

Despite widespread recognition that the summer period is an opportunity, funding for summer programming is at risk. On the basis of evidence that well-implemented summer programs can effectively address student needs, the U.S. Department of Education announced that the summer period would be part of a strategy to help young people recover from academic and social losses because of the coronavirus disease 2019 (COVID-19) pandemic (U.S. Department of Education, 2021). In response, most school districts have been offering some type of summer programming. In a nationally representative survey fielded in fall 2024, 84 percent of district leaders reported that one or more of their schools had offered a program in summer 2024 (Diliberti, DiNicola, and Schwartz, 2025). Our hope is that government policymakers, philanthropic funders, district and school leaders, and community, county, and city organizations will find this synthesis helpful in planning summer programs and in informing funding decisions about summer programming.

Why Is Summer Programming Important?

A 2019 National Academy of Sciences consensus report (National Academies of Sciences, Engineering, and Medicine, 2019) on summer experiences highlights the inequitable impact that summer has on the opportunities and health and well-being of children and youth from different backgrounds. Many of these experiences vary by family income and therefore contribute to income-based inequity. Many children and youth from families with lower incomes are also youth of color, meaning that negative summer experiences are both income- and race-related.

Summer widens income-based opportunity gaps. During the summer months, children and youth from families with lower incomes have less access to summer programs, enriching experiences, and safe places to play. In 2019, an estimated 12.6 million children participated in a structured summer program. Children from families with higher incomes were almost three times more likely to participate in a structured program than were children from families with lower incomes. Lower participation was not a result of lack of interest; families with lower incomes were more likely to report wanting to enroll their children in an affordable, high-quality program if one was available compared with families with higher incomes (35 percent versus 28 percent) (America After 3PM, 2021). Also, children from families with lower incomes were less likely than their peers from families with higher incomes to engage in informal enriching experiences, such as visiting a beach, a zoo, an aquarium, or an amusement park during the summer (America After 3PM, 2021; Redford, Burns, and Hall, 2018). Furthermore, during summer and throughout the school year, children and youth from higher-poverty communities have less access to safe play spaces, have fewer opportunities to participate in outdoor physical activities, and are less likely to play on a youth club sports team relative to their peers living in higher-income communities (Milteer and Ginsburg, 2012).

Summer increases food insecurity among children and youth from families with lower incomes. During the school year, children have access to school-based food and nutrition programs. During the summer months, access to those programs is reduced, increasing food insecurity for many children (Gordon et al., 2017). In summer 2017, about 3 million children participated in federal summer nutrition programs compared with 20 million children who participated in free and reduced-price school lunch during the 2016–2017 school year. Rural areas in particular face challenges operating summer meals sites because of geographic spread and limited transportation options (Hayes et al., 2018). Without as much access to healthy meals in the summer, youth face not only food insecurity but also weight gain because the

types of food they consume shifts, and there are fewer opportunities for structured exercise (Tanskey et al., 2018).

Summer is an opportunity to close academic gaps. According to research on post–COVID-19 pandemic recovery rates, average academic achievement in most U.S. states remains behind 2019 levels (Fahle et al., 2024). Perhaps more importantly, the recovery has not closed academic gaps between White and non-White students or between students from lower- and higher-income families. Research has identified that the recovery during the 2022–2023 school year was led by higher-income districts; students in lower-income districts were further behind in 2023 than they were in 2019 (Fahle et al., 2024). Even if non-White students and students from families with lower incomes are not more likely to lose ground in the summer, the summer period is an opportunity to focus on their academic development.

What Kinds of Summer Programs Are There and How Do They Benefit Young People?

Summer programs can advance a variety of goals for children and youth, including ensuring safety, developing interests and skills, and addressing specific academic, behavioral, health, or other needs. Thus, it is not surprising that there are different types of summer programs, including recreational camps, specialty camps, academic programs, and youth employment programs. There are also summer programs that provide targeted services and interventions to meet particular physical or mental health needs, such as camps for children with anxiety. Summer programs serve children and youth in a variety of settings, including schools, camps, community-based organizations, college campuses, churches, workplaces, and homes.

Not all types of summer programs and outcomes have been rigorously evaluated. A systematic review (McCombs et al., 2019) found that two-thirds of studied outcomes were from programs that address academic needs. Some popular activities, such as sleepaway camps, have no associated rigorous evidence about their effectiveness. More research has been done on summer programs supported by public funding than on those supported by parents because of the desire to understand the effectiveness of government funding.

Furthermore, the existing research does not cover all the benefits that summer programs can provide. For instance, the National Academy of Sciences consensus report on summer experiences notes that it is likely that quality programs improve youth physical safety and supervision, even though these benefits are rarely studied (National Academies of Sciences, Engineering, and Medicine, 2019). Also, summer programs often provide meals; although this practice has not been evaluated, those meals likely help reduce food insecurity (or weight gain) among children and youth who face economic disadvantages.

It is also important to note that studies that do not find positive outcomes might be less likely to be published, potentially resulting in upwardly biased research evidence about the effects of summer programs.

With these caveats in mind, we highlight what is known about the effectiveness of different types of summer programs. We start with programs that are aimed at improving academic outcomes, which include voluntary academic, at-home learning, credit recovery, mandatory summer school, and school transition programs. We then discuss summer youth employment programs, followed by an overview of programs designed to benefit youth with specific social, behavioral, or mental health needs. We end by summarizing what we know about summer recreational programs.

Voluntary Academic Summer Programs Can Be Effective at Improving Academic Outcomes, Particularly for Students with High Rates of Attendance

Voluntary academic summer programs are provided to children and youth with the intent of improving success in school, most often in reading and/or mathematics. Several rigorous evaluations have studied voluntary academic summer programs.

Rigorous Studies Find That Voluntary Mathematics Programs for K–12 Students Can Be Effective in Improving Mathematics Achievement

A meta-analysis concluded that students who attended summer programs with a math component tended to outperform comparison students on math assessments. The same analysis concluded that the benefits to math learning were stronger than those observed from teacher merit pay, teacher professional development, data-driven instruction, and school choice initiatives (Bowens and Warren, 2016; Jackson, 2011; Lynch, An, and Mancenido, 2023; Snipes et al., 2015; Stewart, 2017).

Voluntary Early Grade Literacy Programs Can, but Do Not Always, Benefit Students

Voluntary early grade literacy programs offered to students who are performing below grade level or students who are from families with lower incomes resulted in mixed evidence; some rigorous studies found literacy benefits and other rigorous studies did not find benefits (Beach and Traga Philippakos, 2021; Borman, Goetz, and Dowling, 2009; Cleary, 2001; Edmonds et al., 2009; Luftig, 2003; Schacter and Jo, 2005; Waters, 2004; Zyoch and Stevens, 2011). None of the reading programs that were short in duration (e.g., one half-day or three-week programs) were found to be effective. One study examined long-term outcomes: The authors assessed a voluntary summer reading program that provided rising second-grade students with two hours of daily reading instruction and a set of camp activities for seven weeks. The authors studied the effect of the program on children's decoding and reading comprehension at three, six, and nine months (September, December, and May) after the intervention; they found that, although the effect sizes for decoding and reading comprehension declined from September to December to May, the benefits in reading comprehension were still significant in May (Schacter and Jo, 2005).

Voluntary Multi-Subject Academic Programs That Provide Academic Instruction in Mathematics and Reading and Nonacademic Enrichment Activities (e.g., Arts, Sports, Archery, Sailing) Can Address Academic and Opportunity Gaps

Academic and enrichment programs are designed for students to learn, develop interests and skills, and have fun, and they are often offered by school districts with community partners. There is evidence that these programs can yield benefits in reading and mathematics (Allen, 2003; Augustine et al., 2016a; Betts, Zau, and King, 2005; Borman, Pyne, and Pyne, 2024; Burgin and Hughes, 2008; Chaplin and Capizzano, 2006; Concentric Research & Evaluation, 2018; Dynia et al., 2015; Garcia et al., 2020; Opalinkski, 2006; Scuello and Wilkens, 2016; Story, 2008), although there are studies that find no evidence of effectiveness on academic outcomes (Bakle, 2010; Dwight, 2010; Herrera et al., 2021; Pyne, Messner, and Dee, 2023). A 2023 evaluation of more than 35,000 students enrolled in a voluntary academic and enrichment summer program across eight cities identified positive outcomes in both mathematics and reading (Borman, Pyne, and Pyne, 2024). Another study of voluntary, multi-subject summer learning programs for elementary and middle grade students in eight districts found that students benefited in math but not in reading (Callen et al., 2023). The math benefits were small overall, but there was variation among districts' outcomes, indicating that some districts might have been better at implementing their programs (or garnering consistent student attendance). A study published in 2023 (Pyne, Messner, and Dee, 2023) found a positive impact on school-year attendance for eighth-grade students who had participated in a summer program for three years. Studies of other programs have found no impacts on school-year attendance (Augustine et al., 2016a; Mac Iver and Mac Iver, 2015; Northwest Evaluation Association, 2011).

The most comprehensive evidence about voluntary, multi-subject plus enrichment summer learning programs comes from the National Summer Learning Project (NSLP), which was a longitudinal, multi-district, randomized controlled trial that evaluated a five-week voluntary summer learning program. The NSLP, which ran for two summers in 2013 and 2014, was designed to understand whether and how districts and community partners could run these programs at scale (serving large numbers of students), whether there would be demand for the programs, the effect of consecutive summers of programming on student outcomes, and the persistence of effects over time. The programs were run by districts with community partners and offered to large numbers of students. Demand for the programs was strong, and districts recruited far more students than could be served, allowing the researchers to randomize students for the study.

After the first summer of the NSLP, students who participated in the program (treatment group students) outperformed control group students on fall mathematics assessments (with the score difference equal to about 15 percent of what students at that age learn in a year). Treatment students did not outperform control group students on spring mathematics assessments or fall or spring reading assessments. However, students who attended the NSLP program at high rates (for at least 20 days) benefited in mathematics in the fall relative to control group students (with the score difference representing 25 percent of annual math gains), and those effects persisted through the spring. After two summers of NSLP programming, students with a high rate of attendance outperformed the control group in state assessments of both mathematics and reading in the fall and spring (Augustine et al., 2016a).

Over the Long Term, the Magnitude of Academic Advantage That Participants Received from Voluntary, Multi-Subject Academic Summer Programs Decreases but Remains Detectable

Few researchers track outcomes longitudinally, so the evidence of long-term effects is limited. The NSLP tracked student outcomes for three school years after the second summer of programming, when the students were at the end of grade 7. After three years, the benefits for students with a high rate of attendance and students who attended consecutive summers had decreased in magnitude and were not statistically significant. It is unclear whether the benefits dissipated over time, whether the comparison group caught up, or both (McCombs et al., 2020). However, when the benefits were benchmarked against typical achievement gains at the same grade level (Lipsey et al., 2012), they remained large enough to be educationally meaningful. For students with a high rate of attendance for both summers, the 2017 estimated effect sizes represented 19 percent of typical annual growth in language arts and 23 percent of typical annual growth in mathematics.

At-Home Summer Learning Programs Can Improve Students' Academic Performance When Appropriately Structured

At-home learning programs are compelling options because they tend to be lower cost than in-person programs, but they do not provide the benefits of in-person programs, such as a safe environment, healthy meals, and opportunities for mentoring and social interactions. There are several rigorous studies of elementary-level at-home reading programs that provide children high-interest books at their targeted reading level. One study (Borman, Yang, and Xie, 2021) found that participating students were more likely to maintain their reading skills over the summer than a comparison group that did not

participate in the program. Effective programs tended to occur over multiple summers (Allington et al., 2010; Stein, 2017) and/or were scaffolded by teachers prior to or during the summer (Kim and White, 2008; Kim et al., 2016; Melosh, 2003). For instance, in one program, students participated in a school-year book fair and voluntary summer reading for three summers before the program resulted in positive impacts on students' state reading scores (Allington et al., 2010). The most studied at-home reading program, Project Reads, was effective when scaffolded instruction (on fluency and comprehension strategies) was provided by teachers prior to the summer (Kim and White, 2008; Kim et al., 2016); versions of this program without this scaffolding have not been associated with positive outcomes (Kim, 2006; Kim, 2007). Only one rigorously studied at-home learning program focused on mathematics: a nine-week program for middle school students that covered mathematical concepts from the prior school year. In the fall, the mathematics learning program participants performed better on mathematics assessments than did students in a comparison group (Nelson, 2014).

High School Credit Recovery Programs Are Ubiquitous but Have Not Been Well-Studied

Students enroll in summer credit recovery courses to retake a course that they did not pass during the school year, gain additional credits, and/or accelerate through a course series more quickly. These programs are not typically evaluated for effectiveness, and passing the course is considered a demonstration of mastery of the content. Recent research has looked at the efficacy of online summer credit recovery courses relative to traditional, in-person courses. These studies tend to find no differences between online courses and traditional in-person courses with regard to the number of credits recovered or graduation rates. However, some studies have found that students who take online courses in the summer are from families with lower incomes (Heinrich and Cheng, 2022), have lower rates of credits recovered in English classes (Rickles et al., 2024), and have lower test scores in biology than students who take in-person credit recovery courses (Viano and Henry, 2024).

Mandatory Summer Programs That Provide Academic Remediation Can Improve Students' Academic Performance

Mandatory summer academic programs are offered by schools and districts to elementary and middle school students who are at risk of being retained in grade because of below-grade-level performances. Participation and successful completion are necessary for the student to move on to the next grade or course. Studies have found that mandatory summer school programs that

provide reading and math instruction to elementary school students can improve reading (Matsudaira, 2008) and mathematics achievement (Mariano and Martorell, 2013; Matsudaira, 2008).

School Transition Programs Can Be Effective

There are a small number of studies on school transition programs at the K–12 level. To ease the change into a new environment, summer transition programs bring students who are entering a new school level (e.g., from elementary to middle school) to the new building to orient them to the routines, environment, and staff. Some programs also provide academic content prior to the start of the school year. On the basis of the evidence, transition programs benefit students. For instance, a study of a kindergarten orientation program found benefits in terms of participants' social interactions and daily routines in the following fall (Berlin, Dunning, and Dodge, 2011), and a study of a grade 9 transition program for students who are at risk of dropping out increased the number of high school credits participants earned by the end of grade 9 (Northwest Evaluation Association, 2011).

Summer Youth Employment Programs Can Improve Academic Outcomes and Reduce Involvement in Crime

Cities across the country offer summer employment programs for high school–aged youth, and those programs have been well-studied. Large-scale, rigorous studies have been conducted of summer youth employment programs in Boston, New York City, and Chicago. These studies found improved engagement with school (in Boston, higher attendance and graduation rates) (Leos-Urbel et al., 2012), greater participation in and performance on academic assessments (in New York) (Leos-Urbel et al., 2012; Schwartz et al., 2014), better course performance after two summers of participation (in Boston) (Modestino and Paulsen, 2023), and reduced violent crime arrests among participants in jobs programs that included a social and emotional learning component (in Chicago) (Heller, 2013). Another New York study found that students who had been arrested before the program had fewer arrests and convictions during the program and fewer criminal justice contacts for up to five years after the program than students in a control group (Kessler et al., 2022). Moreover, youth employment in general is associated with future employment rates and earning potential, particularly for youth who face disadvantage (Bailey and Merritt, 1997; Bishop, 1996; Osterman, 1995; Poczik, 1995).

Summer Intervention Programs Designed to Meet Specific Health, Social, or Behavioral Needs Tend to Be Effective in Meeting at Least Some of Their Goals

Some summer programs are designed to address the needs of a special population, such as students with language-based disabilities, behavioral needs, or attention deficit disorder. Some of these programs have been evaluated. These programs provide content aimed at improving a set of outcomes related to specific youth needs; the programs tend to be small and highly customized. Rigorous research has found that many of these types of programs are effective at improving targeted outcomes, including the following:

- Programs that are focused on increasing self-advocacy among students with learning disabilities resulted in improved participant self-advocacy skills (Grenwelge and Zhang, 2013) and self-esteem (Stevens, 2005).
- Programs that are designed for children and youth with social difficulties improved participants' social skills (Hektner, Brennan, and August, 2017) and their ability to seek friendship help (Foley-Nicpon et al., 2017).
- A program for girls with separation anxiety reduced separation anxiety and improved global functioning (Santucci and Ehrenreich-May, 2013).
- A program for youth with autism spectrum disorder improved participants' assertion and their ability to interpret adult tone of voice (Lerner, Mikami, and Levine, 2011).

An evidence review of summer programs found that a high proportion of rigorously studied specialized intervention programs were effective, which might be because of the tight alignment between participant needs, program content, and outcomes evaluated (McCombs et al., 2019).

There are also examples of effective interventions being embedded within a recreational summer program. For example, a basketball summer camp for tribal community youth that included an evidence-based intervention focused on reducing HIV risk was effective in improving condom use self-efficacy, the belief that condoms prevent HIV, and intention to use condoms (Tingey et al., 2015).

Summer Recreational Programs and Camps Are Popular, Provide Valued Experiences, and Are Rarely Rigorously Studied

Recreational programs and camps encompass a broad group of programs that vary in duration (e.g., half-day, full day, overnight), frequency (e.g., daily, weekly, monthly), operator type (e.g., faith-based, governmental, nonprofit, for-profit), content (e.g., multi-content; sports; recreation; outdoor education; science, technology, engineering, and mathematics [STEM]; arts), cost (free to tens of thousands of dollars), and accreditation status (National Academies of Sciences, Engineering, and Medicine, 2019). Although very popular, summer camps have not been rigorously evaluated, which might be appropriate given the broad goals that parents have for these programs—safety, engagement, quality experiences, social connections, and exploration of skills and interests—and the duration of the programs, which can be as short as one week.

Recreational programs that have targeted, specialized content (such as gymnastics, science, or theater) have been demonstrated to influence youth interests and skills. For example, there are two rigorous studies of STEM programs offered by universities that were intended to attract females into STEM careers. These programs were effective in influencing interest in science careers (Gibson and Chase, 2022) and attitudes toward science (Ellis-Kalton, 2001).

In Sum, Several Different Types of Summer Programs Have Been Found to Have Positive Outcomes

Rigorous research has found that summer programs can benefit children and youth in terms of STEM, reading, math, career, behavioral, health, social, and educational persistence outcomes. We summarize the findings in Table 1.

TABLE 1

Outcomes Associated with Different Types of Summer Programs

Program Type	Type of Student Served	Content	Program Length	Typical Instructor	Outcome[a]
Voluntary academic	• Kindergarten through grade 6 students • Often targeted to students who need additional academic support or who are from families with lower incomes	• Reading, mathematics, and nonacademic enrichment activities	A full day for 5 to 6 weeks	• Certified teachers (academics) • Community organization staff, teachers, or aides for enrichment	• High mathematics and/or language arts test scores • Benefits are strongest for students with high or consecutive summer attendance
At-home learning	• All students • Often targeted to students in high-poverty schools	• All students • Often targeted to students in high-poverty schools	Not applicable	• Not applicable	• Less learning loss • High mathematics or language arts test scores, particularly if scaffolded or offered over multiple summers
Credit recovery	• Students who do not pass a course or who want to gain additional credit	• High school subjects	A half-day for 4 to 6 weeks	• Certified teachers	• Not typically studied • Passing the class is considered a valid method of demonstrating content mastery
Mandatory academic	• Students who do not meet academic promotion standards	• Math and/or reading	A half-day for 3 to 5 weeks	• Certified teachers	• High math and/or language arts test scores

TABLE 1.
Outcomes Associated with Different Types of Summer Programs, Continued

Program Type	Type of Student Served	Content	Program Length	Typical Instructor	Outcome[a]
School transition	• Students who are entering a new school level (e.g., entering kindergarten, middle school, or high school)	• School routines and orientation	A half-day for 1 to 2 weeks	• Certified teachers	• Easier adjustment to the new school • High school program for at-risk youth increased the number of credits earned
Youth employment	• Teenagers who are often living in communities with high rates of poverty	• Work experience, sometimes with additional mentoring	4 to 6 weeks	• Not applicable	• Academic benefits in reading and mathematics • Higher attendance rates in school • Reduced violent crime arrests in the near term and longer term
Intervention programs	• Students who have particular social, behavioral, or health needs	• Intervention focused on specific student need	Varies	• Intervention specialists	• Improved outcomes related to the content of intervention
Recreation	• Any student	• Varies (arts, sports, outdoor education)	A half-day or a full day for 1 week or multiple weeks	• Varies depending on the program	• Not typically studied • Specialized STEM programs have influenced interests and skills related to the program content

[a] The listed outcomes are based on rigorous evaluations.

What Makes Summer Programs Effective?

Although summer programs can be effective, they are not guaranteed to be. The research base points us to implementation factors of structure, participation, and staffing that are associated with effectiveness. However, much of what we know about effective implementation comes from academic summer programs, and much of our detailed understanding about how to implement summer programs comes from the NSLP. Most evaluations of summer programs do not report implementation information on such aspects as personnel, staff training, class size, or participant attendance (McCombs et al., 2019). The NSLP was unique not only in terms of length, scale, and size but also in terms of the amount of implementation data collected. The study team tracked program implementation for five districts across four summers and collected extensive interview, survey, observation, and attendance data (Augustine et al., 2016b). Although much of what we know about effective implementation pertains to these (and other) summer academic programs, several of these concepts likely apply to other types of programs.

Effective programs align goals, content, participant needs, and outcome measures. For programs to meet their goals, they must be purposefully designed with relevant goal-aligned content. For example, if a program goal is to develop leadership skills, there must be opportunities to actively develop those skills in the program; leadership skills will not emerge simply from participating in a summer program. In general, summer programs do not measurably affect outcomes that are not directly addressed in the program design and content (McCombs et al., 2019). In an evidence review of summer programs, all programs that were designed to address specialized mental health, social, or behavioral needs of specific populations were found to be effective. It might be that the efficacy of these programs is tied to the intense targeting of content to specific needs. At the same time, this review found that other programs tended to be effective in addressing some but not all measured outcomes (McCombs et al., 2019). Another review of literature about out-of-school time found that programs tended to be effective in meeting outcomes that are directly linked to the content of the programming but did not tend to measurably change less-central outcomes (McCombs, Whitaker, and Yoo, 2017).

Programs must operate for a sufficient length of time to meet desired goals. The amount of time a program should be offered will vary depending on what the program is trying to accomplish. For voluntary academic programs that aim to improve both math and reading outcomes, the research indicates that programs must operate for at least five weeks over the summer to maximize the probability of producing meaningful academic benefits (Augustine et al., 2016a). A systematic evidence review found that no

voluntary academic program that ran for fewer than three weeks was effective in producing significant academic benefits (McCombs et al., 2019).

Youth need to attend programs regularly to benefit. Multiple studies have found that children and youth need high attendance rates to demonstrably benefit from a program (Borman, Benson, and Overman, 2005; Borman and Dowling, 2006; Borman, Pyne, and Pyne, 2024; McCombs, Kirby, and Mariano, 2009; McCombs et al., 2020). The NSLP findings detailed above point to the importance of attendance within and across summers. Program providers should not expect perfect attendance in a summer program. The average daily attendance in the NSLP elementary summer learning program across five districts was 75 percent; however, there was variation by district and program site.

A positive site climate might improve program attendance. In the NSLP, student attendance was related to site climate. There was substantial variation in average daily attendance by site, ranging from 65 percent to 92 percent. Sites with higher attendance and a positive site climate were characterized by an inclusive and friendly environment, strong student and adult engagement, and positive interactions between adults and students (Schwartz et al., 2018).

Strong program implementation requires concentrated advanced planning. A comprehensive and early planning process that starts in the fall can stave off logistical complications. By avoiding such complications as late curricula or missing lesson plans, there can be more instructional time. In addition, smooth operations, which are more likely to result from better planning, support a positive site climate, which is linked to increased attendance (Schwartz et al., 2018). Earlier, we highlighted the benefits that attending consecutive summers of programming has for students with high attendance rates. Offering programs for consecutive summers makes planning easier and allows for continuous program improvements. The NSLP district and community partners who conducted early planning and engaged in continuous improvement efforts enhanced program operations and quality each successive summer (Schwartz et al., 2018).

Small class sizes support quality instruction in academic and enrichment programming. Smaller class sizes allow teachers to differentiate instruction on the basis of student needs, build relationships, and more easily manage misbehavior. The guidance suggests capping class sizes at 15 students per teacher for academic programs. Smaller class sizes are linked to academic gains (Cooper et al., 2000) and quality enrichment activities (Schwartz et al., 2018).

Providing teachers with curricular materials that are aligned with district standards and student needs helps maximize productive learning time in academic programs. Research demonstrates that engaged time on task is a better predictor of outcomes than scheduled instructional time (Godwin et al., 2021). Summer programs are short and typically do not provide time for teachers to plan lessons. There are several advantages to providing academic teachers with curricular materials that include lesson plans aligned with student needs and school-year standards. Teachers have reported that they want a curriculum during the summer because they do not have sufficient time to plan their own. Teachers have also reported benefiting from having access to differentiated activity options, particularly in programs that serve students with a variety of proficiency levels. Additionally, providing pre-program training with hands-on curricular material practice prepares teachers to use the curriculum effectively, starting on day one (Schwartz et al., 2018).

High-quality staff with the expertise to meet student needs and deliver program content improves the quality of instruction. Teacher quality has the largest school-based impact on student outcomes. In academic summer programs, hiring certified academic teachers with relevant grade-level and subject experience enhances student outcomes in reading (Augustine et al., 2016a). Content expertise is similarly important for enrichment instruction because the quality of the enrichment activities and youth engagement are higher when enrichment instructors have content expertise. In addition, specialized staff to support children and youth who have additional needs, such as English language learners, students with Individualized Education Plans, and students needing behavioral or mental health support, enhance learning and ensure continuity of support from the school year (Schwartz et al., 2018).

Planning Resources

A full set of research-based guidance from the NSLP is documented in *Getting to Work on Summer Learning: Recommended Practices for Success*, 2nd ed. (Schwartz et al., 2018). The associated Summer Learning Toolkit is available from The Wallace Foundation (2018).

What Strategies Can Be Used to Scale and Sustain Summer Programming?

Research demonstrates that high-quality summer programs can benefit children and youth. However, summer programs are neither evenly nor equitably distributed; many children and youth lack access to quality experiences because of unavailability and/or unaffordability (National Academies of Sciences, Engineering, and Medicine, 2019). Many school districts and other providers struggle to launch, expand, and sustain quality summer programs that are offered at no or low cost to families; this is often because of lack of funding. Several factors influence the availability of funding for summer programs, such as restrictions on which students can be supported by which grant funding and substantial competition for funds. When a school district does win a competition for funding, such as through the 21st Century Community Learning Centers program or from a foundation, that funding is typically provided for a limited duration. Fortunately, there are promising practices and approaches at the community, organization, and program levels that can support creating, scaling, and sustaining summer programs. Most of these promising practices come from research that was conducted as part of the NSLP.

Community-wide coordination leverages the strengths of multiple stakeholders to provide summer opportunities throughout a region. A key recommendation from the National Academy of Sciences' consensus study on summer experiences is to improve citywide coordination to ensure equitable access for all children and youth:

> Summer provides a unique window of opportunity during the year to engage families and leverage the strengths and resources of families, communities, and other stakeholders to improve the education, health, safety, and well-being of children and youth. . . . In order to improve the health and well-being of children and youth during the summer, multisector agents, families, and youth will need improved coordination and collaboration to identify and prioritize high-quality summertime experiences, with special attention to the needs of children and youth who lack these opportunities. (National Academies of Sciences, Engineering, and Medicine, 2019, pp. 2–3)

Several communities have adopted approaches that involve intragovernmental department coordination, intermediary-led coordination, or multi-organization collaborative coordination. These efforts have resulted in increased family awareness of summer opportunities, higher numbers of children and youth

participating in summer programming, new programs operating in high-need areas, ongoing continuous improvement of program quality, and increased attention given to summertime by policymakers and funders (Augustine, McCombs, and Baker, 2021).

Integrating summer into ongoing, operational functions helps organizations sustain programming over time. Embedding a program into the routine structures, systems, operations, and practices of an organization can help sustain that program over time (Aarons, Hurlburt, and Horwitz, 2011; Aharoni et al., 2014). Integrated programs are characterized by widespread buy-in, expectations of program continuation, the routinized implementation and allocation of resources, and reduced dependence on individual actors (Batton, 2004; Eiseman, Fleming, and Roody, 1990; Noblit et al., 2009). On the basis of case study research, school districts that successfully integrated summer programming into ongoing district functions ensured that there was (1) a common understanding of how summer learning programs connected to and supported larger district goals, (2) a board policy that stipulated summer programming, (3) a planning process that engaged all relevant departments across the district, and (4) district systems and expert staff who supported summer program planning and operations (Augustine and Thompson, 2020). By including community partners in this planning process, those partners can also expect that summer programming will be integral to their work each year.

Designing and operating programs to maximize cost efficiency and quality can enable scale and sustainability. Methods to reduce cost without negatively affecting program quality can reduce the probability that funding for the program will be cut. For instance, costs for district-led summer learning programs can be reduced by (1) partnering with community-based organizations to offer enrichment activities, which often can leverage additional funding or lower instructor costs; (2) hiring staff to achieve desired adult-to-student ratios on the basis of projected daily attendance rather than the number of students who sign up (because the number of students who sign up is typically far higher than the number of students who attend on any given day); (3) centralizing planning activities so that, for example, one person is making decisions about a math curriculum rather than multiple teachers planning different math lessons; and (4) extending the school-year curricula instead of purchasing new summer curricula.

Final Reflections and Recommendations for Policymakers, Funders, Practitioners, and Researchers

High-quality summer programs, including academic, employment, recreational, and intervention programs, can build skills and interests and result in positive outcomes for youth. They also provide for basic needs, including supervision and food, which are critical for youth who face disadvantages. Summer programs can be a boon for any child, but, without intentional efforts, summer can perpetuate the opportunity and achievement gaps that exist between youth from lower-income and youth from higher-income families. This is where public funding can help.

Regardless of the type, creating a high-quality program that youth want to attend regularly requires comprehensive early planning and expertise. And program sustainment is dependent on uninterrupted funding and an ongoing commitment to continuous improvement. Furthermore, community-level coordination and action ensure equitable access to a variety of structured programs that meet the needs of youth across a region. We offer the following recommendations to funders, policymakers, practitioners, and researchers on creating, sustaining, and spreading quality summer program opportunities.

Policymakers should consider investing in high-quality summer programs to increase opportunities for participation. Summer is an opportune time to create programs that benefit children and youth, and there is evidence that many types of summer programs do just that. However, the availability of summer programming for children and youth from families with lower incomes depends on funding availability. Even with the relatively high funding levels seen in response to the COVID-19 pandemic, the supply of high-quality programming did not meet demand. Furthermore, funding stream continuity is necessary to support access and quality, which will promote strong youth and family outcomes.

School districts should consider offering voluntary summer learning programs as part of their efforts to advance student achievement, particularly if they can offer these programs over multiple consecutive summers. Districts have been offering, often in coordination with community-based partners, voluntary summer programs that provide academic and enrichment instruction to help advance student achievement. This type of program has proven effective in increasing short-term mathematics and reading achievement. Students who have high program attendance and students who attend consecutive summers of a program benefit the most, outperforming comparable peers in reading and mathematics in the fall and the

spring after the program. Even though the magnitude of the benefits does not grow or persist at the same level years after the programs end, the programs remain educationally meaningful.

Districts offering such voluntary academic programs should

- **Offer at least five weeks of programming—and preferably six—with one to two hours of instruction for each academic subject.** Students must attend *and* receive a sufficient amount of instruction in order to academically benefit. To maximize the probability that students will attend enough days to demonstrably benefit, we recommend that districts offer programs for at least five weeks.
- **Include enrichment opportunities.** Embedding enrichment opportunities, including sports, arts, and such hobbies as cooking, is advantageous for a few reasons. Such activities can extend the duration of the program day, benefiting working parents. Students might attend programs more if they look forward to these daily activities. Students might also develop a hobby that they will continue after the program ends and interact with more adults who might provide additional mentoring or serve as positive role models. Community partners sometimes have their own funding for these activities, reducing the cost of a full-day program. The programs studied in the NSLP and the Summer Boost evaluation (Borman, Pyne, and Pyne, 2024) included enrichment activities and were successful, indicating that enrichment might be an important component of a program.
- **Conduct early planning geared toward strong student attendance, the productive use of instructional time, and high-quality instruction.** Evidence suggests that creating lasting academic benefits for students requires ensuring high levels of student attendance, the productive use of instructional time, and high-quality instruction. Achieving quality programming is challenging and requires advanced planning. We encourage districts to use the detailed recommendations and planning resources created by the NSLP (Schwartz et al., 2018, p. vii) to support their efforts.
- **Make summer learning programs a core organizational function.** Embedding a program into the routine structures, systems, operations, and practices of a school district can help sustain a program over time, facilitate continuous improvement processes, and enable early planning and strong program execution.

Districts that are unable to consistently offer in-person voluntary summer programs should consider offering scaffolded at-home learning programs. There is evidence that students can benefit from being provided activities in reading and/or mathematics for the summer. The evidence is

stronger for programs that provide guidance in the spring and maintain contact with students over the summer.

Communities should consider summer as part of their efforts to advance youth development. Community organizations (e.g., city government, county government, nonprofit organizations, school districts, libraries) that work to advance youth development should consider summer as part of those efforts in terms of providing access to a variety of high-quality programming (recreational, academic, youth employment, and intervention). *Summer* could be a topic that brings together different systems across a community—education, housing, meal distribution, health care, city government—to work toward positive and equitable youth outcomes. Children and youth from families with lower incomes (many of whom are children and youth of color) face additional risks during the summer months from food insecurity, unsafe neighborhood spaces, crime victimization, continued academic underperformance (relative to peers), and fewer opportunities to participate in enriching activities. These risks and lack of opportunities could be addressed by multiple organizations working together in a defined geographic region.

All summer program providers should align program content and staffing to the needs and outcomes the program is addressing. Programs that are intentionally designed to link activities to desired outcomes appear to be more effective in realizing those outcomes. Program leaders should also staff programs to meet the needs of participating children and youth.

For instance, if children have mental health needs, staffing the program with psychologists or social workers could ensure that the program meets those children's needs.

Funders should expect and researchers should measure outcomes that align with program content. Most studied summer programs are effective, but few programs are effective in achieving all studied outcomes. Evaluations do not tend to find benefits that are not directly linked to program content. Furthermore, a stronger focus on outcomes that are directly related to program content may help program providers focus more intentionally on the high-quality implementation of their program's core components.

Researchers should provide more information about programs and their implementation in articles and reports. Much of the literature on summer programming does not include sufficient information about interventions and their implementation. We encourage researchers to gather and report this information in evaluations to not only support evidence reviews and meta-analyses but also guide practitioners on how to implement programs to maximize effectiveness.

Capitalize on the summer period to benefit youth. In summary, we recommend that multiple types of practitioners, policymakers, and funders think about summer as a time to provide free, high-quality opportunities for youth to learn, develop (or continue) a new hobby or skill, exercise, eat well, be safe, and connect with new friends and mentors.

References

Aarons, Gregory, Michael Hurlburt, and Sarah McCue Horwitz, "Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors," *Administration and Policy in Mental Health*, Vol. 38, No. 1, January 2011.

Aharoni, Eyal, Lila Rabinovich, Joshua Mallett, and Andrew R. Morral, *An Assessment of Program Sustainability in Three Bureau of Justice Assistance Criminal Justice Domains*, RAND Corporation, RR-550-BJA, 2014. As of July 14, 2025: https://www.rand.org/pubs/research_reports/RR550.html

Allen, Susan, "An Analytic Comparison of Three Models of Reading Strategy Instruction," *International Review of Applied Linguistics in Language Teaching*, Vol. 41, No. 4, 2003.

Allington, Richard L., Anne McGill-Franzen, Gregory Camilli, Lunetta Williams, Jennifer Graff, Jacqueline Zeig, Courtney Zmach, and Rhonda Nowak, "Addressing Summer Reading Setback Among Economically Disadvantaged Elementary Students," *Reading Psychology*, Vol. 31, No. 5, 2010.

America After 3PM, *Time for a Game-Changing Summer, with Opportunity and Growth for All of America's Youth*, Afterschool Alliance, May 2021.

Augustine, Catherine H., Jennifer Sloan McCombs, and Garrett Baker, *Summer for All: Building Coordinated Networks to Promote Access to Quality Summer Learning and Enrichment Opportunities Across a Community*, RAND Corporation, RR-A205-1, 2021. As of March 6, 2024: https://www.rand.org/pubs/research_reports/RRA205-1.html

Augustine, Catherine H., Jennifer Sloan McCombs, John F. Pane, Heather L. Schwartz, Jonathan Schweig, Andrew McEachin, and Kyle Siler-Evans, *Learning from Summer: Effects of Voluntary Summer Learning Programs on Low-Income Urban Youth*, RAND Corporation, RR-1557-WF, 2016a. As of July 11, 2025: https://www.rand.org/pubs/research_reports/RR1557.html

Augustine, Catherine H., Jennifer Sloan McCombs, John F. Pane, Heather L. Schwartz, Jonathan Schweig, Andrew McEachin, and Kyle Siler-Evans, *Learning from Summer: Online Technical Appendixes*, RAND Corporation, RR-1557-WF, 2016b. As of July 14, 2025: https://www.rand.org/pubs/research_reports/RR1557.html

Augustine, Catherine H., and Lindsey E. Thompson, *Getting Support for Summer Learning: How Federal, State, City, and District Policies Affect Summer Learning Programs*, RAND Corporation, RR-2347-WF, 2020. As of July 14, 2025: https://www.rand.org/pubs/research_reports/RR2347.html

Bailey, Thomas, and Donna Merritt, *School-to-Work for the College Bound*, National Center for Research in Vocational Education, University of California at Berkeley, February 1997.

Bakle, Bradley R., *Summer Learning Loss: The Influence of Summer School Programs on Student Achievement in Language Usage, Math, and Reading*, dissertation, Indiana State University, May 2010.

Batton, Jennifer, "Considering Conflict Resolution Education: Next Steps for Institutionalization," *Conflict Resolution Quarterly*, Vol. 22, Nos. 1–2, September 2004.

Beach, Kristen D., and Zoi A. Traga Philippakos, "Effects of a Summer Reading Intervention on the Reading Performance of Elementary Grade Students from Low-Income Families," *Reading & Writing Quarterly*, Vol. 37, No. 2, 2021.

Berlin, Lisa J., Rebecca D. Dunning, and Kenneth A. Dodge, "Enhancing the Transition to Kindergarten: A Randomized Trial to Test the Efficacy of the 'Stars' Summer Kindergarten Orientation Program," *Early Childhood Research Quarterly*, Vol. 26, No. 2, 2011.

Betts, Julian R., Andrew C. Zau, and Kevin King, *From Blueprint to Reality: San Diego's Education Reforms*, Public Policy Institute of California, 2005.

Bishop, John H., "Signaling the Competencies of High School Students to Employers," in Lauren B. Resnick and John G. Wirt, eds., *Linking School and Work: Roles for Standards and Assessment*, Jossey-Bass, 1996.

Borman, Geoffrey D., James Benson, and Laura T. Overman, "Families, Schools, and Summer Learning," *Elementary School Journal*, Vol. 106, No. 2, November 2005.

Borman, Geoffrey D., and N. Maritza Dowling, "Longitudinal Achievement Effects of Multiyear Summer School: Evidence from the Teach Baltimore Randomized Field Trial," *Educational Evaluation and Policy Analysis*, Vol. 28, No. 1, March 2006.

Borman, Geoffrey D., Michael E. Goetz, and N. Maritza Dowling, "Halting the Summer Achievement Slide: A Randomized Field Trial of the KindergARTen Summer Camp," *Journal of Education for Students Placed at Risk*, Vol. 14, No. 2, 2009.

Borman, Geoffrey, Jaymes Pyne, and Jeremy Pyne, *Summer Boost 2023 Evaluation: Final Report*, Bloomberg Philanthropies, May 2024.

Borman, Geoffrey D., Hyunwoo Yang, and Xin Xie, "A Quasi-Experimental Study of the Impacts of the Kids Read Now Summer Reading Program," *Journal of Education for Students Placed at Risk*, Vol. 26, No. 4, 2021.

Bowens, Bryan D., and Susan R. Warren, "Toward Social Justice: The Characteristics of an Effective Mathematics Intervention Program for Urban Middle School Students," *Journal of Urban Learning, Teaching, and Research*, Vol. 12, 2016.

Burgin, John S., and Gail D. Hughes, "Measuring the Effectiveness of a Summer Literacy Program for Elementary Students Using Writing Samples," *Research in the Schools*, Vol. 15, No. 2, Fall 2008.

Callen, Ian, Maria V. Carbonari, Michael DeArmond, Daniel Dewey, Elise Dizon-Ross, Dan Goldhaber, Jazmin Isaacs, Thomas J. Kane, Megan Kuhfield, Anna McDonald, Andrew McEachin, Emily Morton, Atsuko Muroga, and Douglas O. Staiger, "Summer School as a Learning Loss Recovery Strategy After COVID-19: Evidence from Summer 2022," Center for Analysis of Longitudinal Data in Education Research, Harvard University, Working Paper No. 2901-0823, August 2023.

Chaplin, Duncan, and Jeffrey Capizzano, *Impacts of a Summer Learning Program: A Random Assignment Study of Building Educated Leaders for Life (BELL)*, Urban Institute, August 2006.

Cleary, Thomas Terrence, *Providing Phonemic Awareness Instruction to Pre-First Graders: An Extended-Year Kindergarten Program*, dissertation, University of Rhode Island, 2001.

Concentric Research & Evaluation, *Examining the Long-Term Effects of the Horizons National Student Enrichment Program on Student Academic Outcomes*, September 26, 2018.

Cooper, Harris, Kelly Charlton, Jeff C. Valentine, Laura Muhlenbruck, and Geoffrey D. Borman, *Making the Most of Summer School: A Meta-Analytic and Narrative Review Monographs of the Society for Research in Child Development*, Wiley-Blackwell, 2000.

Diliberti, Melissa Kay, Samantha E. DiNicola, and Heather L. Schwartz, *Districts Continue to Invest in Summer Programs: Selected Findings from the American School District Panel*, RAND Corporation, RR-A956-32, 2025. As of July 3, 2025:
https://www.rand.org/pubs/research_reports/RRA956-32.html

Dwight, Linda G., *Using a Summer Extended Year Program to Increase Learning for Title I Students*, dissertation, University of Delaware, Spring 2010.

Dynia, Jaclyn M., Shayne B. Piasta, Laura M. Justice, and Columbus Metropolitan Library, "Impact of Library-Based Summer Reading Clubs on Primary-Grade Children's Literacy Activities and Achievement," *Library Quarterly*, Vol. 85, No. 4, October 2015.

Edmonds, Ellen, Cathleen O'Donoghue, Sedra Spano, and Robert F. Algozzine, "Learning When School Is Out," *Journal of Educational Research*, Vol. 102, No. 3, 2009.

Eiseman, Jeffrey W., Douglas S. Fleming, and Deborah S. Roody, *Making Sure It Sticks: The School Improvement Leader's Role in Institutionalizing Change*, Regional Laboratory for Educational Improvement of the Northeast and Islands, 1990.

Ellis-Kalton, Carrie A., *Science- and Engineering-Related Career Decision-Making, Bright Adolescent Girls and the Impact of an Intervention Program*, dissertation, University of Missouri–Columbia, December 2001.

Fahle, Erin, Thomas J. Kane, Sean F. Reardon, and Douglas O. Staiger, *The First Year of Pandemic Recovery: A District-Level Analysis*, Education Recovery Scorecard, January 2024.

Foley-Nicpon, Megan, Susan G. Assouline, D. Martin Kivlighan, Staci Fosenburg, Charles Cederberg, and Michelle Nanji, "The Effects of a Social and Talent Development Intervention for High Ability Youth with Social Skill Difficulties," *High Ability Studies*, Vol. 28, No. 1, 2017.

Garcia, Ivonne, Jean Baldwin Grossman, Carla Herrera, Marissa Strassberger, Michelle Dixon, and Leigh L. Linden, *Aiming Higher: Assessing Higher Achievement's Out-of-School Expansion Efforts*, MDRC, June 2020.

Gibson, Helen L., and Christopher Chase, "Longitudinal Impact of an Inquiry-Based Science Program on Middle School Students' Attitudes Toward Science," *Science Education*, Vol. 86, No. 5, September 2022.

Godwin, Karrie E., Howard Seltman, Ma Almeda, Mandi Davis Skerbetz, Shimin Kai, Ryan S. Baker, and Anna V. Fisher, "The Elusive Relationship Between Time On-Task and Learning: Not Simply an Issue of Measurement," *Educational Psychology*, Vol. 41, No. 4, 2021.

Gordon, Anne R., Ronette R. Briefel, Ann M. Collins, Gretchen M. Rowe, and Jacob A. Klerman, "Delivering Summer Electronic Benefit Transfers for Children Through the Supplemental Nutrition Assistance Program or the Special Supplemental Nutrition Program for Women, Infants, and Children: Benefit Use and Impacts on Food Security and Foods Consumed," *Journal of the Academy of Nutrition and Dietetics*, Vol. 117, No. 3, March 2017.

Grenwelge, Cheryl, and Dalun Zhang, "The Effects of the Texas Youth Leadership Forum Summer Training on the Self-Advocacy Abilities of High School Students with Disabilities," *Journal of Disability Policy Studies*, Vol. 24, No. 3, December 2013.

Hayes, Clarissa, Randy Rosso, Alex Boyd, and Crystal FitzSimons, *Hunger Doesn't Take a Vacation: Summer Breakfast Status Report*, Food Research & Action Center, June 2018.

Heinrich, Carolyn J., and Huiping Cheng, "Does Online Credit Recovery in High School Support or Stymie Later Labor Market Success?" *Journal of Policy Analysis and Management*, Vol. 41, No. 4, September 2022.

Hektner, Joel M., Alison L. Brennan, and Gerald J. August, "Incorporating Well-Adjusted Peers in a Conduct Problems Prevention Program: Evaluation of Acceptability, Fidelity, and Safety of Implementation," *School Mental Health*, Vol. 9, No. 1, March 2017.

Heller, Sara B., *Experimental Evidence on Improving the Human Capital of Disadvantaged Youth*, dissertation, University of Chicago, June 2013.

Herrera, Sarah, Beth M. Phillips, Yi-Chen Newton, Jennifer L. Dombek, and James A. Hernandez, "Effectiveness of Early Literacy Instruction: Summary of 20 Years of Research," Regional Educational Laboratory Southeast, Institute of Education Sciences, REL 2021–084, July 2021.

Jackson, Kara J., "Exploring Relationships Between Mathematics Teachers' Views of Students' Mathematical Capabilities, Visions of Instruction, and Instructional Practices," paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, La., April 9, 2011.

Kessler, Judd B., Sarah Tahamont, Alexander Gelber, and Adam Isen, "The Effects of Youth Employment on Crime: Evidence from New York City Lotteries," *Journal of Policy Analysis and Management*, Vol. 41, No. 3, June 2022.

Kim, James S., "Effects of a Voluntary Summer Reading Intervention on Reading Achievement: Results from a Randomized Field Trial," *Educational Evaluation and Policy Analysis*, Vol. 28, No. 4, December 2006.

Kim, James S., "The Effects of a Voluntary Summer Reading Intervention on Reading Activities and Reading Achievement," *Journal of Educational Psychology*, Vol. 99, No. 3, 2007.

Kim, James S., Jonathan Guryan, Thomas G. White, David M. Quinn, Lauren Capotosto, and Helen Chen Kingston, "Delayed Effects of a Low-Cost and Large-Scale Summer Reading Intervention on Elementary School Children's Reading Comprehension," *Journal of Research on Educational Effectiveness*, Vol. 9, Supp. 1, 2016.

Kim, James S., and Thomas G. White, "Scaffolding Voluntary Summer Reading for Children in Grades 3 to 5: An Experimental Study," *Scientific Studies of Reading*, Vol. 12, No. 1, 2008.

Leos-Urbel, Jacob, Amy Ellen Schwartz, Meryle Weinstein, and Beth C. Weitzman, "More Than a Paycheck? The Impact of Summer Youth Employment on Students' Educational Engagement and Success," Institute for Education and Social Policy, New York University, Brief No. 02-12, June 2012.

Lerner, Matthew D., Amori Yee Mikami, and Karen Levine, "Socio-Dramatic Affective-Relational Intervention for Adolescents with Asperger Syndrome & High Functioning Autism: Pilot Study," *Autism*, Vol. 15, No. 1, January 2011.

Lipsey, Mark W., Kelly Puzio, Cathy Yun, Michael A. Hebert, Kasia Steinka-Fry, Mikel W. Cole, Megan Roberts, Karen S. Anthony, and Matthew D. Busick, *Translating the Statistical Representation of the Effects of Education Interventions into More Readily Interpretable Forms*, National Center for Special Education Research, Institute of Education Sciences, NCSER 2013-3000, November 2012.

Luftig, Richard L., "When a Little Bit Means a Lot: The Effects of a Short-Term Reading Program on Economically Disadvantaged Elementary Schoolers," *Literacy Research and Instruction*, Vol. 42, No. 4, 2003.

Lynch, Kathleen, Lily An, and Zid Mancenido, "The Impact of Summer Programs on Student Mathematics Achievement: A Meta-Analysis," *Review of Educational Research*, Vol. 93, No. 2, April 2023.

Mac Iver, Martha Abele, and Douglas J. Mac Iver, *The Baltimore City Schools Middle School STEM Summer Program with VEX Robotics*, Baltimore Education Research Consortium, July 2015.

Mariano, Louis T., and Paco Martorell, "The Academic Effects of Summer Instruction and Retention in New York City," *Educational Evaluation and Policy Analysis*, Vol. 35, No. 1, March 2013.

Matsudaira, Jordan D., "Mandatory Summer School and Student Achievement," *Journal of Econometrics*, Vol. 142, No. 2, February 2008.

McCombs, Jennifer Sloan, Catherine H. Augustine, John F. Pane, and Jonathan Schweig, *Every Summer Counts: A Longitudinal Analysis of Outcomes from the National Summer Learning Project*, RAND Corporation, RR-3201-WF, 2020. As of July 14, 2025: https://www.rand.org/pubs/research_reports/RR3201.html

McCombs, Jennifer Sloan, Catherine H. Augustine, Heather L. Schwartz, Susan J. Bodilly, Brian McInnis, Dahlia S. Lichter, and Amanda Brown Cross, *Making Summer Count: How Summer Programs Can Boost Children's Learning*, RAND Corporation, MG-1120-WF, 2011. As of July 14, 2025: https://www.rand.org/pubs/monographs/MG1120.html

McCombs, Jennifer Sloan, Catherine H. Augustine, Fatih Unlu, Kathleen M. Ziol-Guest, Scott Naftel, Celia J. Gomez, Terry Marsh, Goke Akinniranye, and Ivy Todd, *Investing in Successful Summer Programs: A Review of Evidence Under the Every Student Succeeds Act*, RAND Corporation, RR-2836-WF, 2019. As of July 11, 2025: https://www.rand.org/pubs/research_reports/RR2836.html

McCombs, Jennifer Sloan, Sheila Nataraj Kirby, and Louis T. Mariano, eds., *Ending Social Promotion Without Leaving Children Behind: The Case of New York City*, RAND Corporation, MG-894-NYCDOE, 2009. As of July 14, 2025: https://www.rand.org/pubs/monographs/MG894.html

McCombs, Jennifer Sloan, Anamarie A. Whitaker, and Paul Youngmin Yoo, *The Value of Out-of-School Time Programs*, RAND Corporation, PE-267-WF, October 2017. As of July 14, 2025: https://www.rand.org/pubs/perspectives/PE267.html

Melosh, Geraldine Martin, *Summer Books!—Stemming Reading Loss in High-Poverty Second Graders Through Access to Appropriate Books During the Summer Vacation Break*, dissertation, University of Florida, 2003.

Milteer, Regina M., and Kenneth R. Ginsburg, "The Importance of Play in Promoting Healthy Child Development and Maintaining Strong Parent-Child Bond: Focus on Children in Poverty," *Pediatrics*, Vol. 129, No. 1, January 2012.

Modestino, Alicia Sasser, and Richard Paulsen, "School's Out: How Summer Youth Employment Programs Impact Academic Outcomes," *Education Finance and Policy*, Vol. 18, No. 1, Winter 2023.

National Academies of Sciences, Engineering, and Medicine, *Shaping Summertime Experiences: Opportunities to Promote Healthy Development and Well-Being for Children and Youth*, National Academies Press, 2019.

Nelson, Brian W., *A Summative Evaluation of a Middle School Summer Math Program*, dissertation, Walden University, 2014.

Noblit, George W., H. Dickson Corbett, Bruce L. Wilson, and Monica B. McKinney, *Creating and Sustaining Arts-Based School Reform: The A+ Schools Program*, Routledge, 2009.

Northwest Evaluation Association, *Portland Schools Foundation Ninth Grade Counts: Student Data Report—Outcomes and Participation for Summer 2009 and Participation for Summer 2010*, April 2011.

Opalinkski, Andra, "Pouring Rights Contracts and Childhood Overweight: A Critical Theory Perspective," *Journal for Specialists in Pediatric Nursing*, Vol. 11, No. 4, October 2006.

Osterman, Paul, "Involving Employers in School-to-Work Programs," in Thomas R. Bailey, ed., *Learning to Work: Employer Involvement in School-to-Work Transition Programs*, Brookings Institution, 1995.

Poczik, Robert, "Work-Based Education and School Reform," in Thomas R. Bailey, ed., *Learning to Work: Employer Involvement in School-to-Work Transition Programs*, Brookings Institution, 1995.

Pyne, Jaymes, Erica Messner, and Thomas S. Dee, "The Dynamic Effects of a Summer Learning Program on Behavioral Engagement in School," *Education Finance and Policy*, Vol. 18, No. 1, Winter 2023.

Redford, Jeremy, Stephanie Burns, and L. Jane Hall, *The Summer After Kindergarten: Children's Experiences by Socioeconomic Characteristics*, National Center for Education Statistics, NCES 2018-160, May 2018.

Rickles, Jordan, Margaret Clements, Iliana Brodziak de los Reyes, Mark Lachowicz, Shuqiong Lin, and Jessica Heppen, "A Multisite Randomized Study of an Online Learning Approach to High School Credit Recovery: Effects on Student Experiences and Proximal Outcomes," *Journal of Research on Educational Effectiveness*, Vol. 17, No. 3, 2024.

Santucci, Lauren C., and Jill Ehrenreich-May, "A Randomized Controlled Trial of the Child Anxiety Multi-Day Program (CAMP) for Separation Anxiety Disorder," *Child Psychiatry & Human Development*, Vol. 44, No. 3, June 2013.

Schacter, John, and Booil Jo, "Learning When School Is Not in Session: A Reading Summer Day-Camp Intervention to Improve the Achievement of Exiting First-Grade Students Who Are Economically Disadvantaged," *Journal of Research in Reading*, Vol. 28, No. 2, May 2005.

Schwartz, Amy Ellen, Jacob Leos-Urbel, Megan Silander, and Matt Wiswall, "Making Summer Matter: The Impact of Youth Employment on Academic Performance," Institute for Education and Social Policy, New York University, Working Paper No. 03-14, November 2014.

Schwartz, Heather L., Jennifer Sloan McCombs, Catherine H. Augustine, and Jennifer T. Leschitz, *Getting to Work on Summer Learning: Recommended Practices for Success*, 2nd ed., RAND Corporation, RR-366-1-WF, 2018. As of June 29, 2025:
https://www.rand.org/pubs/research_reports/RR366-1.html

Scuello, Michael, and Donna Wilkens, *Evaluating Summer Brain Gain: 2015 Study Report*, Metis Associates, April 2016.

Snipes, Jason, Chun-Wei Huang, Karina Jaquet, and Neal Finkelstein, "The Effects of the Elevate Math Summer Program on Math Achievement and Algebra Readiness," Institute of Education Statistics and Educational Laboratory West, July 2015.

Stein, Marc L., "Supporting the Summer Reading of Urban Youth: An Evaluation of the Baltimore SummerREADS Program," *Education and Urban Society*, Vol. 49, No. 1, January 2017.

Stevens, Brittany Emling, *Just Do It: The Impact of a Summer School Self-Advocacy Program on Depression, Self-Esteem, and Attributional Style in Learning Disabled Adolescents*, dissertation, Claremont Graduate University, 2005.

Stewart, Kristi L., *Closing the Summer Learning Gap in the Content Area of Mathematics*, dissertation, Grand Canyon University, 2017.

Story, Irene Novick, *Pre-Kindergarten Summer School: An Intervention for Kindergarten Readiness*, dissertation, University of Wyoming, May 2008.

Tanskey, Lindsay A., Jeanne Goldberg, Kenneth Chui, Aviva Must, and Jennifer Sacheck, "The State of the Summer: A Review of Child Summer Weight Gain and Efforts to Prevent It," *Current Obesity Reports*, Vol. 7, No. 2, 2018.

Tingey, Lauren, Britta Mullany, Rachel Chambers, Ranelda Hastings, Angelita Lee, Anthony Parker, Allison Barlow, and Anne Rompalo, "Respecting the Circle of Life: One Year Outcomes from a Randomized Controlled Comparison of an HIV Risk Reduction Intervention for American Indian Adolescents," *AIDS Care*, Vol. 27, No. 9, 2015.

U.S. Department of Education, "U.S. Department of Education Launches National Summer Learning & Enrichment Collaborative to Help Students Most Impacted by the Pandemic," press release, July 22, 2021.

Viano, Samantha, and Gary T. Henry, "Online Credit Recovery as an Intervention for High School Students Who Fail Courses," *Educational Policy*, Vol. 38, No. 1, January 2024.

The Wallace Foundation, "Summer Learning Toolkit," webpage, December 4, 2018. As of July 14, 2025: https://wallacefoundation.org/toolkit/summer-learning-toolkit

Waters, Brenda Dee, *The Effect of the Second Grade Summer School Program on the Reading Achievement of At-Risk Second-Grade Students*, dissertation, University of Houston, May 2004.

Zyoch, Keith, and Joseph J. Stevens, "Summer School and Summer Learning: An Examination of the Short- and Longer Term Changes in Student Literacy," *Early Education and Development*, Vol. 22, No. 4, 2011.