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SHAPING SUMMERTIME EXPERIENCES

Opportunities to Promote Healthy Development and Well-Being for Children and Youth

Committee on Summertime Experiences and Child and Adolescent Education, Health, and Safety

Martín-José Sepúlveda and Rebekah Hutton, *Editors*

Board on Children, Youth, and Families

Division of Behavioral and Social Sciences and Education

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This Consensus Study Report was reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise. The purpose of this independent review is to provide candid and critical comments that will assist the National Academies in making each published report as sound as possible and to ensure that it meets the institutional standards for quality, objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the

integrity of the deliberative process. We thank the following individuals for their review of this report: Tina L. Cheng, Department of Pediatrics, Johns Hopkins University School of Medicine; Andrew J. Cherlin, Department of Sociology, Johns Hopkins University; Jacqueline Jones, President/CEO, Foundation for Child Development; Ruth Perou, National Center on Birth Defects and Developmental Disabilities, U.S. Centers for Disease Control and Prevention; James F. Sallis, Family Medicine and Public Health (emeritus), University of California, San Diego; Jim Sibthorp, Department of Parks, Recreation, and Tourism, University of Utah; Melissa Threadgill, Juvenile Justice Initiatives, Massachusetts Office of the Child Advocate; and Paul von Hippel, Lyndon B. Johnson School of Public Affairs, University of Texas at Austin.

Although the reviewers listed above provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations of this report, nor did they see the final draft before its release. The review of this report was overseen by David V. Britt, President and CEO, Sesame Workshop (retired) and Catherine E. Woteki, Food Science and Human Nutrition, Iowa State University. They were responsible for making certain that an independent examination of this report was carried out in accordance with the standards of the National Academies and that all review comments were carefully considered. Responsibility for the final content rests entirely with the authoring committee and the National Academies.

Martín-José Sepúlveda, *Chair*

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Preface

For children and youth in grades K–12 in the United States, "summertime" is the period between successive academic calendar years that typically occupies the majority of the months of June through August. It is an important time period for all community members, since the summertime experiences of children (grades K–5) and youth or adolescents (grades 5–12) have both direct and indirect effects on others in their roles as parents, siblings, caretakers, providers of goods and services, or community residents. This yearly interval presents opportunities and challenges for children and youth as well as for the agents (e.g., parents, teachers, summer counselors and program directors, police) and sectors (e.g., government, commercial, nonprofit) that design, develop, deliver, or fund components of summertime experiences.

Environments, exposures, activities, and interactions during summertime can promote positive cognitive, social, emotional, and skills development, as well as promoting safety and physical and mental health, for children and youth. However, summertime experiences are not evenly and equitably distributed, and many children and youth lack access to quality experiences due to the challenges of availability, accessibility, and affordability. The most vulnerable children—those in households or neighborhoods at a lower socioeconomic level, from ethnic, racial, or immigrant minorities, with special needs or disabilities, from rural neighborhoods, who are LGBTQ+, or who are affected by the juvenile or adult criminal justice or child welfare systems—face the greatest challenges in accessing quality summertime experiences.

Meeting the needs of children and youth through summertime experiences that promote positive outcomes in education, health, safety, and well-being requires an understanding of how summertime affects these outcomes and of the types, quality, and distribution of as well as participation in summertime activities at the national, regional, and local levels. Identifying, collecting, and assessing the existing data, and using those data as a lens to describe the current state of and opportunities for improvement in summertime activities, formed the basis of this committee's work. These aims were applied to four areas of well-being: (1) academic learning; (2) social and emotional development; (3) physical and mental health and behaviors; and (4) safety, risk-taking, and anti- and pro-social behavior.

The central aim of this report is to provide a path forward that is actionable for policy makers, funders, sectors, and agents involved in the environments and experiences of children and youth in summertime to improve the quality, effectiveness, and equity of their efforts. As parents, family members, policy makers, funders, and service providers, our communities benefit from improved developmental, safety, and health experiences for our K–12 children and youth during the summer months.

We begin our report with a Prologue vignette. It is intended to place our call for action and investments for greater equity in positive summertime experiences for children and youth into the broader context of the distinct cultures, histories, and assets they possess as members of families and communities. Interventions that may result from our recommendations should leverage these capacities in their design and implementation.

Martín-José Sepúlveda, *Chair*
Committee on Summertime Experiences and
Child and Adolescent Education, Health, and Safety

Prologue

As we deliberate about those experiences that support children, I think of the summers I hoed sugar beets with my family on our farm. How my mother would stretch across her three rows to hoe on mine and catch my 6-year-old-self up. Some would say that my summer experiences were deficits. There were no youth activities or summer school. I learned to dog-paddle in the canals and irrigation ditches surrounding our farm. I learned to drive in the beet truck, from one end of the field to another.

We often speak in deficits, of childhood traumas or opportunities unavailable to children. I am the evidence that my parents, my heritage, and my rural country schooling were assets.

—Barbara Medina, Committee Member

Summary

The summer months present a major departure from the structure, resources, and support systems that are available to the vast majority of children, youth, and their parents during the traditional school year. For those with few economic resources and with limited income, the opportunity to continue school-year experiences in the four domains of academic learning, social and emotional development, physical and mental health, and pro-social behavior is often constrained. This contributes to differential summertime experiences for children and youth based on their socioeconomic status, which can result in losses in some domains, gains in some domains, and lack of progress in others. For example, reduced gains—and in some cases losses—in reading aptitude are well documented during the summer for low-income children and youth, as are further weight gain for those with obesity and increased exposure to certain adverse health and behavioral risk factors (e.g., tobacco initiation, violence, and crime). The opportunity that summertime offers to promote positive trajectories in the referenced domains is the basis for this study, sponsored by the Robert Wood Johnson Foundation and Wallace Foundation.

The committee was charged with examining the state of evidence on outcomes in the four domains of well-being just noted, to address issues of availability, access, equity, and effectiveness in summertime programs and services related to these domains and to proffer recommendations for improvement. The committee examined the existing literature and accessible relevant data sources on demography, outcomes of interest, access, disparities, measurement, and developmental trajectories. An open session

with multisectoral stakeholders was conducted and commissioned papers were secured to fill gaps in evidence and information.

After examining all the relevant data and inputs, the committee arrived at seven overarching conclusions—supported by evidence presented in the chapters that follow—which serve as the basis for the recommendations listed further below and in Chapter 6. The seven overarching conclusions are these:

1. Summertime experiences can affect academic, health, social and emotional, and safety outcomes for children and youth, with those in disadvantaged communities at risk for worse outcomes.
2. There are opportunities for systems and agents to implement innovative new programs and extend effective practices that already exist during the school year into the summer period.
3. The assets and priorities of communities must be central to the planning, development, design, and evaluation of summertime programs and services.
4. All children have basic developmental needs—including the need for adequate nutrition and the need for safety—that must be met as a critical precondition for summer programs and services.
5. Children and youth who live in less advantageous circumstances (e.g., with poverty or food insecurity or in neighborhoods with high incidence of violence, crime, or overpolicing) face numerous obstacles in having their needs met across the four developmental domains and in accessing positive summer experiences. These subpopulations require a special focus in the committee's recommendations.
6. Although there is a robust research literature documenting the impact of summer on academic developmental trajectories, research on the impact of summer on other developmental domains examined by the committee is scarce, leaving many questions about best practices unanswered. This is a priority research need.
7. Existing data systems do not adequately capture seasonal differences in outcomes in the four domains examined by the committee, making it difficult to fully understand the summertime experiences of 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. The diverse socioenvironmental settings in which children and youth live, play, and work determine the availability of and accessibility to programs and services during the summer months. When schools close for the summer, children, youth, and families

may lose a number of vital supports, such as access to healthy meals, access to medical care, daily supervision, and structured enrichment opportunities. These losses make summer a time of increased vulnerability for many children and youth—especially those from communities and families with fewer resources. While children from higher- and middle-income families may not be affected by these losses, many families with fewer resources cannot fill this gap.

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. Although there is no single strategy that will work in every community for every young person, research can shed light on promising practices that, when applied with attention to the needs of the target population, have the potential to improve outcomes regardless of background. More robust data on seasonality for the four outcomes of interest in this study, as well as further research on how summers affect the development of children and youth beyond academic learning—in their social and emotional development, physical and mental health, safety/risk taking, and pro- and anti-social behavior—would offer a chance to improve outcomes and reduce the disparities and inequities that currently exist.

STUDY CHARGE

Understanding the accessibility of existing programs and services, the characteristics of effective programs and practices, and the diversity of families needing to be served is critical to improving the summertime experiences of America's children and youth. With this improved understanding, policy makers and decision makers can play an important role in ensuring that summer is a time when children and youth are able to benefit from their experiences equitably to support their healthy development and learning.

This report is the outcome of a request to the National Academies of Sciences, Engineering, and Medicine to undertake a study to look at the summertime experiences of children and youth in the following four outcome domains of well-being: (1) academic learning and opportunities for enrichment; (2) social and emotional development; (3) physical and mental health and health-promoting behaviors; and (4) safety, risk-taking, and anti- and pro-social behavior. The Committee on Summertime Experiences and Child and Adolescent Education, Health, and Safety is comprised of members with expertise in sociology, education, medicine, public health, nutrition and obesity, developmental psychology, positive youth development, public policy, juvenile justice, business, workforce development, and urban planning. It was formed to address this statement of task under

the direction of the National Academies' Board on Children, Youth, and Families. The committee was further charged with authoring a report on the state of the science on how summertime experiences affect school-age children and youth from the summer prior to kindergarten entry through grade 12 (see Chapter 1 for the committee's complete statement of task).

RECOMMENDATIONS

Improving Planning, Administration, and Coordination

RECOMMENDATION 1: Local governments (e.g., county, city) should establish a quality management system (QMS) to identify and provide positive developmental summertime experiences for children and youth, experiences that advance academic learning, improve health and well-being, and promote safety and social and emotional development. The QMS process should be specific to summertime and continuous, and it should contain the following six components:

1. **a systematic assessment of existing summertime programs and services;**
2. **a systematic community needs assessment that is inclusive of parents and youth to assess summertime programming and services;**
3. **the identification and prioritization of gaps between current and needed programs and services;**
4. **the development and implementation of plans to address prioritized needs from the summertime community needs assessment;**
5. **the development and measurement of key process indicators and relevant outcomes; and**
6. **a continuous quality improvement process.**

RECOMMENDATION 2: Foundations and other philanthropic organizations should augment their funding, technology, and in-kind supports to intermediaries that are creating systems, platforms, and communication vehicles for—and promoting promising and effective practices focused on—summertime experiences for children and youth.

Improving Availability, Access, and Equity

RECOMMENDATION 3: Governors and mayors should convene local public and private employers to leverage and support employer policies, practices, and programs to expand the capacity of and access to quality summertime experiences for children and youth, particularly those in underserved communities.

RECOMMENDATION 4: Federal and state government agencies should review existing policies and regulations for programs and services for children and youth to enable the continuation during the summer months of school-year funding and resources for effective physical activity, nutrition, obesity prevention, and enrichment programs, particularly those that serve children and youth in poor and underserved communities.

RECOMMENDATION 5: The U.S. Department of Agriculture should work with state and local governments to reduce food insecurity for children and youth during the summer through existing mechanisms by increasing access to the Summer Food Service Program (SFSP), reducing barriers to community eligibility for the SFSP, and expanding the Summer Electronic Benefits Transfer for Children Program.

RECOMMENDATION 6: Federal, state, and city officials, in partnership with the private sector, should increase funding for structured summer employment programs in order to serve more adolescents.

RECOMMENDATION 7: Those government agencies (federal, state, and local), nongovernmental organizations (e.g., foundations), and parts of the business community that fund, deliver, or otherwise support summertime experiences for children and youth should target summer programs that

- **focus on underserved children and youth;**
- **target the specific needs of participants;**
- **meet the health and safety requirements of participants in developmentally and culturally appropriate ways;**
- **identify specific outcomes and measurements;**
- **have concrete plans to promote strong attendance; and**
- **are accessible to participants and of sufficient duration to meet desired programming outcomes.**

RECOMMENDATION 8: Government agencies (federal, state, and local) that play an active role in the supervision, detention, or custodial care of children and youth should provide comprehensive developmental (academic, social, emotional), health, and safety programs during the summer period. This programming should consider and respond appropriately to the risks to healthy development, health, and safety that affect children and youth in these circumstances and that disproportionately affect poor, immigrant, homeless, and racial and ethnic minority populations in this group.

Advancing Data Collection and Research

RECOMMENDATION 9: Government agencies (federal, state, and local) and nongovernmental organizations (e.g., foundations) that sponsor surveys and collect data on children and youth that includes the summer months should

- **establish and maintain databases that allow for disaggregation of data by month;**
- **extend academic-year data collection to include the summer months when appropriate to the subject of the data collection; and**
- **share data across systems when possible.**

Needs for future research that could inform evidence-based summertime programs and practices are identified in Chapter 6.

1

Introduction

This report examines the experience of summertime for children and youth from the summer before kindergarten through grade 12, including its effects on their development, their access to and participation in summertime programs and activities, and the effectiveness of existing programs. Considered as the period that falls between the end of one school year and the beginning of the next, summertime was once thought of as a carefree time for children, including freedom from schooling.

While this remains the case for the vast majority of this population, some children and youth do experience alternatives to traditional schooling during the summertime period. For example, year-round schools accounted for 3,700 of 90,000 public schools in 2011–2012,[1] and 1.7 million out of 56.5 million school-age children were home-schooled in 2016. Although such alternatives to traditional schooling and school calendars have become increasingly popular, there is not a deep body of research by which to judge their effectiveness.[2] Moreover, there is too little available research on the developmental outcomes of these alternatives that would satisfy the evidence standards the committee has adopted to inform the central issues of this report.

[1]Year-round schools follow a modified school year calendar that maintains the traditional number of school days broken up by several short breaks in the calendar rather than a single, long summer break.

[2]Charter schools would be included as an alternative, but most charter schools follow the traditional calendar. In 2016, 4.6% of children in public schools attended charter schools.

Recently there has been a growing awareness of the "summer slide" (Alexander et al., 2016), that is, the fact that children forget some of what they learned in one school year by the time they begin the next one. At the same time, there has been growing attention to the needs of children that extend well beyond schooling and the traditional school calendar year. How children and youth spend their time during the summer months can affect their health, well-being, educational attainment, and future college and career readiness (Alexander et al., 2016). The socioecological context of the lives of school-age children and youth and the settings where summer programs are offered provide diverse opportunities to meet children's developmental needs, promote their health and well-being, and advance their educational attainment (Bronfenbrenner, 1979).

AN UPDATED VIEW OF SUMMERTIME

Summertime provides a special opportunity for families, schools, communities, and other sectors to work together to provide programs and services that promote technical and social skills development and advance learning as well as promoting healthy lifestyles and behaviors. It is an opportunity to deliver services and programming that children and adolescents might not otherwise have access to during the school year. Summertime also presents children, youth, and families with an opportunity to play a larger role in deciding how they wish to spend their time, whether that be in structured or unstructured activities. At the same time, for some children it presents risks: reductions in supervised activities and structured time during summertime can cause negative changes in cognitive development and increases in negative risky behaviors, such as smoking, substance abuse, criminal activity, and participation in injury-prone activities (Jesperson et al., 2014; Loder et al., 2012).

A developmental assets framework is useful for thinking about young people's summertime experiences, because it highlights the opportunity for summer programs and experiences to provide external assets and to foster the internal assets of children and youth through supportive and enriching experiences. This last point is critical when considering the role of summertime in either reinforcing or redressing inequities. By contrast, a focus on family, parental, and individual factors in isolation fails to adequately characterize the unequal distribution of threats to learning, health, development, and safety across children, families, and communities in the United States.

Within communities, barriers to accessing public and private services and institutions can affect some groups of children disproportionately, including children affected by parental incarceration, children experiencing homelessness, children with high rates of exposure to police, and children

involved in the juvenile justice, foster care, or child welfare systems. At the same time, in many communities access to developmentally supportive and enriching summer experiences is dependent on parents' financial standing. As a result, summertime can increase inequity if children from wealthier backgrounds who live in better-served communities participate in such experiences while their peers from less financially secure families and underserved communities (i.e., communities where they may face barriers to accessing resources and services) do not.

Thus, for a wide variety of developmental needs and outcomes, summertime widens the gaps between children and youth in underserved communities and their peers in well-served communities. Yet this period also presents opportunities to close these gaps. Viewed through an equity frame, summer provides an opportunity for communities to ensure that *all* youth have access to experiences and settings that support their developmental assets.

THE STUDY CHARGE AND THE COMMITTEE'S APPROACH

Recognizing the key role of summertime in children's development and the inequities in children's summertime opportunities, the Robert Wood Johnson Foundation and the Wallace Foundation provided support to create the Committee on Summertime Experiences and Child and Adolescent Education, Health, and Safety to undertake a study of summertime experiences. The committee was charged with reviewing and evaluating available evidence on, and making recommendations for improving, the access to, participation in, and effectiveness of programs and activities for all children and youth in four areas: academic learning and enrichment; social and emotional development; physical and mental health; and safety, risk-taking, and anti- and pro-social behaviors. The full Statement of Task for the committee appears in Box 1-1.

A Systems Perspective of Summertime Experiences

The social, economic, and physical environments in which children live either promote or limit their summertime opportunities for positive development, healthy behaviors, safety, and well-being. These environments can be viewed as a large system composed of multiple sectors or subsystems, such as education, transportation, child welfare, public safety and criminal justice, each containing its actors or agents. In a *systems perspective*, "agent" refers to people or entities associated with a specific sector or subsystem within a system. Examples include but are not limited to parents (families), teachers (education), police (public safety), summer camp counselors (summer camp sector), and mayors (city government). Concepts derived from

BOX 1-1
Statement of Task

An ad hoc committee will conduct a study and prepare a report on the state of the science on how summertime experiences affect school-age children (rising K–12) across four areas of well-being: (1) academic learning and opportunities for enrichment; (2) social and emotional development; (3) physical and mental health and health-promoting behaviors; and (4) safety, risk-taking, and anti- and pro-social behavior. The committee will review the available literature on summertime in the context of these four areas and make recommendations to improve the experiences of children over the summertime to promote healthy development and learning and reduce risky behaviors, as well as outline future directions for research. The committee will focus on the following topics, with particular attention to equity and context:

- policies that increase or decrease the availability and accessibility of programs and experiences for children and youth during the summer;
- the effectiveness of summer programs offered to children and youth;
- population-based disparities in the impact of summer on developmental trajectories, access to programs, and program effectiveness;
- parental, guardian, and caregiver support to promote the well-being of children during the summer; and
- programs and practices from other countries that could be implemented successfully in the United States.

The final report will inform federal, state, local, and organizational decision makers regarding the development of programs and policies to support the healthy development and learning of America's children during the summer months.

systems dynamics—such as feedback loops, reciprocal actions, delayed effects, consequences (intended and unanticipated), and nonlinear effects—are useful in helping to understand the developmental and health outcomes of children's summertime experiences (see Figure 1-1).

The committee uses a systems perspective, when appropriate, for examining outcomes and improvement opportunities in the four outcome domains of interest for children and youth during summertime. This approach captures the connectedness of the time periods preceding and following summertime in terms of outcomes and opportunities, as well as the interactions among sectors or subsystems and agents capable of affecting summertime experiences. It promotes a better understanding of the ways fragmented summer programming delivered by multiple, disconnected sectors may affect specific outcomes. The systems perspective can help identify targets for improvement as well as potential interactions between sectors and agents and the effects thereof, which can help frame potential recommendations.

FIGURE 1-1 A systems view of summertime.
NOTE: A system that promotes healthy development for children and adolescents during the summer months requires coordination and collaboration between numerous sectors and agents that adequately meet the needs of communities in order to achieve positive outcomes.
SOURCE: Adapted from Centers for Disease Control and Prevention (2016).

A systems perspective also aims to be comprehensive. It accounts for funding and direct programming delivered through public (government), commercial, and nonprofit organizations, including nonprofit intermediaries operating between funders and service delivery entities. This approach also facilitates the characterization of key attributes of sectors and agents, such as funding models, types and forms of services, access and availability, target populations, and disparate effects. In addition, it acknowledges both self-directed and family-directed summertime experiences as important dimensions of a young person's life.

Finally, the systems perspective that frames this committee's work directs attention to the multiplicity of intersecting social contexts that pose barriers and present opportunities to the healthy academic and social and emotional development of many of our nation's neediest children.

The Summer Months and Opportunities to Learn

The amount of time students have for their summer break is dictated by the academic calendars in their respective states and districts because public education policy and practice in the United States is largely determined at the state and local level. Delegating authority to the local level allows for variation in the design and delivery of public education across the nation's 50 states and more than 13,000 school districts, but it also can exacerbate differences in opportunities for children.

Most school districts still maintain mandatory summer remedial programs for students at risk of grade retention or, in the upper grades, credit

recovery for courses not passed, but district-run programs for enrichment and acceleration are less common. Summertime learning and enrichment are generally governed by the resources available to children through their parents and in their local communities, resources that are more abundant for children in more advantaged families and communities. These opportunities include skill-building in camps and other programs, sports and recreation, and travel, as well as ready access to resources needed to meet their basic needs, such as adequate food and nutrition and safe environments. In contrast, many poor, disadvantaged, and minority children and youth lack access to the resources and opportunities that could keep them moving ahead academically in the absence of school. Further, these children also often face intensified food insecurity, less than adequate access to the nutrition needed for healthy growth and development, aggressive policing, and exposure to unsafe and violent neighborhoods.

The charge to this committee asks whether summertime stands out as contributing distinctively to the latter children's challenges, as well as whether summertime offers distinctive opportunities for children that can propel them along healthy developmental trajectories. While access to high-quality summer learning opportunities and other structured programs will not be a panacea for overcoming the weight of disadvantage, it can be a helpful step forward.

Study Activities

The 13-member study committee included individuals with expertise in education, juvenile justice, medicine, business, out-of-school time programming, psychology, public health, public policy, sociology, summer learning, urban planning, and youth development (see Appendix D for biographical sketches of committee members and staff). The committee met in person five times and held one public information-gathering session as part of its data collection process.

During the committee's public information-gathering session, members heard from experts in rural health, programs and policy, human services and justice, American Indian health, and 4-H programs who discussed the summertime experiences of children and adolescents in rural communities. The committee also heard from people working in the private sector—in entertainment and hospitality (Walt Disney Parks and Resorts), for-profit summer camps (Camp Champions), and corporate community-based programs (Campbell Soup Foundation). They discussed strategies for engaging the private sector to improve summertime experiences.

The committee undertook an extensive review of the literature related to the questions outlined in the Statement of Task. This review included searches of online databases, reviews of other relevant reports of the National Academies of Sciences, Engineering, and Medicine, and information requests to

stakeholder groups. The committee also received memos from knowledgeable stakeholder organizations and gathered information from federal, state, and municipal entities on programs and policies relevant to summertime opportunities for children and youth. In addition to published literature and research, the committee commissioned papers on international programs and policies on summertime activities for children and youth and on juvenile justice, child welfare, policing, and the impact of geography and the built environment on summertime experiences.

Definitions

There are varied definitions of two of the key terms that are found in the literature pertaining to this study's population and the many factors that affect their summertime experiences. Those terms relate to the population of children and youth and to poverty and socioeconomic status.

Children, Youth, and Adolescents

The charge to the committee specifies school-age children, specifically, rising kindergarten (i.e., the summer before kindergarten) through grade 12. There are no datasets that use precisely that grade range, so the committee had to determine how to adjust the available data. For example, many datasets use the age range of 5–18 for children, which is close to the specified range: some rising kindergarten children may be younger than age 5, and some grade 12 students may be older than age 18. Other datasets use K–12 to define school-age children, which is also close to the specified range. More problematic is the definition of "children" as anyone from birth to age 18; for these datasets, the committee has had to determine their applicability to the specified group.

Within the category of children, youth, and adolescents, there are various definitions of early childhood and middle childhood, such as ages 3–8 and ages 9–11, respectively. There are also various definitions of adolescence, such as early (up to age 14), middle (ages 15–17), and late adolescence/early adulthood (ages 18–24). In these schemas, early childhood overlaps the preschool, kindergarten, and early elementary school years; middle childhood overlaps the later years of elementary school; and adolescence overlaps the usual middle school grade structure (grades 6–8) through high school. This correspondence is only approximate, as are the age boundaries used to distinguish periods of key physical and cognitive developmental milestones.

In this report, the committee uses the terms "childhood" for grades K–5 and "adolescence" or "youth" for grades 6–12, unless the research being cited uses other ranges.

Poverty and Socioeconomic Status

Many of the terms used to describe conditions of poverty—such as low income or concentrated poverty—are based on the officially designated poverty line. For 2019, that amount was $12,490 for an individual, with increases of $4,420 for each additional person in a household (with slightly different rates for Alaska and Hawaii) (U.S. Department of Health and Human Services, 2019). Three terms are often used in writing about poverty:

1. *near poverty*: above the poverty line but less than 150 percent of the poverty line (though some sources use an upper limit of 200 percent of the poverty line);
2. *poverty*: not more than 100 percent of the poverty line; and
3. *deep poverty*: 50 percent or less of the poverty line.

The commonly used terms "low income" and "lower income" (families or households) usually refer to incomes between 100 and 200 percent of the poverty line, though they may be used more broadly to refer to all incomes up to 200 percent of the poverty line.

In this report, the committee follows the general practice of using "poor" to encompass individuals, households, and families whose incomes are up to 200 percent of the poverty line, unless a particular dataset uses other criteria.

For geographic designations, poverty areas are those in which at least 20 percent of residents are poor, and extreme or concentrated poverty areas are those in which at least 40 percent of residents are poor. Such areas, neighborhoods, or communities often are characterized as distressed areas or areas of concentrated poverty.

For socioeconomic status (SES), there are no generally agreed-upon criteria for distinguishing among discrete levels. Accordingly, such distinctions connote relative standing, such as lower or higher SES. This report uses those terms.

REPORT ORGANIZATION

Following this Introduction, Chapter 2 details the summertime experiences of the nation's school-age children. Chapter 3 looks at the effects of those summertime experiences on children's development, Chapter 4 examines what we know about the effectiveness of summer programming, and Chapter 5 turns to the effects of children's circumstances on their summer experiences. In those last three chapters, we follow a youth development approach to address the statement of task requirements by providing

responses to questions of quality, availability, access, and equity in the four domains of interest: academic learning and opportunities for enrichment; social and emotional development; physical and mental health and health-promoting behaviors; and safety, risk-taking, and anti- and prosocial behavior. Chapter 6 presents our conclusions and identifies opportunities for improvement and innovations by offering recommendations for policy, practice, and future research.

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2

Summertime Experiences

The summer months present youth with opportunities for academic, physical, and social and emotional growth but also the possibility of stagnation or decline. Understanding the complete landscape of summertime experiences and youths' participation in them is necessary in order to help children and adolescents fully realize positive outcomes and minimize risks during this significant period of the calendar year. In this chapter, we provide an overview of the nature and types of summertime experiences by reviewing and categorizing them according to the agents we identified as key providers—including government agencies, for-profit companies, and nonprofit organizations—offering information on participation when available, with specific attention to equity across groups of children and youth.

The charge to the committee was to examine the availability and accessibility of summer experiences for children and youth for the four outcome domains (academic learning and enrichment; social and emotional development; physical and mental health; and safety, risk taking, and anti- and pro-social behaviors) identified in the statement of task, which they discuss as outcomes of system dynamics and interactions. In undertaking this task, the committee found that summer-specific literature does not provide a comprehensive inventory of the myriad experiences children and youth have during the summer. To compensate for this, we make use of American Time Use Survey (ATUS) data and other longitudinal studies to identify broad categories of common summertime experiences, and then discuss the summertime offerings and actions most commonly offered according to provider. Organizing the experiences by provider enables us to better

identify program availability and accessibility, as well as potential points of coordination and collaboration.

Overall, the committee found that comprehensive data on the summertime experiences of children and youth were completely lacking (see Box 2-1). But the committee notes that there is significantly more information available on summertime experiences provided by government and nonprofit agents than by for-profit agents or agents that serve select subgroups, such as youth involved with the juvenile justice system.

BOX 2-1
Key Findings

- Governmental, nonprofit, and for-profit agents and families provide a wide variety of both structured and unstructured summertime experiences for children and adolescents; however, summer-specific data are not collected on a broad scale and do not inventory the totality of these experiences.
- There are limited data on current participation rates and on access to structured summertime experiences provided by key nongovernmental agents, that is, nonprofit youth-serving organizations and the commercial private sector.
- For some select populations of children and youth (e.g., children and youth in rural communities, those who are American Indian, Alaska Native, or native Hawaiian, and those who are involved with the juvenile justice, child welfare, or foster care system), data on the range of summertime experiences are very limited.
- Time-use studies provide rich detail about the summertime experiences of children and youth under the age of 6 and those over the age of 15, while national surveys have provided a helpful snapshot of the supply and demand for structured summertime experiences.
- The unmet demand for structured summertime programming is driven by accessibility issues such as cost and geographic location.
- Some commercial private-sector agents appear to have a special interest in providing summertime opportunities for employees' children, supporting learning in science, technology, engineering, and mathematics, and demonstrating corporate responsibility through volunteerism and other contributions to the communities in which they operate.

STRUCTURED VERSUS UNSTRUCTURED SUMMERTIME EXPERIENCES

Opportunities for summertime experiences can vary across a wide range of activities and contexts, from homes and community-based settings to schools and juvenile justice settings. One way to characterize these summertime experiences for children and adolescents is based on *structure* (Osgood et al., 2005). Specifically, the structure of summertime experiences can be considered along a continuum based on the degree to which restrictions are placed on how children and youth spend their time (Osgood et al., 2005). *Structured activities* (e.g., enrichment programs, lessons, tutoring, chores, religious activities, organizational meetings) are those that are generally more restrictive on how children and youth spend their time, while *unstructured* or *less structured* activities (e.g., free play alone or with others; reading; media and screen time; child-directed practice of sports or hobbies; social outings like parties and picnics; other entertainment) are less restrictive (Barker et al., 2014). Embedded in the use of structure to characterize youth summertime experiences is the amount of supervision that parents, caregivers, or other adults provide during those experiences, because those providing supervision also have the power to restrict how time is spent.

The context of structured experiences can vary substantially. For instance, a structured experience could reflect an activity planned and facilitated by adults in either a public setting, such as a summer day camp, or a private setting, such as in academic tutoring or private swim lessons. In addition, family activities (e.g., family mealtimes, household work, conversations with family members) could be classified as a structured or an unstructured experience based on the amount of supervision and organization during the family activity (Hofferth and Sandberg, 2001).

The degree to which a summertime experience is structured is an important consideration when determining whether an out-of-school time activity may promote positive youth outcomes (Bartko and Eccles, 2003; Osgood et al., 2005). Less structured experiences such as free play are also important for a child's development, because "children do not learn only in formal settings. For young children, play is their work" (Hofferth and Sandberg, 2001, p. 295). The links between structured and unstructured experiences and child development are discussed further in Chapter 3.

COMMON SUMMERTIME EXPERIENCES OF CHILDREN AND YOUTH

Because there are no comprehensive data on the number of children and youth in the United States involved in structured and unstructured summertime experiences, the committee relied heavily on time-use surveys

to build a picture of how children spend their summers. At the federal level, the United States Department of Labor's ATUS provides estimates on the amount of time Americans spend doing various activities, such as paid work, child care, volunteering, and socializing. It is limited, inasmuch as it fails to (1) differentiate between summertime and other times of the year, (2) measure time use for youth under the age of 15, and (3) measure time use for youth populations not living within a household. Despite that, the ATUS is a valuable source of information on how American youth spend their time on average each day, allowing the committee to extrapolate information on how they may on average spend their time in the summer. Additionally, the committee relied on two key national surveys that reported on summertime experiences. A notable limitation of the available data on the summertime experiences of children and youth is the lack of comparable data for experiences of different duration (e.g., for 1-day, 1-week, and summer-long experiences). Dosage as it relates to outcomes associated with summertime experiences is discussed further in Chapter 4.

In a national study of children's experiences during the summer after kindergarten, Redford and colleagues (2018) surveyed a nationally representative sample of 18,170 children ages 5–6 from 1,310 schools and interviewed the person most familiar with each child's daily care, health, and education (i.e., their parent/guardian) to determine how children spent their time. The study identified a number of structured and unstructured, enrichment and family activities, as seen in Table 2-1. Note that some experiences may have been less likely than others to be reported due to the young age of the children sampled; for example, overnight camp experiences are generally unavailable until a child turns age 8 or 9. The links between the likelihood of these experiences and household poverty and parental education shown in the table are discussed in more detail in Chapter 5.

The results of another national survey were key to the committee's work to catalog the summertime experiences of children and youth. The 2014 *America After 3PM* report, produced by the Afterschool Alliance and based on a survey of 13,709 households, chronicled how children and youth spend their time between 3:00 and 6:00 p.m., the hours after school ends and before parents typically return home from work (Afterschool Alliance, 2014). While the study's focus was on afterschool time use, its survey included questions on summertime programming. Table 2-2 breaks down some of the data collected by geography.

The Afterschool Alliance survey found that

- Thirty-three percent of responding families had at least one child participate in a summer program in 2013, an increase from 28 percent in 2008.

TABLE 2-1 Common Types of Summertime Experiences Reported for Children, Ages 5–6

Summertime Experience	Percentage of Children Surveyed	Comparison Based on Household Poverty Status (poor and nonpoor)	Comparison Based on Parent Education
Self-Directed Outdoor Play	76	*No differences*	*No differences*
Visiting Beach, Lake, River, or State or National Park	86	Poor less likely than nonpoor	Less educated less likely
Visiting Zoo or Aquarium	64	Poor less likely than nonpoor	Less educated less likely
Visiting Amusement Park	58	Poor less likely than nonpoor	*No differences*
Visiting Art Gallery, Museum, or Historical Site	50	Poor less likely than nonpoor	Less educated less likely
Attending a Play or Concert	25	Poor less likely than nonpoor	Less educated less likely
Attending Day Camp	23	Poor less likely than nonpoor	Less educated less likely
Attending Overnight Camp[a]	1	Poor less likely than nonpoor	Less educated less likely
Summer School or Other School-Related Enrichment	10	*No differences*	*No differences*
Reading (child looked at or read a book)	27	*No differences*	Less educated less likely
Reading (family member read to child)	46	Poor less likely than nonpoor	Less educated less likely
Math-Related Activity with a Family Member	12	Poor more likely than nonpoor	Less educated more likely
Writing-Related Activity with a Family Member	40	Poor more likely than nonpoor	Less educated more likely
Using a Computer or Electronic Device for Educational Purposes	16	Near-poor more likely than nonpoor	*No differences*

[a]This study was conducted with children, ages 5–6, while most overnight camp sessions are designed for older youth and adolescents.
NOTE: Poverty definitions as follows: poor = income below 100 percent of the federal poverty level; near-poor = income between 100 and 199 percent of the federal poverty level; and nonpoor = income at or above 200 percent of the federal poverty level.
SOURCE: Redford et al. (2018).

TABLE 2-2 Data on Summertime Programming from the Afterschool Alliance's (2014) *America After 3PM*, by Community Type

			By Community Type		
Theme	Survey Questions	Nationwide	Rural	Urban	Suburban
Participation/ Demand	Families reporting that at least one child is in a summer learning program (2013)	33%	31%	41%	32%
	Families reporting that they want their children to be enrolled in a summer learning program (2014)	51%	47%	60%	50%
Dosage/Cost	Average hours per day children spend in a summer learning program	4.96	4.85	4.9	5.05
	Average number of weeks children spend in a summer learning program	5.16	4.87	5.54	5.12
	Average amount parents spend per week on summer learning programs	$288	$246	$304	$298
Parent Support	Parents agreeing it is important that their children have summer activities that help them maintain academic skills and learn new things	73%	71%	79%	72%
	Parents supporting public funding for summer learning programs	85%	86%	91%	84%
Base Sample Size	Number of households surveyed	13,709	4,106	2,638	6,577

SOURCE: Afterschool Alliance (2019c).

- Families spend, on average $288 per week on summer learning programs, which varies by geography, as seen in Table 2-2 and also by race, with Asian families averaging the highest expenditure (White, $290; Black, $222; Hispanic or Latino, $282; Asian, $408) (Afterschool Alliance, 2019c).
- Eighty-five percent of respondents support public funding for summer programs (Afterschool Alliance, 2019c).

Almost 73 percent of family members surveyed agreed it is important that their children have summer activities that help them maintain academic

skills and learn new things. Across geographies, from urban to rural to suburban, almost 51 percent of respondents reported a desire in access to summer learning programming for their children (Afterschool Alliance, 2019c).

Similarly:

- High rates of unmet summertime program need were reported by parents across racial groups as well (44% White, 67% Black, 60% Hispanic or Latino, 61% Asian) (Afterschool Alliance, 2019c).
- The reported need or interest in programs was highest among families with children in K–5 elementary school (57%) and in middle school (51%).
- Nevertheless, nearly two in five families (39%) with adolescents in grades 9–12 reported a desire for their children to be in a summer program (Afterschool Alliance, 2019c).

These data suggest that the availability of summer programming, or at least actual participation in it, is less than the interest in or need for participating in it.

Self-Directed Play and Free-Time Activities

A high percentage of a child's summertime activity involves self-directed play and free-time activities. When it comes to daily opportunities for self-directed play, Redford and colleagues (2018) found that 76 percent of children ages 5–6 played outside every day in the summer. The prominence of free-time activities in the daily lives of children in the summer is supported by Mahoney and colleagues (2006), who concluded, "In sum, organized activities do not dominate American young people's free time. Many alternative free-time activities (e.g., educational activities, playing games, and watching television) consume as much or considerably more time" (p. 7).

Summer allows a designated time for youth to expend their efforts in ways that are not required by the demands of school. This time offers greater opportunity to align family priorities to a child's interests with available programming. Older youth may have greater opportunity to exercise volition in their summertime activities. However, data on the level of involvement children and youth have in determining their summer activities is not available. According to the U.S. Bureau of Labor Statistics (2017b) on average each weekday, youth ages 15–19 spent approximately 5 hours on leisure and sports, which included activities such as 2 hours watching television, 1 hour socializing and communicating, 50 minutes playing games and using a computer, 40 minutes participating in sports and recreation (includes related travel), 10 minutes relaxing and thinking, and 8 minutes reading.

In the study by Redford and colleagues (2018) mentioned earlier, the only areas in which the study cohort of rising first graders' summertime experiences were not influenced by household poverty status or parent education was related to how often these children played outside during the summer and how often they attended summer school. However, a study by Milteer and colleagues (2012) notes that children and youth from underserved and higher-poverty communities generally have less access to safe play spaces and fewer opportunities to participate in both structured and unstructured physical activities outdoors as a result of their family and community contexts (Chapter 5 expands on family and community contexts and summertime experiences).

Family Activities

Family activities make up another important category of children's summertime experiences and can include mealtime, household work, family leisure, and even household conversations (Hofferth and Sandberg, 2001). Research suggests the most positive family outcomes result when families participate in a blend of predictable or familiar activities and unpredictable or novel activities (Zabriskie and McCormick, 2001). The top five most common family leisure activities include cooking and eating meals together (with 67% of families indicating they participated in that activity "a lot"), participating in outdoor activities such as playing or walking (52% of families), reading together (48% of families), participating in indoor activities such as playing with toys, games, art projects, or video games (47% of families), and watching television or movies at home (42% of families) (The Statistics Portal, 2012). Some children also participate in reading-, writing-, and math-related summertime activities with family members, as seen in Table 2-1. However, as noted by Schwab and Dustin (2015), family leisure now occurs "in ways and environments that feel rushed, fragmented, and distracted in conditions that may not be conducive to the quality interactions needed to realize the full benefits of family leisure" (pp. 181–182).

In addition to these activities, interactions with parents for even short periods of time may have an impact on a child's summertime experiences, examples including a 5-minute conversation that can inspire a child to read a book or encourage a child to try a new hobby (Gershenson, 2013). Such interactions can create learning opportunities and alter children's time use in ways that fall outside the scope of parental involvement and are thus missed by the ATUS time diaries.

Enrichment Activities

Another way that children and youth may be engaged in the summertime is through summer enrichment and recreational activities, such as summer school and summer camp (Redford et al., 2018). Of the nearly 54 million children and youth in the United States between ages 5–17 (Kids Count Data Center, 2018), more than 8 million attend summer camp.[1] Summer camps can offer enriching experiences in a number of ways. For example, the nature-based settings characteristic of some camp experiences provide a novel environment that many children rarely navigate outside of programs such as camp (Olsen et al., 2018) and may provide environments where youth have reduced access to electronic devices and social media (Sorenson, 2018). Twenty-seven percent of overnight camps limit mobile device usage to camp staff only, and only 9 percent allow youth under age 17 to use a mobile device in some way (American Camp Association, 2017b). Camp also provides an opportunity to expand global awareness through interaction with peers from across the world. In a given summer, youth from 50 different countries may be represented across the population of American Camp Association (ACA) camps; in 2017, the five most well-represented countries were China, England, France, Mexico, and Spain (American Camp Association, 2017a).

Enrichment experiences may also involve local travel. For instance, Redford and colleagues (2018) found that almost 90 percent of the study cohort (86%) visited a beach, lake, river, or state or national park in the summer, but children from poor (81%) and near-poor households (82%) were less likely to participate in these enrichment experiences. Similarly, although 64 percent of the children they studied visited a zoo or aquarium, only 54 percent of children from poor households did so (for youth in near-poor households, the figure was 66%). When a child's parents had only a high school diploma or less, their children were less likely to have access to enrichment opportunities than other children (Redford et al., 2018). In the case of summer school, however, no differences were found based on household poverty status or parent education (Redford et al., 2018).

Youth Employment

Older youth may spend their time during the summer in the workforce or in apprenticeship programs, which allow for structured summertime experiences. Early employment experiences, structured municipal or private-sector-provided programs, and more traditional jobs connect youth

[1]Refers to camps that are American Camp Association accredited only; number extrapolated from 2017 ACA data provided by Laurie Brown of ACA.

to people, tasks, rules, and rewards that they may be encountering for the first time. Early work experience—such as that provided by summer jobs—is widely believed to be an important tool for enhancing the future employment prospects and earnings potential of disadvantaged youth (Bailey and Merritt, 1997; Bishop, 1996; Osterman, 1995; Poczik, 1995). However, the prevalence of teen employment has been falling steadily since 2000, with less than one-third of teens ages 16–19 employed today (Modestino and Paulsen, 2019); note that this includes during the summer months, when youth labor force activity tends to be higher than other times of the year (Congressional Research Service, 2017). There are several possible reasons for the decline in youth employment, including fewer jobs available for youth, more competition from adults for jobs traditionally held by youth, an increased minimum wage, and an increase in time spent in school and in unpaid internships (Pew Research Center, 2018). The decline in youth working or looking for work may mean there are fewer pathways for teens to enter the labor market than in the past (Dennet and Modestino, 2013).

Embedded in the declining youth employment trend is a disparity in employment rates across racial and ethnic lines. The labor force participation rate and employment-population ratio generally are highest for White youth, followed by Hispanic youth. Employment-population ratios in 2017 for youth ages 16–24, by race and ethnicity, were as follows: White, 57 percent; Hispanic, 53 percent; Black, 52 percent; and Asian, 42 percent (Fernandes-Alcantara, 2018). Additionally those from higher-income households, those with work experience, and those with higher levels of education were more successful in the labor market. In particular, education and previous work experience were most strongly associated with employment (Sum et al., 2014).

Media and Communication

Other common summertime experiences of children and youth involve electronic media: watching television, consuming digital media, and socializing online with friends. Supporting the previously discussed research by Gershenson (2013), the most recent evidence indicates that children ages 8–12 spend about 6 hours per day consuming some form of media, while adolescents ages 12 and older spend 9 hours per day consuming media (Rideout, 2015). In addition, adolescents ages 15–19 spend about 40 minutes of their leisure time a day involved in socializing and communicating with others (U.S. Bureau of Labor Statistics, 2017b). Youth's use of social media is intertwined with their time spent socializing. As noted by Barker and colleagues (2014), hours previously devoted to less-structured socializing and social play have been replaced by time spent using digital media, and data regarding digital and social media use are most likely to

become rapidly outdated (Caldwell, 2018). Although these findings are not specific to the summer, they reflect somewhat ubiquitous elements of adolescence that are helpful for describing the summertime experience of children and youth.

Although the time-use study by Redford and colleagues (2018) described previously provides a detailed look at the summertime experiences of children ages 5–6, older children and youth may spend their time differently as they become more autonomous and more likely to be involved in organized activities, and this is true for early adolescents from all socioeconomic backgrounds (Mahoney et al., 2006). Examining time-use data (not specific to summer) from American youth ages 5–18, Mahoney and colleagues (2006) reached findings that are informative regarding how children and adolescents spend their time, including during summertime. The top activities, in descending order of the number of hours of participation, were watching television, playing games, participating in organized activities, participating in educational activities, "hanging out," and working on household chores. These data are reflective of data collected through the U.S. Bureau of Labor Statistics (2017b).

SUMMERTIME EXPERIENCES PROVIDED BY KEY AGENTS

In this section, we rely on the best-known sources of data to describe summertime experiences for children and youth as provided by key agents, including the cooperative extension system, education agencies, parks and recreation, youth-serving organizations, for-profit companies, and intermediary organizations.

Summer Camp Experiences Provided Across Agents

Summer camp is an American institution with a 150-year history that has evolved into an $18 billion industry (American Camp Association, 2015; Paris, 2008) serving more than 8 million children and youth annually.[2] Although the exact number of "summer camps" operating in the United States is unknown, the most comprehensive source of data on the subject is the American Camp Association (ACA), an organization that provides health, safety, and risk management standards for the camp industry and provides an accreditation process for camps meeting these rigorous standards (American Camp Association, 2019a).[3] These stan-

[2]Number of children and youth served by camps (those accredited by the ACA) extrapolated from 2017 ACA data provided by Laurie Brown of ACA.

[3]For more information on ACA accreditation, see https://www.acacamps.org/staff-professionals/accreditation-standards/accreditation/about-aca-accreditation.

dards provide, for example, requirements for staff screening, training, and youth supervision. In addition to ACA accreditation, some states also have licensing requirements that camp providers must follow (American Camp Association, 2018a).

Types of camps can be categorized according to the agent that provides them (see Figure 2-1), as follows:

- **Community-based organization camps**—public, not-for-profit camps provided by organizations such as Y-USA, Boy Scouts, Girls Scouts, and Boys and Girls Clubs;
- **For-profit camps**—which are most often private and independent;
- **Nonprofit camps**—which are also most often private and independent;
- **Government camps**—public, not-for-profit camps provided by municipal/city parks and recreation departments, county parks, state parks, federal lands, and national parks;
- **Faith-based camps**—most often private, independent not-for-profit camps associated with specific religious faiths (see Box 2-2);
- **College and university camps**—most often private, independent not-for-profit camps associated with colleges or universities;
- **Medical and special needs camps**—most often private, independent not-for-profit camps serving children with disabilities or special medical needs (see Box 2-2); and
- **K–12 camps**—most often private, independent not-for-profit camps associated with K–12 schools.

Figure 2-1 provides the percentage of ACA member camps collapsed into three main categories: *for-profit, nonprofit,* and *government*. As depicted in this figure, most camps are provided by nonprofit organizations (74%).

Given that the ACA is the best available source of data on national camp demographics and usage, the use of the word "camp" in this section refers to camps accredited by the ACA unless otherwise noted. Most of the data reported in this section were compiled from the ACA's business surveys. These surveys were developed and administered by the ACA in cooperation with a third-party research firm, Readex Research, and the reported findings are based on the responses of a systematic, stratified sample of camp administrators from the association's accredited and affiliated camps.

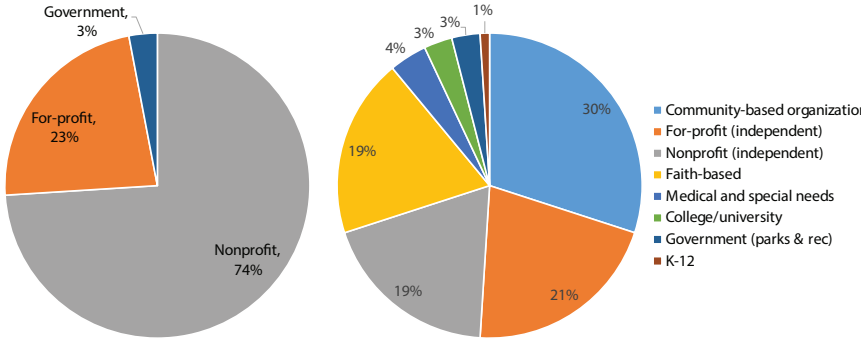

FIGURE 2-1 Percentage distribution of summer camp providers.
NOTE: "Camp" refers to camps accredited by the American Camp Association (ACA).
SOURCES: G. Throop, ACA (personal communication, January 29, 2019); data from the ACA's customer relationship management (CRM) system.

Availability and Accessibility of Camp Experiences

Camps can also be categorized by session type, that is, as either day camps or overnight camps. Day camps are defined as camps with sessions in which youth go home to a parent or guardian each night (except for an occasional overnight program) (American Camp Association, 2012). Overnight camps, which are sometimes labelled "sleepaway" or resident camps, offer sessions in which youth stay overnight, generally in a tent, cabin, lodge, or similar accommodation; such camps are responsible for the youth 24 hours a day (American Camp Association, 2012). Although both day camp and overnight camp experiences may be provided throughout the year, most camp sessions are offered during summertime, specifically from June through August (American Camp Association, 2017b, p. 30). (See table in Appendix B for more detailed comparisons between day and overnight camps).

There are an estimated 14,000 U.S. day and overnight camps. The largest percentage of day camps are nonprofit camps (38%), which includes camps provided by national youth-serving organizations such as Girl Scouts, Boy Scouts of America, Y-USA, and Campfire USA. Revenue in these camps is generated primarily through camp fees; in 2017, the average weekly (5-day) fee for day camp was $380 (based on a daily fee of $76) (American Camp Association, 2018b). Most day camps (91%) offer some form of scholarship. In 2017, the typical day camp provided financial assistance to 10 percent of its campers, providing around $15,000 in total funding over

BOX 2-2
Youth Programs and Services Provided by Specialty Camps

This box provides more information about summer camps serving special populations, such as camps serving youth with disabilities and/or special medical needs and camps serving gender-nonbinary youth.

Camps Serving Youth with Disabilities and/or Special Medical Needs

Some organizations target youth who have disabilities or special medical needs with summertime programs and services, including weekend camps and hospital or clinic-based experiences. The SeriousFun Network is an example of an organization that targets youth with special medical needs. The mission of the SeriousFun Network is "to create opportunities for children and their families to reach beyond serious illness and discover joy, confidence and a new world of possibilities, always free of charge" (SeriousFun Children's Network, 2019). In 2017, SeriousFun provided approximately 121,800 child experiences, including 10,500 summer camp experiences, 4,700 weekend camp experiences, 53,200 hospital/clinic-based experiences, and 53,300 community outreach experiences. When siblings and family members of youth with diagnoses are included, which is common in medical specialty camp service models, SeriousFun's total number of experiences for the year increases from 121,800 to 165,800 internationally.[a]

Among the estimated 500 medical specialty camps serving these populations, some are recognized as models for pediatric treatment (Dawson, 2017; Plante et al., 2001). The role of these camps, which typically involve a 1-week camp experience during the summer months, is to provide campers with psychosocial support that they can also draw on the other 51 weeks of the year through a process called "social inoculation," to mitigate the erosion of social and emotional gains of summer camp during the upcoming school year (Dawson, 2017). This process involves integrating summer camp experiences with "booster" experiences provided within a child's community and/or online to extend the impacts of the summer camp experiences. As shown in Figure 2-2-1 below, the most common disabilities and special medical needs camps can be categorized as serving cognitive/developmental or psychological/emotional disabilities and/or medical needs.

Faith-Based Camps

Of the estimated 14,000 summer camps, and within the broader category of nonprofit camps (refer to Figure 2-1), approximately 19 percent are provided through faith-based organizations;[b] these camps are alternatively referred to as "religiously affiliated camps." Youth involvement in faith-based/religiously affiliated camps is considerable, as research indicates that close to 40 percent of adolescents ages 13–17 have attended a faith-based camp at least once (University of Notre Dame, 2018).

Among teens of various faiths, when measured within their own faith community faith-based camp involvement is most common among Mormons (78% of

[a]A. Gillard, SeriousFun Network (personal communication, February 25, 2019).
[b]G. Throop, American Camp Association (personal communication, January 29, 2019).

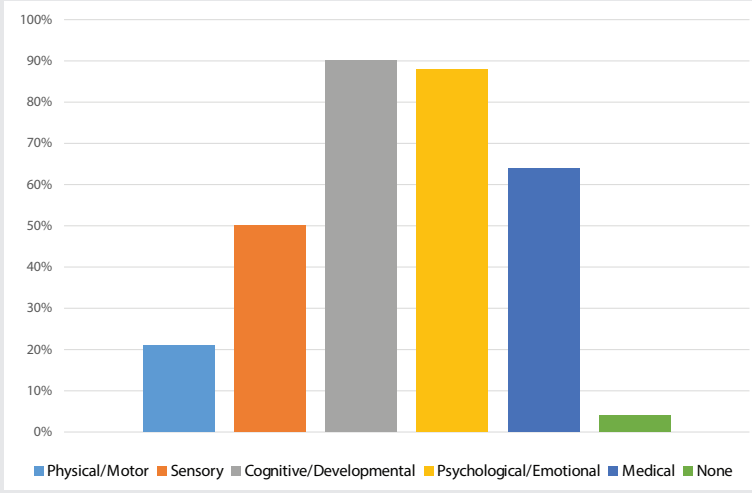

FIGURE 2-2-1 Percentage of ACA camps serving youth with disabilities based on type of disability/need.
NOTE: "Camp" refers to camps accredited by the American Camp Association.
SOURCE: American Camp Association (2017a).

teenage children of Mormon parents), followed in turn by conservative Protestants (53% of teenage children of conservative Protestant parents), mainline Protestants (48% of teenage children of mainline Protestant parents), Jews (43% of teenage children of Jewish parents), and Catholics (24% of teenage children of Catholic parents) (University of Notre Dame, 2018). A broad range of organizations provide faith-based camps, including the Association of Independent Jewish Camps, Ramah Camping Movement, Catholic Youth Organization, Cedarbrook Camps, Episcopal Camp and Conference Centers, Evangelical Covenant Church, Jewish Community Center Association, Lutheran Outdoor Ministries, NCSY (formerly National Conference of Synagogue Youth), Presbyterian Church Camp and Conference Association, Salvation Army USA, North American Division of Seventh-day Adventist Camp Professionals, Union for Reform Judaism Camps, United Church of Christ, United Methodist Camp & Retreat Ministries, and Y-USA.

Faith-based camps share many of the same characteristics as secular camps, yet they maintain an intentional programmatic focus on spirituality and faith-related youth outcomes (Henderson et al., 2009; Sorenson, 2018). In fact, based on an analysis of the National Survey of Youth and Religion, Sorenson (2014) found that "camp is a common experience for most religiously active emerging adults [and that] the higher the level of religiosity, the more likely an emerging adult has had at least one camp experience" (p. 26).

continued

BOX 2-2 Continued

Camps Serving Gender-Nonbinary and LGBTQ Youth

There has been growth in the number of camps serving gender-nonbinary, gender-nonconforming, and other LGBTQ youth. For transgender youth and for nonbinary youth (i.e., youth who do not singularly identify as male or female), decisions about camp participation can be strongly influenced by gender identity management (Browne et al., 2019). Summertime is a critical setting for influencing positive outcome in these populations, as gender-nonbinary and gender-nonconforming youth may face considerable difficulties during the school year (Robinson and Espelage, 2011). Indeed, transgender students are more likely to report violent victimization, substance use, and suicide risk when compared to cisgender (i.e., gender-conforming) students (Johns et al., 2019). Furthermore,

the course of a camp season (i.e., in the form of 25 full or partial scholarships) (American Camp Association, 2018c).

The largest percentage of overnight camps are nonprofit camps, followed by for-profit camps. Revenue in overnight camps is generated primarily through camp fees; the average weekly (5-day) fee for overnight camp is $860 (based on a daily fee of $172) (American Camp Association, 2017b). Most overnight camps (96%) offer some form of scholarship. In 2017, the typical overnight camp provided financial assistance to 15 percent of its campers, providing around $50,000 in total funding over the course of the camp season (i.e., through full or partial scholarships) (American Camp Association, 2018b).

Day camps tend to serve children from middle-income households (46% of the children and youth they serve) and high-income households (27%) relatively more than children from low-income and at-poverty-level households (27% combined), as shown in Figure 2-2 (American Camp Association, 2018c). Overnight camps tend to serve children from middle-income households (38% of the children and youth they serve) and high-income households (29%), while 20 percent of the children and youth they serve are from low-income communities and just 13 percent are at the poverty level (American Camp Association, 2018b). However, many summer camps are not filled to capacity, suggesting an opportunity to serve more youth during summertime through camp experiences. For example, only 14 percent of overnight camps report reaching their full capacity, and an even smaller proportion—4 percent—of day camps reach their full capacity (American Camp Association, 2017a). For-profit camps are more likely than nonprofit and government camps to be filled to capacity. In 2017,

summer camp has been recognized as a setting in which gender-nonbinary and gender-nonconforming youth can explore self-expression without fear of stigma (Gillard et al., 2014).

Camp program providers have become more intentional about serving gender-nonbinary and gender-nonconforming youth and providing them with positive camp opportunities, either through camp programs specifically designed for gender-nonbinary youth or through the integration of gender-nonbinary youth into programs designed for all youth (Browne et al., 2019). Summer camps are positioned to be particularly effective places for normalizing a child's experience in a safe, supportive community and providing "respite from the consequences of marginalization" (Gillard et al., 2014, p. 102) that many gender-nonbinary and gender-nonconforming youth face.

faith-based and government camps reported difficulty in filling their camps to capacity (American Camp Association, 2017a).

The cost of summer programs such as summer camp may help to contextualize the disparity between unmet demand for summer programming and unfilled capacity in camps. According to the 2018 Federal Poverty

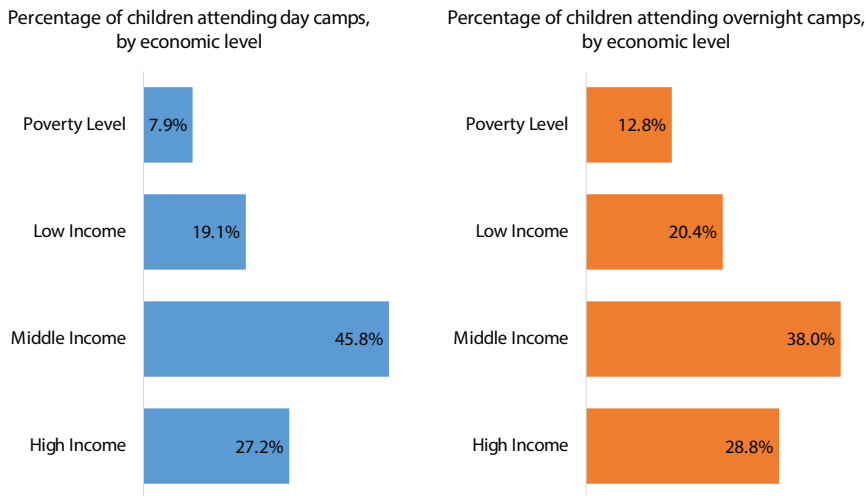

FIGURE 2-2 Percentage distribution of children served by day camps (left) and overnight camps (right), by economic level.
NOTE: "Camp" refers to camps accredited by the American Camp Association.
SOURCE: American Camp Association (2018b, 2018c).

Guidelines, a family of four living at 100 percent of the poverty level has $25,100 in yearly income[4] or approximately $483/week. A comparison of the cost of 1 week of day or overnight summer camp and this level of income makes it clear that involvement in summer camp is virtually impossible for many families.

Summertime Experiences Provided by the Government

In this section, we describe summertime experiences offered through government vehicles, including Cooperative Extension, parks and recreation, government agency-sponsored youth employment opportunities, public libraries, and state and local education agencies.

Cooperative Extension

Cooperative Extension is the human service dimension of the U.S. Department of Agriculture, serving as the vehicle for translating research-based information from U.S. land-grant institutions to improve practices within local communities. Cooperative Extension also provides summertime opportunities for youth. 4-H is a well-known Cooperative Extension program, administered through more than 100 public universities promoting youth development through hands-on activities that may be delivered through in-school programs, community-based clubs, engagement experiences, and camps. 4-H emphasizes "the importance of young people connecting to their communities, being well-informed and engaged in civic affairs, developing leadership skills, and preparing for college, work, career, and life" (U.S. Department of Agriculture, 2015). It is administered through local Cooperative Extension offices with programs delivered by more than 3,500 4-H professionals and half a million volunteers.[5] 4-H provides a range of out-of-school programming, in-school enrichment programs, clubs, and camps. Youth involvement, which is guided by adult mentors, is often project-based and matched according to a young person's interests, such as agriculture, leadership, performing arts, animal science, or science, technology, engineering, and mathematics (STEM). 4-H reports reaching close to 6 million youth annually, including rural (2.6 million), urban (1.8 million) and suburban (1.5 million) youth (U.S. Department of Agriculture, 2015).

[4]For more information, see https://aspe.hhs.gov/2018-poverty-guidelines.
[5]For more information, see https://4-h.org/about/what-is-4-h.

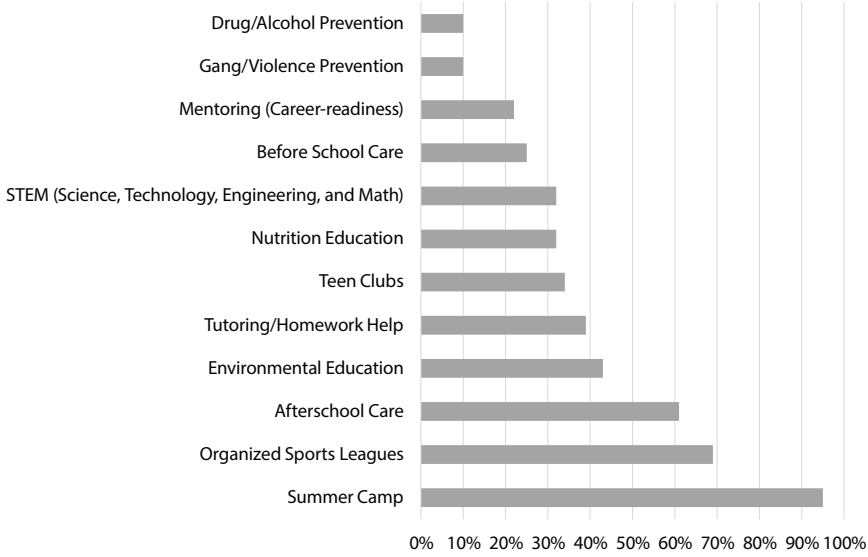

FIGURE 2-3 Out-of-school time program offerings sponsored by parks and recreation departments (% of departments sponsoring)
SOURCE: National Recreation and Park Association (2016).

Parks and Recreation

Parks and Recreation (P&R) services are offered primarily through local governments that provides a wide range of summertime opportunities with accompanying benefits that include economic value, health and environmental benefits, and social interaction (National Recreation and Park Association, 2010). P&R provides a variety of resources such as neighborhood parks, trail networks, and aquatic and fitness centers (National Recreation and Park Association, 2017). In these and other venues, P&R offers many programs and activities. Examples of the top out-of-school time programs provided by P&R departments are shown in Figure 2-3 and include, among others, (1) summer day or overnight camp[6] (offered by 84% of P&R departments), (2) organized sports leagues (offered by 69% of P&R departments), (3) environmental education (offered by 43% of P&R departments), (4) teen clubs (offered by 34% of P&R departments), (5) nutrition education (offered by 32% of P&R

[6]Some P&R camps are accredited by the American Camp Association (ACA) and may be represented in the ACA data presented earlier. Given the available data, it is not possible to know with certainty to what extent this may be true. Generally speaking, more P&R camps are *not* accredited by ACA than are accredited by ACA.

departments), and (6) STEM activities (offered by 32% of P&R departments) (National Recreation and Park Association, 2016, 2018b).

P&R funding is derived from both tax and nontax revenues. Tax revenues comprise 59 percent of P&R budgets, with local governments spending approximately $78 per resident on P&R services (National Recreation and Park Association, 2019). Thus, more economically advantaged communities will have more robust P&R budgets, allowing for more programs and services. In addition, a typical P&R agency recovers a significant portion of its operating budget from nontax revenue, such as earned/generated revenue, dedicated levies, grants, and sponsorships (National Recreation and Park Association, 2018b).

Nationally, P&R agencies are reported to serve an average of nearly 200,000 children and youth annually (National Recreation and Park Association, 2016). At the local level (i.e., town/city municipality), the average number of children and youth served by a typical P&R agency through out-of-school time programs is 1,000 children overall, with urban settings averaging 1,400 and rural environments averaging 800 (National Recreation and Park Association, 2016). Forty-five percent of P&R agencies develop programming specifically for female youth and 42 percent for male youth. Additionally, 42 percent of agencies deliver programming geared to minority youth and 8 percent to youth involved in the juvenile justice system (National Recreation and Park Association, 2018a). Although P&R agencies serve children of all ages through out-of-school time programs, most youth served are either elementary or middle-school age (see Figure 2-4).

Youth served through P&R agencies' out-of-school time programs are racially and ethnically diverse (see Figure 2-5) and serve children and youth across the socioeconomic spectrum. A majority (57%) of P&R professionals report that youth served through out-of-school time programs live in households facing "significant financial challenges" and 1 in 6 youth in P&R out-of-school time programs report being hungry (National Recreation and Park Association, 2018a).

P&R agencies face a number of challenges to serving children through summertime youth programs. One challenge is a need for adequate resources for staff training and preparation, particularly in the areas of navigating adolescence, environment, and STEM (National Recreation and Park Association, 2018a). Securing adequate resources is difficult for P&R agencies because government officials tend to view their programs/services as "the most discretionary line item in their budgets," despite the fact that 9 out of 10 taxpayers recognize P&R as an important service provided by local governments (National Recreation and Park Association, 2018b, p. 25). This affects both the accessibility and the availability of summer programs since, unlike many other providers of summertime opportunities for youth, P&R agencies serve an ethnically and racially diverse population of youth.

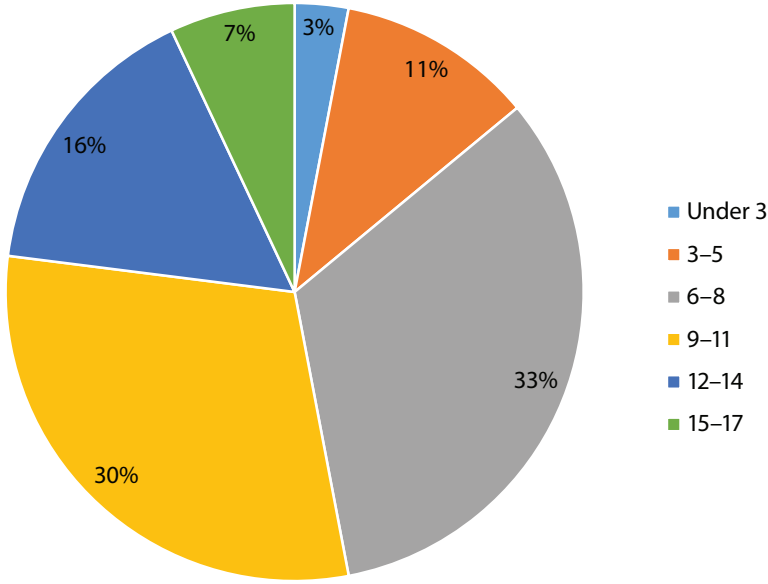

FIGURE 2-4 Age distribution of parks and recreation out-of-school time program participants.
SOURCE: National Recreation and Park Association (2018a).

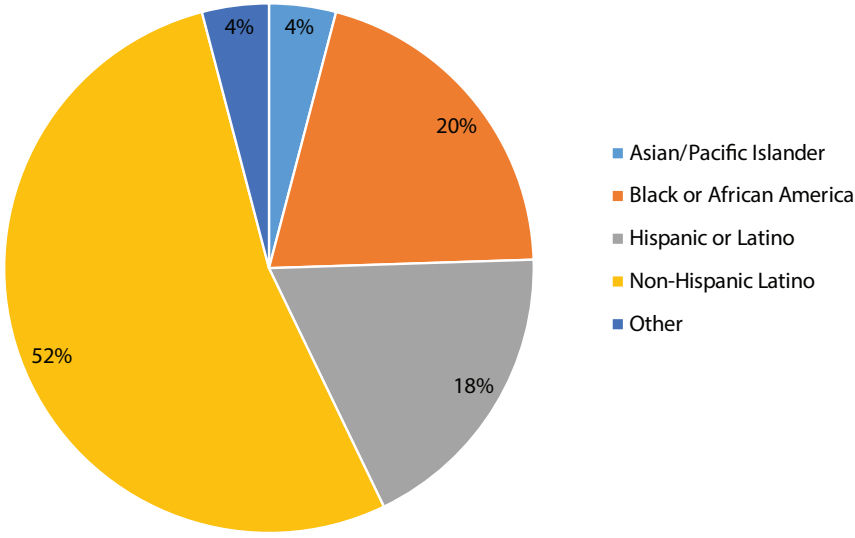

FIGURE 2-5 Race/ethnicity distribution of parks and recreation out-of-school time program participants
NOTE: *Other* includes participants of Native American or American Indian descent.
SOURCE: National Recreation and Park Association (2018a).

Youth Employment Programs

According to the Bureau of Labor Statistics, the youth labor force (16- to 24-year-olds working or actively looking for work) grows sharply between April and July each year. From April to July 2019, the number of employed youth ages 16–24 was 21.2 million. During these months, large numbers of high school and college students search for or take summer jobs. In July 2019, the sectors with the largest percentages of employed youth were the leisure and hospitality industry (25%), the retail trade industry (17%), and in education and health services (13%) (Bureau of Labor Statistics, 2019). The data do not identify youth only employed during the summer months. Data on summer youth employment are limited. A survey (U.S. Conference of Mayors, 2016) of 40 U.S. cities reported that nearly 116,000 youth were hired for summer jobs in 2015, representing a small portion of the more than 20 million youth in the U.S. labor force during the summer months.

Summer job programs are generally managed by cities and funded by both public- and private-sector agents. These programs target older youth between ages 14–24. A review of the federal government's role in summer youth employment (Congressional Research Service, 2017) states that these programs are intended to offer employment experiences and other activities to youth while also potentially meeting broader objectives, which include

- providing income to youth and their families;
- improving academic outcomes and prospects for the employment of youth in the future;
- deterring youth from activities that could lead to their getting in trouble or being harmed; and
- providing greater economic opportunities to youth in areas with few employment prospects.

Since 1964, federal laws have authorized funding to local governments for summer employment activities; however, the provisions about summer employment have shifted over the years. In 2014, the Workforce Innovation and Opportunities Act (WIOA, P.L. 113-128), was enacted and allocates funding to states based on relative income and employment factors, states in turn allocate funds to localities. This program currently provides the major federal support for youth employment and job training activities throughout the United States. Other federal programs have been put in place to strengthen the summer employment prospects for young people. Under the Summer Jobs and Beyond grant, the U.S. Department of Labor provided $21 million in fiscal 2016 for 11 communities to expand work opportunities for youth during the summer. The executive branch has also encouraged other federal programs, including the Temporary Assistance for

Needy Families (TANF) Program, to provide employment to eligible youth during the summer. While relatedly, the Obama administration developed partnerships with private and nonprofit agents to expand summer job opportunities (Congressional Research Service, 2017).

Declining youth employment rates have led mayors and other municipal leaders to take steps to expand summer employment programs, but little information exists about the source of funding for these programs in localities. Private-sector support encompasses funding to cities both to expand summer youth initiatives and to provide job placements for youth (see Box 2-3). Businesses have provided financial support to multiple cities for summer jobs and created work placement programs for low-income youth across their various business locations (note that there is further discussion of private-sector involvement in youth employment in the latter part of this chapter). There is little information about the cost of operating these programs, although cities report that the largest share of the programs' budgets is dedicated to subsidized wages. The typical cost per participant is approximately $1,400 to $2,000 (Congressional Research Service, 2017).

The research literature has not fully explored the labor force participation of low-income youth during the summer. One analysis found that the summer employment rate of teens ages 16–19 increases with household income. In the summer months of 2013 and 2014, about one out of every five (20%) teens with household incomes of $20,000 to $39,000 had summer employment, compared with 32 to 41 percent of teens in households with higher incomes (Congressional Research Service, 2017).

BOX 2-3
One Summer Chicago Initiative

The One Summer Chicago Initiative encourages partnerships between government agencies, community-based organizations, and companies to offer more than 30,000 employment opportunities annually to youth (ages 14–24) paired with positive youth development experiences (One Summer Chicago, 2018). More than 70,000 youth applied for One Summer Chicago in 2018, reflecting the summertime employment needs of youth and the demand for the program. Additionally, Chicago launched a first-of-its-kind summer jobs program for youth involved in the juvenile justice system, called One Summer Chicago Plus (OSC+).[a] The program, which was supported by both the city and Cook County, Illinois, as well as by several corporate sponsors, recruited youth who were 16 years old, had at least a C average in school, and were from areas with high unemployment, and it matched them in minimum-wage jobs ranging from camp counselor positions to positions working in garden programs (Moser, 2014).

[a]For more information, see http://www.onesummerchicago.org.

Public Libraries

Public libraries are well-positioned within communities to provide summer academics and enrichment by serving as a safe environment where children, youth, and families can access programming and resources that help meet a wide variety of academic and developmental needs (Urban Libraries Council, 2018). A 2014 national survey of libraries found that of the 2,304 that responded 95 percent of them offered summer reading programs with the goal of preventing summer learning loss (American Library Association, 2015). Libraries are also eligible to serve as summer meal program sites for their communities, which provides an opportunity to improve nutrition during the summer (*The New York Times*, 2017). Through their local library, children, youth, and their parents can access programs that provide opportunities for learning and enrichment and learn about services and resources available within their community (California Library Association, 2019).

In partnership with other community agents such as schools, museums, local businesses, local government, and community organizations, public libraries help students who need access to learning and enrichment opportunities in the summertime and might not otherwise have access to summer programs. By leveraging these partnerships, public libraries are able to expand opportunities for children and youth to mitigate summer learning loss and provide experiences that meet community needs in an equitable and community-centered way (Urban Libraries Council, 2018).

State and Local Education Agencies

While schools are not in typical operation during the summer months, most school districts do provide summer programming for children and youth. These programs can be funded by federal, state, or local funds, depending on the type of program and the population served. While a variety of funds can be utilized to offer summer programs, districts face many competing needs for these funds, and they identify lack of funding as the primary barrier to offering summer programs (McCombs et al., 2011). The most notable federal funding source for summer programming is the 21st Century Community Learning Center (21st CCLC) Program, funded under the Every Student Succeeds Act.[7] The 21st CCLC Program was funded (as of October 2018) at $1.2 billion and is dispersed as a formula grant to state education agencies, which then offer grant programs to local education agencies in partnership with community-based organi-

[7]Every Student Succeeds Act of 2015, Pub. L. No. 114–95 § 114 Stat. 1177 (2015–16) Section 1111(h)(1)(C)(ii).

zations (U.S. Department of Education, 2019). The program serves almost 2 million children and families annually through afterschool programs, and the most recent performance report, from the 2015–2016 school year, indicates that 293,949 children and youth participated in summer offerings funded by 21st CCLC (U.S. Department of Education, 2017). Although it is not universal, the 21st CCLC Program is primarily designed to provide programs in low-performing schools where a high percentage of students receive free and reduced lunch. In 2014–2015, 67 percent of program participants received free and reduced lunch and 13 percent had limited English proficiency (Afterschool Alliance, 2018).

State and local education agencies also play a valuable role in helping to reduce food insecurity, which many children and adolescents experience during the summer months. They could do more by working to improve participation in summer nutrition programs, such as the Summer Food Service Program (SFSP). In addition to helping to reduce the summer academic and nutritional slide, summer meal programs that provide enrichment and educational activities have been found to be the most successful at maintaining and improving participation. However, many low-income families are unable to access the structured summer educational and enrichment programs that often serve as platforms for these nutrition programs (Food Research and Action Center, 2018, 2019).

Other types of programs offered by school districts (see Chapter 5 for greater discussion) include these:

- **Extended school-year programs.** Under the Individuals with Disabilities Education Act,[8] school districts must provide extended school-year services for any student whose disability requires year-round schooling to maintain their academic, social, behavior, or communication skills.
- **Credit recovery programs.** To help ensure that students graduate on time, school districts provide credit recovery courses over the summer to students who have failed a course. Some students also take these courses as a mechanism for getting ahead and skipping to a more advanced course or fulfilling a requirement over the summer to make room for additional electives during the school year. In 2014–2015, 89 percent of high schools offered at least one credit recovery course to students who needed them (U.S. Department of Education, 2018). Some courses are provided online, while others are in-person, onsite programs.

[8]IDEA was previously known as the Education for All Handicapped Children Act and enacted in 1975. In 1990, the United States Congress reauthorized EHA and changed the title to IDEA (Public Law No. 94-142).

- **Mandatory programs.** Some school districts and states require elementary and middle school students performing far below grade level to attend summer school prior to advancing to the next grade. These programs typically offer targeted mathematics and reading instruction.
- **Voluntary programs.** Some districts and schools also offer voluntary programs to targeted groups of students, including English language learners, low-income students, students performing below grade level, and students transitioning to a new school level, while others open programs up to all students. The content of programming ranges, depending on program goals, and can include core subject instruction in mathematics and reading (for enrichment or remediation), combined academic and enrichment programs, and specialized programming such as arts, STEM, and sports.

In addition to offering programs, some school districts make their schools available to city/county or nonprofit partners or offer joint-use agreements to those who utilize the school facilities to provide recreational programs to children and youth. Schools also serve as a conduit of information about summer programs in the community, distributing information on camps to families and students. In some cases, the state or local education agency partners with local community-based organizations and other state agencies to make sure youth have the support they need over the summer to be successful in school and in life. For example, in San Francisco, Huckleberry Youth Programs offers PROJECT READY (Reconnecting, Educating, and Achieving Dreams for Youth) to help eighth graders successfully transition to high school and avoid contact with the juvenile justice system; this program is supported by the California Board of State and Community Corrections Violence Intervention and Prevention Grant Program.[9] Throughout the country, the formal model of Community Schools has taken hold. Using this model, many communities are able to utilize the school building to host year-round services for community members, including healthcare, enrichment, adult programming, and, in some cases, summer programming.[10] Community schools are funded at the local and federal levels through public dollars, often augmented by private and grant funds.

Juvenile Justice and Child Welfare Systems

Although some child welfare and juvenile justice systems provide access to a range of opportunities for youth in their charge (see Box 2-4), we did

[9]For more information, see https://www.huckleberryyouth.org/juvenile-justice-diversion.

[10]For more information, see http://www.communityschools.org/aboutschools/what_is_a_community_school.aspx.

not find examples of any juvenile justice or child welfare system with a comprehensive approach for system-involved children and youth specific to summertime. Few, if any, child welfare or juvenile justice systems have adequate resources for consistently meeting the developmental needs of the children and youth entrusted to their care. The limited resources of child welfare and juvenile justice systems are often overtaxed in order to provide services to children and youth who, in reality, may not need state intervention. However, a growing number of states have adopted a developmental approach to juvenile justice policy, which includes reducing the use of secure confinement and increasing the use of community-based options (National Academies of Sciences, Engineering, and Medicine, 2019). There are also programs and strategies being implemented in communities that can provide information about local initiatives that encourage positive development during the summer months.

The scientific evidence affirming the need for a developmental approach to juvenile justice has been outlined in previous National Academies reports (2013, 2014), which found that supporting programs and interventions targeted to at-risk youth rather than merely responding with punitive punishment and incarceration can reduce delinquency (National Academies of Sciences, Engineering, and Medicine, 2019). These types of program are not yet common either during the school year or in the summer, when children and youth are more vulnerable due to the lack of structure that the school year provides.

The committee's review of the literature found that in general, Positive Youth Development (PYD) principles are not being systematically deployed by law enforcement. However, police departments in some municipalities have created programs that provide opportunities for positive police/youth interactions in summertime. For example, the Boston Police Department takes a multipronged approach to preparing for summer. Smart-data driven deployment of resources and increased police presence are only part of the plan, which also involves connecting youth with summer jobs, camps, and training programs. In 2018, the police department and the City of Boston connected hundreds of youth with summer employment or training programs. Police officers in Boston also connect at-risk youth and their families with clinicians and social service providers through YouthConnect,[11] the Boston Public Health Commission's Trauma Teams,[12] and BEST (Boston Emergency Services Team) Clinicians.[13]

[11]For more information, see https://www.bgcb.org/what-we-do/youthconnect.

[12]For more information, see https://www.bphc.org/whatwedo/mental-emotional-health/trauma-response-and-recovery/Pages/Trauma-Response-and-Recovery.aspx.

[13]For more information, see http://northsuffolk.org/services/emergency-services/boston-emergency-services-team.

BOX 2-4
Leveraging Culture, Community, and Family to Promote Positive Outcomes for Youth in Treatment and Detention in Alaska

The Bethel Youth Facility (BYF) in Bethel, Alaska, serves youth in both detention and treatment units, approximately 96 percent of whom are Alaska Native youth. Understanding and respecting the cultural backgrounds and the ways in which cultural nuances can affect interactions with residents, families, and communities, this facility develops and implements culturally relevant programming for the youth in their care, leveraging partnerships with members of the community and the families of residents.

There are several protective factors targeted by cultural programming at BYF:

- **Individual:** Increasing positive cultural connectedness by teaching traditional skills, which is intended to strengthen social emotional competence and positive self-concept and self-worth.
- **Relationship:** Including family directly, by participation, or by sharing traditional knowledge through telephonic or in-person visitation. Family support and connections are enhanced and intensified.
- **Community:** Having youth engage in activities for the local tribal council and donate subsistence goods and products to local elders and those in need. Youth will derive a positive sense of satisfaction and accomplishment.
- **Societal:** Having youth practice social skills in a noninstitutional setting and engage in discussions of traditional gender roles and gender norms. Discussions and education of historical trauma through group

In addition to helping to connect children and youth with employment and other services, the Boston Police Department runs other youth-focused programs, such as the Boston Police Summer Youth Leadership Academy; Summertime with the Women in Blue; Lunch with a Cop; Stranger Danger/Bullying Intervention; Community Engagement Family Fun Day/Summer BBQs; Summer of Hope Partnership with Boston Public Schools; Junior Police Academy; Teen Academy; and Youth and Police Dialogues; as well as movie nights, field trips, and sports programs. Police departments in both New York City and Newark, New Jersey, have a program called Operation Conversation: Cops & Kids, with the goal of fostering positive relationships between youth in the inner city and local police through conversation, improvisational games, and performance (All Stars Project, 2017). Although this program is not summer specific, it may have characteristics that can inform other strategies for policing children and youth during the summer and improving these interactions.

activities and individual counseling with youth can occur more readily in the unconventional setting of a traditional camp.

Twice a year, through a partnership with the Orutsaramiut Native Council, youth have an opportunity to participate in cultural camps where they participate in traditional activities such as logging, net-fishing, swimming, rebuilding camp infrastructure, storytelling, identifying wild plants, and preparing meals, including several Native foods. This partnership has also expanded to include the Healthy Families program for residents. The Healthy Families program is an evidenced-based, culturally relevant program that incorporates a group format as well as a traditional healing model that is representative of Yup'ik values, teachings, and beliefs. When available, BYF staff teach Native Youth Olympics to continue to help the residents set and achieve goals that will ultimately improve their self-esteem and physical fitness. During the annual Cultural Heritage Week, BYF youth complete various projects and learn traditional activities, often with volunteer elders, culminating in a potluck dinner that their families are invited to attend. There are various levels of family participation, from approval for youth to participate to the parents actively participating in cultural programming at camp and at BYF. Family involvement enhances and reinforces the benefits of youth participation in the cultural programing.

Learning these skills, which includes working as part of a community and increasing youth's cultural identity, promotes a number of positive outcomes for youth, including lower rates of depression, decreases in alcohol and drug use, decreases in anti-social behaviors, lower rates of suicide, and reduction of truancy and school dropout. Cultural programming is an excellent opportunity for BYF youth to learn traditional yet modernized skills.

SOURCE: Bethel Youth Facility (2019).

While some communities have created summertime youth development opportunities designed to meet the needs of children and young people, for those children most at risk of state intervention there is still work to be done. Crime-suppression strategies during the summer would ideally focus on building healthy relationships with youth and providing them with safe, healthy summertime activities.

Summertime Experiences Provided by Commercial Private-Sector Agents

This section explores the different mechanisms through which the private sector contributes to the summertime experiences of children and youth. The primary agents here are for-profit companies. These agents are involved in various ways, including through (1) the sale of goods and services, (2) donation or sponsorship, (3) youth employment and skill development, and (4) employee benefits and human resources policies.

Sale of Goods and Services

The private sector is involved in summertime experiences through the sale of goods and services, including educational programs, recreational theme parks, and day or overnight summer camp experiences (for-profit summer camps are discussed earlier in this chapter). Companies may also offer summer workshops for a fee. For example, the Walt Disney Company provides an extensive array of fee-based workshops year-round for children and youth in areas such as music, dance, acting, and other performing arts.[14]

Donation or Sponsorship

Companies can also promote summertime activities through cash or in-kind donations, the latter including use of facilities, volunteers, program materials, and administrative support. Volunteers with specialized skills or expertise are particularly valuable in enhancing out-of-school time programs, programs that otherwise might not have the resources to acquire staff (Grossman et al., 2009). Salesforce, for example, is a software company that runs a skills-based volunteering program. Nonprofits can apply to this program, in which Salesforce technical employees volunteer to implement Salesforce software for projects that match their expertise free of charge (Salesforce, 2019). Corporate volunteer programs such as this can provide opportunities for employees to work with organizations that offer summertime experiences for children and youth.

Data on the amount or type of donations that U.S. corporations contribute toward summertime-specific activities are not published. However, a Wallace Foundation commissioned report (Grossman et al., 2009) provides some insight into corporate donations for out-of-school time programs. The report found that of the 111 out-of-school time programs surveyed across six cities, 26 percent of elementary school/middle school programs and 22 percent of teen programs received corporate donations, and corporate donations on average made up 7 percent of elementary school/middle school programs' total revenue and 8 percent of teen programs' total revenue (Grossman et al., 2009).

Another way in which companies sponsor summer activities is by offering product incentives to target consumers that augment company objectives in areas such as learning, safety, food and nutrition, and physical activity. For example, Barnes & Noble advertises summer reading programs in which children can receive free books as a reward for reading completion (Barnes and Noble, 2019); TD Bank makes a cash deposit in a TD savings account in exchange for summer reading (TD Bank, 2019);

[14]For more information, see https://www.disneyyouth.com/programs/performing-arts/workshops.

and Nestlé offers a 1-day camp focused on healthy living that aligns with the company's nutrition, health, and wellness strategy (Nestlé, 2019a, 2019b). While these companies are directly involved in their sponsorships, other companies may act more indirectly, for example by working with nonprofit partners to implement summer programming.

STEM learning and STEM project–based activities have proliferated in both nonprofit and for-profit out-of-school time programs in an effort to ameliorate the skills gap, provide engaging hands-on activities for young people, and generally make out-of-school time activities more engaging and relevant for today's participants. STEM out-of-school time programs have been funded by the National Science Foundation and by private funders such as the Noyce Foundation (since sunsetted), which funded STEM Next (National Science Foundation, 2019). STEM Next works to "bring high-quality STEM learning to millions of young people and closing the gender gap in STEM careers."[15]

There is also much activity to expand programming in STEM disciplines to alleviate current and future workforce needs for STEM professionals (Roberts et al., 2018). Corporations are keenly aware of their STEM talent needs, and they are also aware of the compelling evidence that STEM learning experiences increase young people's interest in STEM subjects and increase the chance that they will pursue STEM-related careers (Roberts et al., 2018). They have responded by directly providing or supporting summertime STEM initiatives (see Box 2-5). Such STEM summer programs engage youth in hands-on, inquiry-based learning, which offers them an opportunity to build math and literacy skills during the summer (National Summer Learning Association, 2016). Corporations are also supporting the capacity of youth organizations to provide more robust and inclusive STEM learning opportunities (National Research Council, 2015).

Youth Employment and Skill Development

Corporate-sponsored youth employment opportunities are another way in which the private sector is influencing the summertime experiences of children and youth. Summer offers a more available adolescent workforce, and companies of different sizes and from many industries have reported that employing youth can help them address their business workforce needs in a number of ways. These include strengthening the pipeline of future employees, filling critical skills gaps, fostering greater customer connection through greater workforce diversity, and capturing innovative ideas for product or service improvement (U.S. Chamber of Commerce Foundation, 2015). Summer jobs also provide youth with opportunities to learn and practice the skills required in a work environment (Ross and Kazis, 2016).

[15]For more information, see https://stemnext.org.

BOX 2-5
Examples of STEM-Centered Summertime Experiences from the Private Sector

Apple Camp
Apple hosts short sessions at local Apple stores for kids ages 8–12 to work on projects in coding and robotics, moviemaking, or musical storytelling. See https://www.apple.com/today/camp/.

Camp Invention
The National Inventors Hall of Fame offers more than 1,600 programs nationwide to K–12 children, teaching STEM concepts through hands-on problem solving over the course of a week. The program has corporate and foundation sponsors. See https://www.invent.org/programs/camp-invention; https://www.summercamps.com/camp/camp-invention-at-copper-beech-elementary-school-glenside-pennsylvania/.

GE Girls
GE partners with universities across the country to offer a program introducing middle school girls to the world of science, technology, engineering, and mathematics. Specific locations offer 1-week summer camps.
See https://ge-girls.com/; https://edgerton.mit.edu/k-12/summer-opportunites/ge-girls-mit.

GSK Science in the Summer™
GSK partners with The Franklin Institute of Philadelphia and University of North Carolina Morehead Planetarium to offer a STEM summer program to underserved elementary school students. The program, consisting of a number of short sessions, takes place in more than 20 science centers, community centers, and libraries across the country. See https://scienceinthesummer.com/.

Girls Start Summer Camp
Girls Start offers week-long STEM experiences for girls from elementary to high school ages in Austin, Texas. Corporate, foundation, and government partners sponsor this program. See https://girlstart.org/our-programs/summer-camp/; https://girlstart.org/support-girlstart/our-donors/.

Girls Who Code Summer Immersion Program
Girls Who Code offers a 7-week introductory computer science program during the summer for girls going into their junior or senior year of high school. The program is funded by more than 40 partners from the private sector. See https://girlswhocode.com/summer-immersion-programs/.

YouthSpark Summer Camps
Microsoft hosts short workshops around philanthropic skills, coding, robotics, and moviemaking for kids ages 8 and older at Microsoft stores across the United States (including Puerto Rico) and Canada. See https://www.windowscentral.com/five-new-youthspark-summer-camps-coming-microsoft-stores.

These skills include critical thinking, communication, teamwork, and work ethic, and they are in high demand by the business community (Lippman et al., 2015). Employees with strong skills in these areas are better able to analyze, problem solve, and challenge conventions by asking more probing questions, which in turn can contribute to improved processes, services, and products for a company (Lippman et al., 2015).

Data on a national scale of the number of private-sector summer jobs filled by youth each year are not available. Nevertheless, businesses such as JP Morgan Chase, Bank of America, and Citi see value in youth employment and have provided financial support to numerous cities for summer jobs programs and have created work placement programs (Congressional Research Service, 2017). In a JP Morgan Chase (2017) report, the company defined three levels of private-sector engagement in youth employment: (1) low-level support, including career fairs, workplace tours, networking events, and job shadowing; (2) moderate-level support, including training, skills development, education, and mentoring; and (3) high-level support, including direct employment of youth as interns, apprentices, or employees.

Employee Benefits and Human Resources Policies

Private-sector employers can directly augment summer experiences for the children of their adult employees through employee benefits that are considered "family friendly." One highly valued benefit program is the provision of on- or near-site child care centers at no or low costs or subsidies for other summer care arrangements. Additionally, corporations may contract with national camp companies, like Steve and Kate's camp[16] and Galileo,[17] which house camps on local school campuses, by purchasing or reserving spaces for employees' children to gain admission.[18] Some companies use their own assets to host summer camps. For example, Walt Disney Parks and Resorts offers the children (grades K–9) of Walt Disney World cast members and the children of cast members' friends access to a Conservation Day Camp at Disney's Animal Kingdom, for a fee.[19] Other examples include SAS Corporation's on site summer camp for school-age children of employees at the company's North Carolina headquarters (SAS, 2019); Cisco Systems' summer camps for employees' school-age children run through their LifeConnections Children's Learning Centers;[20]

[16]For more information, see https://steveandkatescamp.com/philosophy.

[17]For more information, see https://galileo-camps.com/why-galileo/our-mission.

[18]Personal communication between committee member Pamela Hymel and Ginsberg Kernsher Associates.

[19]Information on this program is not publicly available but provided here by committee member and Disney employee, Pamela Hymel.

[20]For more information, see https://lifeconnections.cisco.com/c/r/lifeconnections/childcare.html.

and Texas Instruments' nearly 4 months of full-time, state-licensed summer break camps at three sites for employees' children ages 5–13 (Texas Instruments, 2012).

Human resource policies supporting work-life balance can also affect the summertime experience of employees' children. Flexible work schedules that allow teleworking, flexible work hours, or early release during summer months (e.g., early release on Fridays, often known as "summer Fridays"), may provide opportunities for greater parental contact time or supervision of dependent children.

The impact of these employee benefits and human resource policies on the summertime experiences of children and youth are not generally published in the open literature. It is not possible, therefore, to know the magnitude and varieties of outcomes achieved. Available information is primarily from case examples containing program descriptions and, occasionally, numbers of participants.

Summertime Experiences Provided by Nonprofit Sector Agents

Structured or organized activities are provided in the summer by nonprofit youth-serving organizations at the national and local level. Their offerings are varied, ranging from the arts to STEM, recreation, general enrichment, and tutoring or bridge programs.

Youth-Serving Organizations

Nonprofit youth-serving organizations first emerged in the United States started in the early 1900s to serve children and youth who were considered "in crisis" in society (LeMenestrel and Lauxman, 2011). From the late 1980s through early 2000, a series of reports were released, including one authored by the National Research Council and Institute of Medicine (2002), which found that youth-serving organizations mitigate the potential risks posed in adolescence, with the most promising programs being strengths-based and tied to family and community assets (Carnegie Council on Adolescent Development, 1992; Catalano et al., 2004; William T. Grant Foundation Commission on Work, Family, and Citizenship, 1988). Today, youth-serving organizations function at the national, state, and local level to provide structured summer programming. The large national nonprofit organizations ("big nationals") include but are not limited to the Y (formerly YMCA), Boys and Girls Clubs of America, Girl Scouts, Boy Scouts of America, 4-H (which is described in greater detail earlier in this chapter), and Girls Inc. These organizations operate camps and provide community and school-based summer programming, child care, family programs, and tutoring (The Bridgespan Group, 2005).

There exists varied information on the number of children and youth who participate in such programs over the summer. For example, the Y-USA reports that it serves almost 1 million children and adults in the summer through its day and overnight camps. But there are no publicly available estimates of the numbers of children and youth served in general summertime programs by the big nationals, as these data are retained by the organizations and not summarized in any source the committee was able to identify. As such, it is difficult to know specifically how accessible summer programs offered by youth-serving organizations are to young people and their families. The youth-serving organizations described here have it in their current charge, mission, or vision to provide opportunities to young people from varied socioeconomic backgrounds. While it is a charge and belief of nonprofit youth-serving organizations to provide equitable access and inclusion to summer programs, we do not have information on whether that charge is being fulfilled. However, we can use the Afterschool After 3PM and Time Use studies to understand the broad landscape of access, with the understanding that some of the issues of use and access described by those findings reflect on the programs offered (or not offered) by youth-serving organizations.

There are also national organizations that provide innovative supports or direct summer programming through the big nationals or are co-located within other existing organizations, agencies, or programs. BELLXcel, a national education nonprofit, and Horizons National, a national nonprofit network of community-centered education programs, use this model. BELLXcel's model is intended to help bolster the capacity of youth-serving organizations to diminish the "summer slide." BELLXcel offers support with program design, curriculum, professional development, coaching, and evaluation, among other modular options, for professionals who work with youth in the summer and after school (BELLXcel, 2019). Horizons National offers hands-on learning in the summer on college, university, and independent school campuses for youth in enrichment programs to support academic and personal success, specifically in reading and math (Horizons National, 2019). Finally, summer programs are offered locally by independent youth-serving organizations that provide year-round out-of-school time programming for children, youth, and families. It is also difficult to estimate the number of children and youth who participate annually in these local programs, because there is no central tracking mechanism for them and reporting varies by funder, locale, and programmatic preference. The funding for these organizations is diverse as well, typically a combination of public and private dollars augmented with individual donors or endowments.

Intermediary Organizations and Partnerships in Support of Summer

Intermediary organizations (or intermediaries) increasingly support the out-of-school time field at the municipal and regional levels; see Box 2-6 for one example. Intermediaries in the summer program space have, in large part, been catalyzed and supported by foundations (e.g., Wallace Foundation and the C.S. Mott Foundation). These foundations provide the seed or backbone funding and support to intermediaries, who then in turn ensure the success of summer programs at the local, state, and national levels. Intermediary organizations serve as central organizing, leadership, fundraising, measurement, and support systems for groups of afterschool, summer, and other youth- and family-serving programs (Donner, 2012). Intermediaries have varying organizational structures. Some are independent, while others are housed in other organizations or agencies with shared staff (Browne, 2015; Honig, 2004). The purpose of intermediaries is typically to advance the mission of the field they are convening and supporting through policy and advocacy activities, shared services (e.g., technical assistance, partnership coordination), and as conveners and connectors (Anthony and Austin, 2008; Lubienski et al., 2011). Often, intermediaries provide efficiencies to small grassroots programs by offering shared services and resources, such as data collection systems, program materials, or evaluation support (Donner, 2012;

BOX 2-6
The Story of a Citywide Intermediary

Boston After School & Beyond (Boston Beyond) is an intermediary that helps 230 youth-serving programs and serves more than 17,000 young people by improving opportunities outside of school. Boston Beyond forges partnerships across public, private, and nonprofit enterprises to address issues that no organization could undertake on its own.

In 2009, Boston Beyond initiated the Boston Summer Learning Project, which created new partnerships among the Boston Public Schools and community institutions so that students could participate in summer programs that combined academics and enrichment. As a result, in 2018 more than 12,000 students participated in activities, such as sailing, tennis, and entrepreneurship in 145 programs at places like the Boston Harbor Islands, the Blue Hills, college campuses, and private-sector workplaces.

By mobilizing programs around shared goals and measures, Boston Beyond created a public-private system of summer programs focused on serving high-needs students and committed to data-driven improvement. The Boston Public Schools has reoriented its summer school programming and reallocated $3 million to this approach, now called the 5th Quarter of Learning. The state's governor and legislature are providing funding to expand this approach statewide.

Lawson, 2004). Finally, intermediaries sometimes function as funders, as fund distributors, or as connectors to funding sources (Donner, 2012).

There are also intermediary coalitions at the local and national level. For example, following in the footsteps of President Obama's My Brother's Keeper Initiative, the mayor of New York City created the Young Men's Initiative (YMI) in 2011. Although not specifically a summertime program only, YMI is a collaborative effort including multiple city agencies and youth-service organizations (NYC Service, the Department of Education, Department of Youth & Community Development, Center for Youth Employment, and community-based mentoring organizations) to address increasing disparities in education, employment, health, and justice between black and Latino men ages 16–24 and more advantaged youth populations. Specifically, YMI develops and champions policies, programs, and partnerships that holistically support the success of young men of color throughout New York City.[21]

Additionally, YMI is connecting the city's young men of color to individuals, opportunities, and organizations that improve the quality of their lives and can lead them to a more successful future. This example is one of many powerful citywide efforts to bring together agencies and organizations to support youth in the summertime and beyond.

The variety of roles intermediaries play is reflected in the variety of organizations that serve in this capacity. Some national intermediaries primarily serve in the policy and advocacy space (see Box 2-7). In addition to national organizations, there are many local intermediaries, such as the local United Ways and city, county, and other public agencies, where child and family services are housed, and in some cases university institutes or centers play this role as well. Intermediaries receive diverse funding. In the out-of-school time field, foundations have provided significant seed funding to intermediaries, and many intermediaries have creatively diversified their funding by combining public and private funds and, in some cases, membership fees (Donner, 2012).

[21]For more information, see https://www1.nyc.gov/site/ymi/about/about.page and https://www1.nyc.gov/site/ymi/initiatives/initiatives.page.

BOX 2-7
National Intermediaries and Intermediary Coalitions

National Intermediaries

- **Afterschool Alliance**—plays a crucial role in the summer space by creating resources for and about afterschool and summer programs, fostering local constituencies in support of afterschool and summer programs, and communicating the benefits of afterschool and summer programs (Afterschool Alliance, 2019).
- **Forum for Youth Investment**—an organization whose mission is to helps leaders get young people ready for life. It does this through working with public and local leaders and programs to build capacity, strengthen partnerships, and advance policy.
- **National Afterschool Association**—the national afterschool program organization that provides education and advocacy in the out-of-school time field (National Afterschool Association, 2019).
- **National Summer Learning Association**—the preeminent summer learning association, whose goals are to expand access, build awareness, and strengthen policy (National Summer Learning Association, 2019).

The National Summer Learning Association, National Afterschool Association, and the Forum for Youth Investment host annual national convenings for afterschool and summer program leaders, partners, and staff to share resources and provide access to current knowledge on quality programming.

National Intermediary Coalitions

- **50 Statewide Afterschool Network**—a coalition of statewide afterschool networks, one in every state, that serve as intermediaries in support of afterschool and summer activities locally. The network is supported by the Afterschool Technical Assistance Collaborative, which comprises 10 expert organizations. See http://www.statewideafterschoolnetworks.net.
- **Every Hour Counts**—a coalition of local intermediaries that are primarily housed in cities to support afterschool systems and engage in demonstration projects and provide technical support to other, newer initiatives.
- ***Partnerships for Social and Emotional Learning Initiative***—A six-city initiative to promote cross-sector (education and out-of-school time) partnerships toward fostering social and emotional learning across settings.

CONCLUSIONS

This chapter illustrates that a great variety of structured and unstructured summertime programs exist for children and youth. However, varying local availability and affordability create disparities in access to children and youth from lower-income communities. Structured summer programs are supported and offered by a range of agents from multiple sectors (e.g., education, entertainment, government), but data from these activities are

highly variable, with more information available on structured summertime experiences provided by governmental agents than by nonprofit and private-sector agents.

CONCLUSION 2-1: Existing summertime programs and services for children and youth are provided by multiple sectors and agents; however, decisions by these sectors and agents on what experiences to provide are made independently and typically with limited or no coordination to optimize the total impact of summertime experiences for children and youth.

CONCLUSION 2-2: Improving the accessibility and availability of summer programs by reducing barriers to equitable participation (e.g., cost, geography, special needs) could help to address the unmet demand that families have for quality summer experiences for their children and improve access to summer nutrition programs.

CONCLUSION 2-3: There is limited comprehensive data on how children and youth spend their summer. Systematic assessments of community needs for summertime experiences and longitudinal studies of unstructured and structured summertime experiences (both in terms of what is being provided as well as what is needed) are needed to identify opportunity gaps and priorities across diverse populations of children and youth.

CONCLUSION 2-4: Summer camps provide unique experiences (such as sustained time in a novel setting with supportive peers and adults) for children and youth representing diverse populations, yet summer camp experiences are not readily accessible to all children and youth.

CONCLUSION 2-5: The private sector is well positioned to have an impact on summer experiences by employing youth directly and by promoting family-friendly policies and corporate social responsibility initiatives that engage children and youth during the summer months.

CONCLUSION 2-6: Juvenile justice and child welfare systems do not have a comprehensive approach for system-involved children and youth specific to summertime.

CONCLUSION 2-7: Intermediaries play an important role in connecting public, private, and nonprofit entities with shared goals, improving

efficiencies within partnerships, and supporting children and youth during the summer.

CONCLUSION 2-8: In many communities, intermediaries serve as central organizing, leadership, fundraising, measurement, and support systems for groups of afterschool, summer, and other youth- and family-serving programs.

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3

The Effects of Summertime Experiences on Children's Development

While children and youth have a variety of experiences during the summertime, there is evidence that access to high-quality experiences may not be equitable across different groups of children and youth, and this may have disparate effects on their development. In this chapter, we review what is known about how summer affects the development of children and youth across the four domains in the committee's charge (see Box 3-1): (1) safety, risk-taking, and anti- and pro-social behavior, (2) physical and mental health and health-promoting behaviors, (3) social and emotional development, and (4) academic learning and opportunities for enrichment. We address them in this order to reflect the fundamental need for safety and health as a precursor for social and emotional development and academic learning. The chapter begins with a brief description of the developmental needs and stages of children and youth. Next, it examines what is known about how summer influences this development and the seasonal patterns observed within each domain. The extent to which summer programs and camps have been found to influence outcomes in each of the four domains, as well as the programmatic factors that enhance program effectiveness, is discussed in Chapter 4.

BOX 3-1
Key Findings

Safety and Anti-Social Behaviors

- Crime rates and risk of crime victimization generally increase during the summer. Children and youth from low-income families and neighborhoods are at greatest risk.
- Incidence of some anti-social behaviors falls among adolescents during the summer. Simple assault rates among adolescent youth are lowest during the summer and highest in the fall when the school year begins.

Risk-taking Behaviors

- Summer sees increases in the rates of first-time substance use; however, overall rates of drug use drop during the summer.

Physical and Mental Health

- Access to school-based food and nutrition programs is curtailed during the summer, resulting in increased risk of food insecurity among children and youth.
- Weight gain accelerates in the summer, especially for children who are already overweight or have obesity.
- The evidence is mixed on whether the rates of physical activity increase in the summer, but the majority of youth still do not meet recommended guidelines for moderate and vigorous physical activity during these months. There are also increases in sedentary behavior that may be more acute among children and youth from low-income families and neighborhoods.
- Rates of mental health emergencies decrease during the summer.

Social and Emotional Development

- Widely documented gaps exist in social and emotional skill levels at kindergarten entry, with children from higher income backgrounds, girls, and white youth being rated by their teachers as having more of these skills at the start of their schooling.
- It remains unknown whether there are seasonal trajectories of social and emotional skill development in children and youth.

Academic Learning and Enrichment

- Summertime learning and enrichment draw on the resources available through children's parents and in their local communities. Children from more economically advantaged families and neighborhoods have greater access to resources from their families and communities.

DEVELOPMENTAL NEEDS OF CHILDREN AND YOUTH

Before examining how summer affects their development, it is worth considering children's and youth's basic developmental needs, those that must be met in order for them to thrive. Maslow (1943) identified a basic set of needs: physiological (e.g., to satisfy hunger), followed by safety, and then by love/belonging (Maslow, 1943; see Figure 3-1). Each set of needs is conditioned upon meeting the ones before it, and motivation to meet these needs helps shape human behavior. If the more basic needs such as physiological ones are not met, a person cannot focus on higher-level needs, such as self-actualization. Once each set of needs is met, "other (and higher) needs emerge (p. 375)."

We know that children need adequate nutrition and safety for health and social/emotional stimulation to support psychological and cognitive development (Hoynes et al., 2016; Malin et al., 2018). Basic needs for food and safety are year-round needs and, of course, do not pause during the summer.

Research also shows that settings are critical to the development of physical, intellectual, psychological, social, and emotional skills and competencies (i.e., internal assets). In 2002, a National Research Council committee identified eight features of settings that support positive youth development (see Box 3-2). That committee highlighted that "exposure to positive experiences, settings, and people, as well as opportunities to gain and refine life

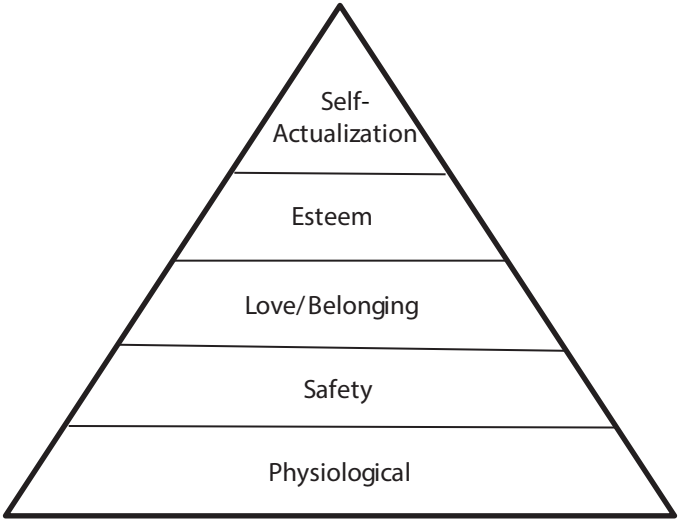

FIGURE 3-1 Maslow's hierarchy of needs.
SOURCE: Maslow (1943).

BOX 3-2
Features of Positive Developmental Settings

1. Physical and psychological safety
2. Appropriate structure
3. Supportive relationships
4. Opportunities to belong
5. Positive social norms
6. Support for efficacy and mattering
7. Opportunities for skill building
8. Integration of family, school, and community efforts

SOURCE: National Research Council (2002).

skills, supports young people in the acquisition and growth of [their] assets" (National Research Council and Institute of Medicine, 2002, p. 7).

Optimal implementation of the features of settings that promote positive development will vary across different types of settings (e.g., home vs. summer camps) and for youth of different ages (e.g., elementary vs. high school age students) and backgrounds. For example, appropriate structure for elementary school students will include greater adult oversight and supervision than for high school age youth. With this in mind, we provide a brief overview of the major developmental needs of youth across different age ranges. Because the committee's statement of task focused on children and youth from the summer prior to kindergarten through grade 12, we focus our overview on these age groups.

DEVELOPMENTAL STAGES OF SCHOOL-AGE CHILDREN AND YOUTH

Physical, neurological, cognitive, and social and emotional changes occur within each child across time. Thus, what is both engaging and developmentally matched to the needs of a child at early elementary school age will differ from what engages and is developmentally appropriate for a child in later childhood and in different phases of adolescence. This is important, because when a youth's environment is mismatched with his or her developmental needs it will not be able to optimally support youth outcomes (Eccles et al., 1993).[1] To promote thriving, developmental assets

[1]A comprehensive view of the specific developmental needs of children and youth in different domains across time is beyond the scope of this report but has been addressed by previous National Academies' reports (e.g., Institute of Medicine, 2000; National Academies of Sciences, Engineering, and Medicine, 2019a).

should be aligned with youth's specific needs in each stage of their development. Importantly, skill development is not linear. Rather, it is extremely malleable and dependent on context, and it demonstrates both within- and between-youth variability (Cantor et al., 2018). How skills develop within particular contexts will depend on both individual susceptibility to environmental influences and the timing of different periods of brain development. Further, children come into settings with existing skills, competencies, and experiences that they can draw on to promote further development (Ambrose and Lovett, 2014; Deans for Impact, 2015).

Early, Middle, and Late Childhood

Child development during the preschool years is foundational in shaping the assets children will bring with them at the launch of their formal schooling. Understanding early childhood development is therefore essential to interpretating the trajectory of child development in the school years and beyond. The brain is continually changing as children experience new settings and interactions within settings (Baltes et al., 2006). The ages of 0–3 are a sensitive period of rapid brain growth and development of emotions, language, cognition, and motor control (Center on the Developing Child, 2016; Johnson et al., 2016; Tarullo et al., 2009). Experiences during this time set the stage for later development. In particular, increasing evidence has cited the importance of high-quality childcare and early education for fostering healthy development in early childhood and mitigating disparities in a range of outcomes that are present at school entry (Institute of Medicine, 2000; National Academies of Sciences, Engineering, and Medicine, 2019a). This evidence suggests there is also more to be learned about the importance of supportive settings for developmental outcomes in later childhood and adolescence, as well.[2]

In early childhood, children are learning to regulate their emotions and social relationships and to integrate their emotions, cognition, and behaviors (Espinet et al., 2012). Learning to identify and regulate emotions as well as direct attention are important tasks during this period (National Commission on Social, Emotional, and Academic Development, 2019) and children are still developing these skills when they enter school. Both executive function and theory of mind (defined below) develop during early childhood through a combination of cognitive, neural, and social developmental processes. Executive function comprises a variety of important and

[2]For information on early childhood development (from birth to pre–K), the committee refers readers to prior National Academies reports, including *From Neurons to Neighborhoods: The Science of Early Childhood Development* (2000); *Transforming the Workforce for Children Birth through Age 8: A Unifying Foundation* (2015); *A Roadmap to Reducing Childhood Poverty* (2019); and *Vibrant and Healthy Kids: Aligning Science, Practice, and Policy to Advance Health Equity* (2019).

complex skills that include the ability to regulate attention and cognition and to plan, sequence, adjust, and organize behavior (Institute of Medicine, 2000). Theory of mind is the child's understanding of themselves and others as having their own beliefs, motivations, and feelings (Astington and Edward, 2010; Wellman, 2014). The development of these regulatory processes in early childhood is "deeply embedded in the child's relations with others" (Institute of Medicine, 2000, p. 122). The processes of self-regulation and executive function processes continue to undergo rapid development during middle childhood (Johnson et al., 2016). Children at all ages learn by exploring the world, and in a culturally situated manner they learn through scaffolding from adults and older peers (Rogoff, 2003; Vygotsky, 1978). Indeed, nurturing relationships are critical to healthy child development (Britto et al., 2017).

During early childhood, children are extremely sensitive to environmental influences. Thus, how they experience the school transition may influence their adjustment in ways that have long-term impacts on their developmental trajectories, and the transition can be made more difficult by social structural factors such as poverty, weak family structure, and a lack of available preschool (Entwisle and Alexander, 1998).

Chronic stress has significant, negative consequences for brain development (Center on the Developing Child, 2016; Essex et al., 2011; Teicher et al., 2016). These effects can be compounded by environments that are not developmentally supportive (Osher et al., 2018). Cumulative effects of chronic stress can also impact later development (Blair and Diamond, 2008; Portilla et al., 2014). Indeed, adverse childhood experiences (ACES) have been linked to negative childhood educational outcomes (e.g., Blodgett and Lanigan, 2018) as well as later health and well-being outcomes, including mortality (e.g., Felitti et al., 2019). Yet these cumulative effects can also be mitigated when buffered by supportive environments (Fischer and Bidell, 2006), making it all the more critical to consider ways that summertime presents unique opportunities for providing developmentally promotive relationships and contexts for all children and youth.

Participation in structured activities is important; a child's participation in structured activities has been linked to cognitive and emotional development (Hofferth and Sandberg, 2001) as well as positive functioning in the areas of academic performance, psychological health, and behavior (Bartko and Eccles, 2003). While participation in structured activities is important for youth outcomes, research also suggests that, in fact, youth need a balance of structured and unstructured activities for optimal development. For instance, Mahoney and Stattin (2000) found that a lack of participation in unstructured activities was associated with anti-social behavior and that participation in structured activities was associated with pro-social behavior. Play, which is often unstructured, is critical to children's development and can promote

decision making, social skills, and creativity (Ginsburg, 2007). Play is an important tool for elementary-age children, both to engage them in academic learning and to foster growth and a sense of competency in a variety of developmental domains (Ginsburg, 2007; Milteer et al., 2012). Play promotes development in a number of areas, including cognitive, social emotional, and physical, and when engaged in with parents or other adults, play also promotes the development of supportive relationships (Yogman et al., 2018).

Out-of-school and summer programs can play a variety of important roles in supporting healthy development during childhood. First, out-of-school and summer programs provide a setting for children to experience supportive social relationships with both adults and peers, relationships that foster emotional, behavioral, and cognitive development. Second, such programs offer an opportunity for both structured and unstructured play, as well as a child's choice in activities. This may be particularly important as schools increasingly focus on structured academic learning, even in the early grades (Bassok et al., 2016), and as other societal changes, such as increased parental employment and greater digital engagement decrease opportunities for unstructured play (Yogman et al., 2018). Third, some programs offer specific support for children with a history of adverse childhood experiences and trauma.

Early Adolescence

Overall, the brain demonstrates great plasticity during adolescence, a time when "learning and development are inextricably intertwined" (Harper et al., 2018a, p. 6) and when the settings with which youth engage can provide developmentally supportive opportunities. Whereas we often frame the adolescent brain as "in development" or as a less mature version of the adult brain, it is important to realize that the adolescent brain is particularly well suited for achieving the developmental tasks associated with this period of development, when young people are transitioning from childhood to adulthood, gaining autonomy, and figuring out who they will be in the adult world (National Academies of Sciences, Engineering, and Medicine, 2019a). At the same time, early adolescents are susceptible to a number of mental and physical health risks (Harper et al., 2018a), which can affect their learning and development if they are not provided with appropriate supports, such as those from adults and developmentally aligned settings. The effects of stress, for example, are particularly pronounced during adolescence, and inequities associated with economic disadvantage, racism, and other types of structural discrimination all can harm the development of adolescents (Harper et al., 2018c).

Whereas we think of adolescence as a time when youth begin to gravitate away from adults and toward peers, and peers do indeed take on

increasing importance during adolescence, adult support is still critical for young people during this period. Adolescents are "especially sensitive to the attitudes and behaviors of adult members of the community" (National Academies of Sciences, Engineering, and Medicine, 2019a, p. 5). Further, while adolescents experience increasing independence and desire more autonomy than children, they also report that the demands of this independence can be stressful, particularly when they do not feel they have needed supports (National Academies of Sciences, Engineering, and Medicine, 2019a). Thus, both parents and other caring adults, such as natural mentors (supportive adults who occur naturally in a youth's social network) are important sources of support that promote positive development and resiliency for adolescents (National Academies of Sciences, Engineering, and Medicine, 2019a).

During early adolescence, physiological, neurological, and contextual changes occur simultaneously (Nelson et al., 2005; Sisk and Zehr, 2005), leading to a period of great opportunity for brain malleability. This period results in greater capacities for conceptual thinking, regulation, and judgment (Siegel, 2013). It also includes greater tendencies toward risk-taking, both positive and negative, and greater impulsivity through shifts in the brain's dopamine-linked reward system (Osher et al., 2018; Siegel, 2013). When children enter adolescence, they become increasingly sensitive to social cues and to social recognition and rewards (Harper et al., 2018b). This can lead to impulsive decision making in certain situations, particularly in the presence of peers, to whose influence adolescents can be susceptible (National Academies of Sciences, Engineering, and Medicine, 2019a). The increased sensitivity to peer influence and social belonging during this period means that adolescents are open to both positive and negative peer pressure, making opportunities to engage in positive activities with pro-social peers all the more important. At the same time, programs that engage youth who are at risk for or already engaging in risky or anti-social behaviors are vulnerable to contagion effects through deviancy training[3] or other processes of negative peer influence (Dishion and Tipsord, 2011). Negative peer influence can be minimized in both structured (i.e., programs) and unstructured (i.e., natural) settings through the presence of supportive adults and positive parenting (Dishion and Tipsord, 2011).

The transition from elementary school to middle school during this period has also been associated with decreased academic achieve-

[3]Deviancy training "involves the interpersonal dynamic of mutual influence during which youth respond positively to deviant talk and behavior . . . the deviancy training process is characterized by give-and-take exchanges between friends that promote deviant actions (e.g., past stories of deviant acts, suggestions for future behavior, what ifs) and elicit positive responses, such as laughter" (Dishion and Tipsord, 2011).

ment (Kurtz-Costes and Rowley, 2012; Ryan et al., 2013) and declines in self-esteem and self-worth (Ryan et al., 2013; Wigfield et al., 1991). Declines in the intrinsic value of schoolwork and achievement goals within the last year of elementary school also suggest a possible developmental trajectory during early adolescence that is not solely dependent on the school transition (Ryan et al., 2013; Shim et al., 2008).

Research on youth in out-of-school programs during early adolescence contributes to our understanding of how summer programming may support youth during this developmental period. One randomized controlled study of afterschool programs for middle school students at five underperforming schools found that unsupervised socializing was associated with increased drug use and delinquency (Cross et al., 2009). Yet the afterschool program itself showed only small effects on these risk-taking and anti-social behaviors. Although afterschool and summer programs have the potential to fill otherwise unsupervised time, it appears that the programs in this study were not attracting students who would otherwise be unsupervised and therefore be at higher risk for delinquency. Further, attendance was highly variable. The authors conclude that chool programs need to more intentionally create programs for and recruit those youth who are at highest risk of unsupervised socializing.

Related to the last finding, research on a representative sample of middle schoolers in Sweden found that participation in highly structured programs was associated with lower levels of anti-social behavior. It also found, that youth participants in programs with little structure tended to have peers who were older, had lower academic achievement, and a record of engaging in more delinquent behaviors (Mahoney and Stattin, 2000). Further, for youth at risk of delinquency and anti-social behavior, a longitudinal study of youth from five communities in the southeastern United States found that participation along with their friends in extracurricular activities was a protective factor, meaning that those youth who joined extracurricular activities were less likely than their peers to drop out of school or be arrested (Mahoney, 2000). In a study of a diverse group of fifth graders from 13 states (Lerner et al., 2005), researchers verified the relationship between five youth factors—Confidence, Competence, Character, Caring, and Connection (i.e., the "5 C's")—and the construct of Positive Youth Development (PYD), a term frequently used in the youth development field but previously unsubstantiated empirically. These 5 C's were found to produce a sixth C: youth Contribution to self, family, community, and society. Among these early adolescents, the study found that participation in youth development programs was associated with higher levels of PYD and Contribution.

Youth development programs, including summer programs, may have both promotive and preventative effects for early adolescents, but the

recruitment of and attendance or participation by those youth who may be in greatest need of supportive and structured environments are key. At the same time, programs must be cognizant of potential contagion effects when serving youth who are engaging in or at risk of engaging in behaviors that are risk-taking (e.g., substance use, unprotected sexual activity) and anti-social (e.g., aggression, delinquency). Programs can guard against such effects by ensuring appropriate levels of structure and adult monitoring and support (Dishion and Tipsord, 2011).

Middle to Late Adolescence

In middle and later adolescence, the rapid changes that have been occurring in the youth's physiological, neurological, biological, and emotional systems are coming into balance. During these years, adolescents are concerned with exploring and forming a coherent sense of their own identities and thinking about their values, beliefs, and purpose in life, and they tend to demonstrate more goal-directed behavior and a desire for increased autonomy (Nagaoka et al., 2015). Cognitive advances mean that across middle and late adolescence youth are more able to integrate and understand differences in their own sense of self across different relationships and contexts (National Academies of Sciences, Engineering, and Medicine, 2019a). Settings and relationships that provide them with a sense of physical and psychological safety and belonging, opportunities for autonomy, intellectual challenge, and clear and culturally responsive norms and expectations can support adolescents' capacities for self-regulation, independence, and decision making (Eccles and Roeser, 2011; Geisz and Nakashian, 2016; Gestsdottir and Lerner, 2008; Scales et al., 2011; Siegel, 2013).

During middle and late adolescence, youth are also considering their place in the world and their aspirations for life after high school as it relates to postsecondary education, skill development, and work and career possibilities. Opportunities for adolescents to contribute to their communities and critically consider the social world can support their identity and sociopolitical development (Watts and Guessous, 2006; Watts et al., 2011) and provide culturally relevant and meaningful experiences (Harper et al., 2018c). During middle and late adolescence, youth still have heightened sensitivity to peer influence and social belonging, yet as adolescents age their peers may become less important to their own self-evaluations (National Academies of Sciences, Engineering, and Medicine, 2019a). Further, both parents and nonparental adults (e.g., teachers, coaches, mentors) continue to provide important support for healthy identity development and autonomy seeking (National Academies of Sciences, Engineering, and Medicine, 2019a).

As with the literature on early adolescence, research on the role of out-of-school programs in middle to late adolescence is helpful in thinking

about the ways in which summer programs can support youth during this developmental period. As noted earlier, participation in out-of-school programs during adolescence may reduce risk-taking and anti-social behavior in both adolescence and young adulthood, especially for those youth experiencing the most risk factors (Mahoney, 2000). Additional research corroborates these findings and suggests that activity participation during middle and late adolescence may have both preventative and promotive effects. For example, one longitudinal study of adolescents in grades 7–12 drawn from the Childhood and Beyond[4] study sample (Fredericks and Eccles, 2006) found that the duration (i.e., number of years) of involvement in extracurricular activities was associated with several positive developmental outcomes, including improvements in grades and psychological resilience. Further, for older adolescents, participation in extracurricular activities was associated with academic adjustment and psychosocial competencies. It should be noted that the sample in this study was majority-White, came from four school districts in Michigan, and was specifically chosen from districts where family and neighborhood factors were unlikely to pose a barrier to afterschool activity participation, making it difficult to generalize the findings to youth growing up in neighborhoods characterized by higher levels of poverty and other environmental barriers.

Another longitudinal study of mostly White youth (n = 1,259) from 10 school districts in working- and middle-class communities in Michigan (Eccles et al., 2003) found that activity participation in 10th grade had both promotive and preventative effects on several academic, occupational, and behavioral outcomes. Participation in a variety of types of activities, such as performing arts, pro-social activities, academic activities, clubs, or sports, had a positive impact across high school and into young adulthood. Yet participation in sports also had a potential negative affect, with athletes reporting higher levels of drinking in 12th grade in addition to positive educational and employment outcomes during high school and early adulthood.

As with childhood, during adolescence summer programming can offer important opportunities for youth to assert autonomy in their choice of activities, which itself is an important developmental task during this period. Further, summer can provide critical unstructured time that may counterbalance the stress of the academic year for students. Importantly, however, unstructured here does not mean wholly unsupervised, as unsuper-

[4]The Childhood and Beyond (CAB) project is a study of students' achievement and learning experiences from K–12. The project began in 1987 and has conducted surveys and interviews with children and parents for more than 30 years. They cover a broad range of activities, behaviors and beliefs. For more information on the Childhood and Beyond (CAB) project, see http://garp.education.uci.edu/cab.html.

vised time is linked to increased engagement in risk-taking and anti-social behaviors, as noted throughout this chapter.

HOW DOES SUMMER AFFECT DEVELOPMENTAL TRAJECTORIES?

The committee found little systematic research concerning the impact of summer on the developmental trajectories of school-age children and youth across all four areas of well-being. In most cases, what we were able to find were sources of data pointing to seasonal differences in the rates of incidence. We identified far more information on how summer influences academic learning and obesity relative to other developmental outcomes of interest. It is also important to note that a number of the gaps in developmental outcomes between children and youth from higher and lower socioeconomic backgrounds and from different racial and ethnic groups are present before school entry, including gaps in the academic, social and emotional, and health domains. Thus, it must be acknowledged that it may be challenging for a single, standalone summer program to redress such gaps.

In the following, for each of the four domains we provide data and research on what is known about how summer influences these areas. Where no summer-specific information exists, we also look to what is known about out-of-school time generally (which includes summer and after school) that may be applicable to summer as well.

Safety and Pro- and Anti-Social Behaviors

As highlighted by the sections above, safety is foundational to physical and psychological health, well-being, and healthy development. We know that appropriate supervision is a key condition to ensure the safety of children and youth (Persson et al., 2007). Indeed, being unsupervised during out-of-school hours is associated with significant risks (Resiner et al., 2007). Summer is a potentially risky time for youth in that the amount of unsupervised time may be greater during the summer months than during the school year. While safety does not have developmental trends, per se, the characteristics of safe environments that are needed to support healthy development change as children's motor, cognitive, and social skills develop. As such, some risks to safety are inextricably linked to other characteristics associated with children's physical, psychological, cognitive, and social development.

We next discuss three key areas where we identified evidence of seasonal differences in relation to this domain: crime, pro- and anti-social behaviors, and substance use. Whereas we separate these areas for this discussion, there is some overlap. Certain risks to safety (e.g., peer victimization, exposure to violent crime) can result from other youth's anti-social behaviors.

Further, substance use, generally defined as a risk-taking behavior, is also an act of delinquency, because youth are under the legal age for use even for substances that are legal for adults.

Crime

Seasonal patterns of crime exist and persist, despite overall reductions in crime over time. A study tracking violent and household property crimes from 1993 to 2010 found that victimization rates were higher during the summer than during any other season for most crimes, including household property crimes and violent crimes, with the exception of robbery and simple assault. However, among youth ages 12–17, simple assault victimization rates were *lowest* during the summer, starting when the school year ended, and were highest in the fall when the school year began, suggesting that violence may be occurring en route to or during school (Lauritsen and White, 2014).

Exposure to violent crime can damage children's health and development (Osofsky, 1999), and it should be noted that juvenile crime also has implications for the youth who are the potential victims of it—when crime rates increase, so does the risk of victimization. Children and youth in low-income families and those in neighborhoods with concentrated disadvantage are affected by violent crime at higher rates than others. A recent report, using data from the National Crime Victimization Survey, found that people in households below the federal poverty level experienced more than double the rate of violent victimization as high-income households (Harrell et al., 2014). Neighborhoods with more concentrated disadvantage and greater segregation by race and ethnicity tend to experience higher levels of violent crime (U.S. Department of Housing and Urban Development, Office of Policy Research and Development, 2016).

Overall engagement in delinquency, defined by the U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention as "an act committed by a juvenile that would be criminal if committed by an adult" (Office of Juvenile Justice and Delinquency Prevention, 2019), typically increases from childhood to adolescence. Rates then decline with age, even for persistent offenders, with peaks in adolescence or during young to middle adulthood for different types of offenses (Sampson and Laub, 2003). National trends show that rates of juvenile crime and violence-related behaviors, such as carrying a weapon or being in or being injured in a fight, have declined overall since 1990 (Arnett, 2018).

Yet patterns of crime associated with in-school versus out-of-school hours also differ by type of crime. One study found that property crimes decreased by 14 percent on days when school was in session, suggesting a decrease in anti-social behavior when youth are supervised; it found further

that violent crimes increased by 28 percent on school days, suggesting that opportunities for youth to interact with each other are linked to juvenile violence (Jacob and Lefgren, 2003). Violent crime peaks in the immediate afterschool hours on school days and in evenings on nonschool days (Jacob and Lefgren, 2003).

Although most of what is known about the relationship of policing or police interactions to health and well-being has been based on adult experiences (although see Legewie and Fagan, 2018), the salience of adolescence as a critical developmental stage (Steinberg, 2014) suggests that experiences with the police may be particularly influential at younger ages and among school-age youth. Police interaction with youth have increased in recent decades due to their increase in schools (National Academies of Sciences, Engineering, and Medicine, 2019a). Negative interactions between police and youth "may produce cynicism and undermine legal socialization" (National Research Council, 2013, p. 194). Police are increasingly recognized as a significant social force shaping the development and well-being of youth, yet much remains to be learned about police-youth interactions at a population level. These unknowns include our currently limited understanding of how the unique context of summertime, and the associated time that students have off from school, may shape interactions between young people and the police (Geller, 2019).

Pro- and Anti-Social Behaviors

Both pro-social behaviors, those aimed at helping others (Eisenberg and Spinrad, 2014), and anti-social behaviors, such as aggression and delinquency, skipping school, and lying (Light et al., 2013) demonstrate some developmental and seasonal trends. Pro-social behaviors appear to increase from early childhood into elementary school (Eisenberg and Spinrad, 2014). However, varying trajectories of pro-social behavior from childhood into and through adolescence have been documented (Eisenberg and Spinrad, 2014). Some report a decline in the positive behaviors associated with social emotional and character development from middle childhood into adolescence, despite increased cognitive abilities that should, in theory, lead to increased moral reasoning and thereby pro-social behaviors (Luengo Kanacri et al., 2013; Washburn et al., 2011).

Others have documented increases or stability in pro-social behavior into and across adolescence (Eisenberg and Spinrad, 2014). Thus, different developmental patterns of pro-social trajectories have been found, yet overall, with some exceptions for particular types of behavior, pro-social behavior appears to decrease in early adolescence but then increase again in late adolescence (Eisenberg and Spinrad, 2014). Concurrently, increases in anti-social behaviors have been documented from ages 12–16

(Jessor and Jessor, 1977; Loeber and Burke, 2011; Nagin and Tremblay, 1999; Patterson and Yoerger, 2002; all as cited by Light et al., 2013). General patterns of anti-social behavior demonstrate that the vast majority of individuals desist from such behaviors in adulthood. Rates of anti-social behavior (i.e., arrests, delinquency) tend to increase across early to middle adolescence. These rates peak in late adolescence, and then decline; while for a smaller group of individuals—who have often tended to show earlier, more frequent, and more extreme anti-social behavior—anti-social behavior persists into and through adulthood (Moffitt, 1993).

In terms of seasonal patterns, in a longitudinal study of students (n = 5,742) from 11 rural and suburban middle schools across the western United States, Light and colleagues (2013) found decreases in anti-social behavior during each school year across grades 6–8, with increases between school years. The researchers could not conclusively say whether the increase in anti-social behavior that marked the beginning of the school year occurred over the summer or at the start of school year, or both. In a study of students (n = 5,581) from 37 middle schools across four communities, in which all the schools served a high proportion of students on free or reduced lunch, Farrell and colleagues (2011) found the opposite pattern for aggression. In this study, aggression demonstrated increases during the school year from sixth to seventh grade, but both physical and relational aggression decreased during the summers throughout the middle school years. They hypothesized that the pattern found by Light and colleagues (2013) was due to the start of the school year, because students attempt to re-establish peer social hierarchies after the summer. This research is consistent with crime statistics reported earlier, which find reduced rates of assault victimization for youth during the summer.

As noted earlier, participation in afterschool activities may be protective for youth at high risk of engagement in anti-social behaviors. Mahoney and Cairns (1997), in a longitudinal study of students (n = 392) from two middle schools that followed students into high school, documented that participation in an extracurricular activity was protective for students with the highest risk for school dropout. Mahoney (2000) then found that participation in extracurricular activity was associated with decreased school dropout and arrests among youth with multiple risk factors. Importantly, this depended on others in the youth's peer group also participating in activities. In another study by Martin and colleagues (2007), Black males ages 13–17 who had previously been expelled or suspended from school showed improved school attendance and academic skills and a reduction in disciplinary actions after attending a 5-day-a-week afterschool program for 2 years. Of note, the program comprised a variety of components including tutoring, cultural and recreational activities, and nutritious meals. As discussed later in Chapter 5, youth involved in the juvenile justice system and

other youth considered at risk for anti-social behaviors can benefit from programming that supports their needs for skills that help them transition to adulthood (Ananthakrishnan, 2019).

Substance Use

National trend data reveal steady declines in adolescent substance use, including alcohol and cigarettes, between 1990 and 2017 (Arnett, 2018). Rates of drug use differ, with rates of marijuana use fluctuating over the years and rates of other drug use increasing in the 1990s and declining since then (Arnett, 2018). Use of e-cigarettes has increased in recent years for both middle school and high school age adolescents (Cullen et al., 2018).

Among youth, substance use, including use of alcohol, cigarettes, and drugs, generally increases from early to late adolescence (e.g., Farrell et al., 2005; Warren et al., 2016). Whereas we might expect substance use to increase during the summer, when adolescents may have more unsupervised time, the evidence is complicated. The National Survey on Drug Use and Health found that first-time use of alcohol, tobacco, marijuana, hallucinogens, and inhalants peaks in June and July (Substance Abuse and Mental Health Services Administration, 2012). However, a national survey examining overall past-month use of illicit substances found that past-month use of any illicit drug except marijuana is lower during the period when most students are on summer vacation and that fewer adolescents reported being approached by drug dealers in the summer than during other times of the year. However, alcohol use was higher in July (along with holidays and winter recess) than at other times of the year (Huang et al., 1999). Similarly, one study of middle school students at three urban public middle schools serving a predominantly Black student population from low-income families (Farrell et al., 2017) found that substance use decreases in the summers from grades 6–8.

Physical and Mental Health

Whereas there has not been much research focused on the relationship between children's summertime experiences and their overall physical and mental health trajectories, there are several common health conditions in children where seasonality is known to play a role. There are also particular circumstances that children experience during summertime that may affect physical and mental health outcomes. In addition, the extent to which youth are managing an ongoing or emergent health issue can impact their engagement in summertime opportunities.

The three most common causes of mortality among children ages 5–14 are unintentional injuries, cancer, and suicide (Kochanek et al., 2019).

The three most common causes of mortality for adolescents and youth ages 15–19 are unintentional injuries, suicide, and homicide (Heron, 2019). A study of the 10 leading causes of death and injury in the United States from 1980 to 2016 found a distinct seasonal pattern of mortality from unintended injuries in males ages 5–14 that was similar across all regions (Parks et al., 2018). Seasonal variation also has been reported in common childhood conditions, including asthma, obesity, and mental and behavioral health conditions.

Injuries

Physical activity-related trauma, such as sprains, fractures, and contusions, sustained while engaging in sports or recreational activities is a primary cause of summertime pediatric injuries in western countries (Jespersen et al., 2014). A study in the United States of temporal variation in injuries associated with seven common recreational activities in children under age 18 examined emergency room visits logged into the National Electronic Injury Surveillance System (NEISS) between 2002 and 2006. It found that emergency room visits peaked in June for injuries from trampolines and scooters and in July for injuries from cycling and water activities. Injuries related to skating and playground activities peaked in April and September (Loder and Abrams, 2011).

A study of childhood trauma from injury found a similar pattern, with the highest number of childhood trauma victims seen in the emergency room in July, and twice as many children admitted from May to August as were admitted from November to February (Groh et al., 2018). A retrospective study of children (mean age of 5.9 years) with humeral fractures requiring surgery in Indiana also documented a significant increase in fractures in the summer, peaking in early July, with injuries occurring from playground equipment, furniture, climbing activities, sports, trampolines, bicycles, and all-terrain vehicles (Loder et al., 2012). Injuries from moped accidents in the United States were twice as common in youth under age 18 than adults in the summer, with the highest frequency in youth ages 14–18 (Johnson et al., 2016). Drowning is the leading cause of death by unintentional injury in children ages 1–4 and the second leading cause of death by unintentional injury in children ages 5–9 (Centers for Disease Control and Prevention, 2017). Whereas children who drown between ages 1–4 tend to drown in swimming pools, hot tubs, or spas, older children and adolescents who drown tend to do so in outdoor natural water settings. Males and Black children have higher rates of drowning. Swimming skills are associated with reduced rates of drowning. More Blacks report limited swimming skills than Whites, which may account for the disparity in rates of drowning (Gilchrist and Parker, 2014; Irwin et al., 2009). In a study of adolescents over age 16,

reasons for higher rates of drowning among males than females were swimming in high-risk situations, overestimation of swimming ability, and use of alcohol while swimming (Howland et al., 1996).

A study of heat-related injuries in Florida found that the rate of non-work-related emergency room visits was highest for adolescents ages 15–19 (60.41 per 100,000 person-years) and that the rate decreased as age increased, while the lowest rate of non-work-related heat-related injuries was among children under age 10 (9.83 per 100,000 person-years). However, the highest heat-related-injury death rates were for the elderly and those under age 5 (Harduar Morano et al., 2016).

Asthma

In the northern hemisphere, asthma episodes peak in the early fall, a trend hypothesized to be due to respiratory viruses (Johnston and Sears, 2006). However, this peak varies by geographic region in the United States, where it ranges from early fall to early spring (Wisniewski et al., 2016). In a 15-year study of prescription fill rates for asthma medication, the lowest fill rates were found to be in July, increasing in the autumn and through the winter, suggesting that prescription filling is reactive and follows disease exacerbation (Turi et al., 2018). However, deaths from asthma are more common in the summer months (Campbell et al., 1997; Weiss, 1990).

Obesity

Numerous studies have found an increase of childhood obesity in the summer. An analysis from the Early Childhood Longitudinal Study of body-mass index (BMI) measurements at the beginning and end of kindergarten and first grade showed that BMI increases more rapidly and more variably during the summer than during the school year. The same study found that the disparities in obesity prevalence between Black or Hispanic children and White children were largely due to increases in their BMI during the summer (von Hippel et al., 2007). In 2016, von Hippel and colleagues published an updated study, which found a similar gain in summertime BMI. However, this second study found no significant differences in summer weight gain by race or ethnicity. There were also no differences in summer weight gain between boys and girls, between children based on their families' higher versus lower incomes, or between children based on maternal education or employment status (von Hippel and Workman, 2016). Similarly, in a five-year longitudinal study conducted in southeast Texas, children generally lost weight during the school year and gained weight during the summer without any racial or ethnic variation (Moreno et al., 2013).

However, other studies have found that summer affects childhood obesity differentially across groups of children and youth. Children who are in the highest BMI percentiles have been found to gain significantly more weight during the summer than children in lower BMI percentiles (Downey and Boughton, 2007), placing children with severe obesity at the greatest risk for summer weight gain. One study of third-, fourth-, fifth-, seventh-, and eighth-grade American Indian school children found that those who were at or above the 85th percentile for BMI experienced an increase in BMI during the summer, while for children below the 85th percentile there was no change (Smith et al., 2009). However, another study of American Indian children between kindergarten and first grade found no change in the velocity of BMI increase in the summer as compared to the school year (Zhang et al., 2011).

Various explanations have been advanced to account for increased weight gain among children and adolescents in summertime. Factors that have been proposed include decreased physical activity and increased sedentary behaviors, poorer nutrition, and lack of access to school interventions. We discuss these factors below, many of which disproportionately affect children and youth in disadvantaged neighborhoods. Many of these factors fit within the "structured day" hypothesis (Brazendale et al., 2017). During the school year, children and adolescents generally experience a more highly structured, consistent, compulsory, and supervised day than in the summer. During the summer, there may be greater nutritional, activity, and sedentary activity choices and more discretionary time to engage in media use and alter sleep times (Avery et al., 2017). In one study, adolescents who regularly participated in organized activities were at less risk for obesity than those who did not (Mahoney, 2011).

Physical activity and sedentary behavior. A review of the research on seasonal variation and physical activity among children and youth by Carson and Spence (2010) suggests that summer may be associated with increased physical activity for some children and youth in certain contexts, but the evidence is mixed. Furthermore, the relationship between seasonality and physical activity may vary based on geography, urbanicity, and climate. For example, in different parts of the world, rural youth may be more active in the warmer months and urban youth were more active in the colder months (Carson and Spence, 2010).

Lower physical activity and increased sedentary time in the winter have been found across all ages, ethnicities, and climates (Atkin et al., 2016; Kornides et al., 2018; Stalsberg and Pederson, 2010). Atkin and colleagues (2016) analyzed seasonal accelerometer data from 705 seven-year-olds in the Millenium Cohort Study in the United Kingdom and found that in all children moderately vigorous physical activity (MVPA) was lower in autumn and winter compared with spring. MVPA was lower in summer

compared with spring in boys, children of normal weight, those living in urban areas, those from high-income families, and on weekends. Sedentary time was greater in autumn and winter than in spring, and the seasonal effect was stronger during the weekend. Relative to spring, sedentary time in summer was lower on weekdays but higher during the weekend. Summer seems to be a time when activity and sedentary behavior are more variable between groups and during the week when compared to the school year (Atkin et al., 2015). No matter what the season, adolescents are not meeting daily physical activity requirements.

A prospective study of self-reported activity in adolescents (Kornides et al., 2018) found that 85 percent of adolescents did not meet the recommendation for MVPA (recommendation of 4 hours/week), and 91 percent did not meet the recommendation for vigorous physical activity (VPA; recommendation of 3 hours/week) for one or more seasons over the four study years. However, they were more likely to meet the MVPA requirements during the summer than in the winter. Even so, 60 percent of adolescents did not meet the moderate to vigorous physical activity requirements in the summer. Those least likely to meet these physical activity requirements were females, adolescents who had overweight or obesity, and older adolescents. When they compare the school year as a whole versus summer, many studies find a lower percentage of light-intensity physical activity and greater sedentary time, screen time, and sleep time during summer compared to the school year (Brazendale et al., 2018).

Zinkel and colleagues (2013) studied 162 school-age, sedentary Black and White youth based in or near the District of Columbia who were at risk for adult obesity to assess the potential impact of seasonal differences in total energy expenditure (TEE) on summer weight gain. When total and resting energy expenditure were measured throughout the year, no differences in energy expenditure were detected between summer and the school year, and the authors suggested that increased calorie intake through food and drinks may be the primary driver of summer weight gain (Zinkel et al., 2013).

Nutrition. Children and youth ages 6–19 engage in higher consumption of sugar-sweetened beverages and slightly lower intake of vegetables during school break (see Box 3-3), according to an analysis of the National Health and Nutrition Examination Survey (NHANES)[5] for 2003–2008. Consumption of sugar-sweetened beverages and added sugar was higher for males, higher on weekends, and higher for older children (Wang et al., 2015b).

[5]The NHANES is a series of multicluster cross-section surveys conducted by the Centers for Disease Control and Prevention that are representative of the noninstitutionalized U.S. population. For more information, see https://www.cdc.gov/nchs/nhanes/index.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fnchs%2Fnhanes.htm.

Another study found that consumption of sugar from more fruits, sweets, and desserts during summer resulted in an unhealthier high-sugar intake during the season (Brazendale et al., 2018).

BOX 3-3
Addressing Food Insecurity in the Summer: USDA Programs

Food insecurity increases in the summer for children (Gordon et al., 2017). USDA's summer meals programs, may be effective at reducing the most severe form of food insecurity for low-income households with children. The U.S. Department of Agriculture's (USDA) Summer Food Service Program (SFSP), also known as the Summer Meals Program, is a state-administered program that provides children and teens (ages 18 and younger) in low-income areas free meals when school is out. In 2017, more than 3 million children participated in federal Summer Nutrition Programs,[a] a small number when compared to the 20 million children who participated in free and reduced-price school lunch during the 2016–2017 school year (Food Research and Action Center, 2018).

Fewer than one-third of SFSP sites are in rural areas. Income requirements, low population density, and the low availability of transportation to the sites pose challenges to the establishment of SFSP sites in these areas (Hopkin et al., 2017; Wauchope and Stracuzzi, 2010; USDA, 1998, 2008). Expanding the number of summer meals sites, the number of meals served at sites, and sites' hours of operation may be effective strategies to promote nutritional health over the summer months (Miller, 2016).

Many communities provide other types of food assistance and child-centered programs during the summer months to meet the nutritional needs of low-income children, but locations and resources are limited, leaving gaps in access to food during the summer for low-income children and resulting in very low food security among children (Collins et al., 2016). To address this gap, USDA piloted the Summer Electronic Benefit Transfer for Children (SEBTC) demonstration. The goal of SEBTC was to provide nutritional assistance for low-income children during the summer when free or reduced-price meals are inaccessible. The SEBTC Program distributes assistance to households with eligible school-age children using electronic benefit systems (EBT) cards. The program provides a way for families to reduce summer food insecurity and improve diet quality and nutrition—especially in communities that have challenges in accessing summer meal sites (USDA, 2013). Implementation demonstrations of SEBTC, have shown an increase among participants in consumption of fruits and vegetables, whole grains, and dairy products (Collins et al., 2016). Additionally, the program had high rates of participation, with more than 75 percent of families redeeming some or all of their benefits (Food Research and Action Center, 2018).

[a]The federal Summer Nutrition Programs include the Summer Food Service Program and the National School Lunch Program, which includes the Seamless Summer Option.

Disruption of school interventions. School-based interventions for obesity have been successful during the school year (Wang et al., 2015a), but improvements in fitness, metabolic status, and percentage of body fat have been found to be reversed during the summer, with measurements returning to pre-intervention levels by the beginning of the next school year (Carrel et al., 2007). A small study of children in rural Wisconsin whose BMI was above the 95th percentile showed that positive results of a school-based obesity intervention (improvements in percent body fat, cardiovascular fitness, and fasting insulin) were lost during the summer break (Carrel et al., 2007). In two studies of school-based fitness interventions, improvements in fitness and body composition were lost during the summer (Gutin et al., 2008; Yin et al., 2012). In a 2-year community intervention involving more than 1,000 children in grades 1–3, BMIz[6] decreased in children in the intervention community compared to children in the control groups. The next summer, when the intervention was less intense, there was no change in the BMIz scores between the intervention and control groups, possibly indicating a dose-response effect (Economos et al., 2013). Thus, it appears that interventions being continued into the summer may be important for maintaining obesity-related outcomes.

Neighborhood characteristics, physical activity, and weight gain. Although the associations between neighborhood characteristics and obesity in childhood are largely inconclusive, it is possible that neighborhood characteristics may influence children's physical activity and eating during the summer in particular ways. High-poverty neighborhoods often lack basic infrastructure, with substandard housing stock, more abandoned and boarded-up buildings, inadequate municipal services, fewer retail facilities (e.g., supermarkets), more bars and taverns (Evans, 2004), and high levels of joblessness and crime, especially violent crime (Meade, 2014). Confronted with such conditions, many parents in distressed neighborhoods shield their children from the streets by limiting their outdoor time (e.g., DeLuca et al., 2011). One result is that between 0–6, children from higher-income families spend an average of 1,300 more hours in "novel contexts"—meaning contexts other than home, school, or in the care of another parent or a day care provider—than do children from lower-income families (Phillips, 2011, p. 207).

A study of the link between neighborhood environments and weight gain of almost 3,000 children in a midsized city in the South from predominantly Black elementary-schools and from lower-income families demonstrated that females and older children gained more weight in the summer compared to males and younger children. These patterns did not vary by

[6]BMIz = Body Mass Index z-score.

race with respect to summer weight gain. As in other studies, children who were overweight or had obesity gained more weight in the summer than children with normal weight. The study also showed that overweight children living near two or more small grocery stores gained less weight than overweight children who lived near just one or no stores; whereas whether or not the children lived within one mile of an active park was not associated with summer weight gain (Miles et al., 2018). Another study found that a lack of neighborhood safety is associated with a small reduction (8 minutes/week) in physical activity and a small BMI gain that did not change obesity status (An et al., 2017).

Mental Health

The only data regarding seasonal variations in mental health we identified involved mental health emergency visits. Emergency department (ED) data show fewer mental health–related emergency visits in the summer than in other seasons. Data from more than 20,000 children under age 17 in Alberta, Canada, from 2002 to 2008 document decreased presentations to EDs in urban and rural areas throughout Alberta for mental illness, substance use, or intentional self-harm in the summer. Visits for neurotic/stress-related disorders, mood disorders, intentional self-harm, substance abuse, and behavioral/emotional disorders decreased from May to July and then increased in August, September, and October (Ali et al., 2012). A retrospective study of psychiatric ED visits of children and youth ages 5–18 to a hospital in upstate South Carolina also demonstrated this seasonal pattern, with less frequent visits occurring in June, July, and August. The top reasons for admissions defined as mental health visits during the 5-year study period were aggressive behaviors (68%) and thoughts/actions of self-harm (27%); and the most common diagnoses were anxiety disorders (28%), disorders first usually diagnosed in infancy, childhood or adolescence (27%), mood disorders (19%), and substance-related disorders (10%) (Holder et al., 2017).

One review of the Nationwide Emergency Sample Department database (the largest all-payer ED database in the United States) examined suicide attempt–related ED visits from 2006 to 2013 for persons ages 10 and older, and found that such visits peaked for females ages 15–19 and males ages 20–24. Visits for attempted suicide were highest in the spring and fall. The largest number of visits occurred in May, and they were more common among persons in the lower-income quartiles (Canner et al., 2018). During an 8-year study of suicide ideation and suicide attempts in children, the lowest frequency occurred in the summer months, with the highest peaks in fall and spring (Plemmons et al., 2018).

Social and Emotional Skill Development

Social and emotional skill development, frequently referred to as social and emotional learning (SEL), has received increased attention over the past two decades in both school and out-of-school settings. Social and emotional skills include aspects of understanding and managing one's own emotions as well as the social world, that is, both inter- and intra-personal competencies (Durlak et al., 2011; Elias et al., 1997; Greenberg and Weissberg, 2018; Weissberg et al., 2015). These skills help children and youth integrate their cognition, affect, and behavior (Weissberg et al., 2015). Although the category of SEL is frequently used broadly, individuals can have relative strengths and weaknesses among the various social and emotional skills. There are also important critiques of social and emotional learning from a lens of culture and equity (Jagers et al., 2018), discussed below, which underscore the importance of thinking about how these competencies are defined, what cultural biases those definitions may reflect, and the impact of that on populations of children and youth from different cultural backgrounds.

Developmental Trajectories of Social and Emotional Skill Development

Some researchers have examined seasonal patterns of *anti-social* behavior (discussed earlier; e.g., Light et al., 2013), but trends in the development of positive social and emotional competencies are not well understood. Differences between children in SEL-related competencies are already evident at kindergarten entry (Greenberg and Weissberg, 2018), which may give some indication, at least in early childhood, of the impact of out-of-school environments on social and emotional skills. Specifically, youth from families that are lower on the socioeconomic ladder and youth from disadvantaged racial and ethnic minority backgrounds tend to be assessed by teachers as having lower levels of social and emotional development in early childhood (Halle et al., 2009). In an analysis of the nationally representative Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K), Downey and colleagues (2019) documented income and Black-White gaps in teacher-assessed social and behavioral skills at kindergarten entry, and found that these gaps grew slightly between kindergarten and the end of second grade. They found no seasonal patterns, with gaps remaining consistent during the school year and over the summer.

Additional analyses of these data revealed gender gaps in social and behavioral skills (approaches to learning, self-control, and interpersonal skills) as assessed by teachers at kindergarten entry, with girls seen as entering school with more of these skills than boys. This gap between boys and girls continued to grow from kindergarten to the end of fifth grade

(DiPrete and Jennings, 2012). Whereas DiPrete and Jennings (2012) also found gaps in these skills by family income and by racial-ethnic background, the gender gap was larger than either of those gaps in kindergarten and continued to widen through fifth grade. The intersectionality of identities (e.g., gender and race) may be particularly important to consider in relation to teacher perceptions of social and emotional skills, as one study suggested that teachers monitor the behavior of Black boys more closely when they expect challenging behaviors (Gilliam et al., 2016).

One challenge with documenting the developmental trajectories of social and emotional skills is the limitation of current measurement approaches. The number of different definitions of social and emotional skills and learning, noted earlier, weak psychometric properties of the measures used, and differences in methods of assessment (self-report, observation, behavioral ratings, direct assessment) all limit the ability of the field to draw strong conclusions about the developmental properties of these skills (Card, 2017; Jones et al., 2016; McKown, 2017a, 2017b). It has been recommended that a strengths-based and low-stakes approach be taken to the measurement of social and emotional learning and skills. That is, rather than tying SEL assessments to accountability or decision making, it has been recommended to use them as feedback and to identify optimal ways of adjusting instruction to meet the needs of students. Along with this, it has been recommended to place a focus on formative assessment and implementation improvement (Taylor et al., 2018).

It is important to recognize that current conceptual definitions of social and emotional skills reflect the cultural norms and biases of the dominant cultural group engaged in the research and education fields: Whites of middle- to upper-class backgrounds (Deutsch, 2017; Jagers et al., 2018). This bias can also impact how adults *perceive* social and emotional skills in youth, which can in turn affect measurement of SEL. For example, well-documented discipline disparities in schools (see Gregory et al., 2017; Okonofua et al., 2016) suggest that teachers view the same behavior differently depending on who is displaying it, with harsher assessments of behavior for Black than for White youth (Carter et al., 2017; Gilliam et al., 2016; Okonofua and Eberhardt, 2015). This bias may then be reflected in teachers' ratings of social and emotional skills in students, which are often used in studies of social and emotional skills in order to avoid self-report bias. At the same time, there is potential for SEL to redress rather than reify existing inequities if cultural issues are taken seriously. Jagers and colleagues (2018) coined the term "transformative SEL" to center issues such as power, privilege, social justice, discrimination, and self-determination within the field. They provide a thoughtful overview of the opportunities for equity to be addressed within core social and emotional competencies.

Academic Learning and Enrichment

Optimal academic development for children and youth throughout the school years—from kindergarten through grade 12—would have students move along paths that maximize their scholastic achievement while moderating disparities along lines of race, ethnicity, and family background. More specifically, the goal is that all children achieve at or above grade-level standards in the primary academic subjects at each grade level and be college and/or career ready at the end of high school.

Unfortunately, as a nation we fall short of the goal of high achievement equitably distributed across social lines. The achievement gaps that separate students from higher- and lower-income families and those that separate disadvantaged minority students from white students are large and longstanding. At school entry, disparities in a wide range of outcomes and competencies, including both knowledge and skills in areas such as early literacy and self-regulation, already exist between children from different economic and social backgrounds. Thus, it is critical to consider the role of early education in promoting equitable outcomes for children (Institute of Medicine, 2000).

Such gaps are not immutable, though, and real progress has been made in some areas. Trend data from the National Assessment of Educational Progress (NAEP) document large declines in the Black-White and Hispanic-White achievement gaps in reading and math over the past 40 years.[7] As of 2012, both gaps had narrowed by 30 to 40 percent relative to the levels extant in the early 1970s, with the largest reductions registered during the decade of the 1970s and into the 1980s. Still, large gaps remain, ranging from 0.5 to 0.9 standard deviations across groups, ages, and domains of performance (Stanford Center for Educational Policy Analysis, nd).

The picture for family background is different. During the same timeframe that saw racial and ethnic achievement gaps decline appreciably, gaps across family income levels grew wider. In fact, the gap across family income levels now exceeds those across race and ethnicity. Among children born in the 1950s, 1960s, and early 1970s, those at the 10th percentile of family income averaged 0.9 standard deviations below those at the 90th percentile in reading. Today, for children born in the 2000s, the gap stands at 1.25 standard deviations (Reardon, 2013).[8]

[7]The NAEP testing program often is referred to as the Nation's Report Card. Children are tested at ages 9, 13, and 17, most frequently in math, science, reading, and writing. The NAEP testing program began in 1969–1970. In recent years, testing has been done annually, although not all domains are tested each year. Sample sizes for assessments intended to generalize to the nation as a whole range between 10,000 and 20,000.

[8]By way of comparison, in Reardon's (2013) analysis of the Black-White gap for this same age cohort is a bit below 0.75 standard deviations, down from 1.2 standard deviations among children born in the 1950s.

These achievement gaps translate into later attainment gaps in high school graduation rates, college graduation rates, and employment rates (Cahalan et al., 2018; Economic Policy Institute, 2018; Vilorio, 2016). The importance of summertime for the learning opportunities available to young people in K–12 *outside school* will be observed most immediately in markers of academic achievement, but because successes and challenges in school anticipate successes and challenges in college and the workplace any such importance near term is certain to reverberate longer term. The remainder of this section examines possible links between summertime experience and academic development.

Evidence

The question of how summer influences the academic achievement and learning trajectories of children and youth has been studied more than questions regarding other domains. However, these studies do not always agree on precisely *how* summer influences academic trajectories. Studying the effect of summer is challenging, because schools do not typically test students in the fall and the spring. The seminal research is drawn from smaller, localized studies conducted in the 1970s and 1980s (Alexander et al., 2007; Entwisle and Alexander, 1990, 1992; Heyns, 1978), while more recent literature takes advantage of data from seasonal testing conducted by the national Early Childhood Longitudinal Study Kindergarten Class (K–2), from districts and states using the Northwestern Evaluation Association Measurement MAP Assessments (grades 3–8), and from summer intervention studies that examine summer learning in an experimental/control-group context.

Early Studies

Summer learning loss—the phenomenon of students forgetting some of what they learned during the school year—was first addressed in 1906, when William White, a teacher of mathematics in New Palz, New York, tested a handful of his fourth- and seventh-grade students on math facts before and after the summer vacation. Finding that students lost ground over the summer, White observed that "neglect for three months may blur the memory."[9]

Recent studies, more rigorous than White's, have asked a related question: Is summer learning loss more prevalent among children from lower-income families and among disadvantaged racial and ethnic minority groups than among children of more advantaged backgrounds? This line of research was

[9]Quoted in Pitcock (2018, p. 5).

launched by Barbara Heyns in her landmark study, *Summer Learning and the Effects of Schooling* (1978). Heyns examined the academic progress of sixth and seventh graders in Atlanta, Georgia, over an 18-month period, comparing school-year test score gains against gains over the months bracketed by successive school years (e.g., the summer between sixth and seventh grades). Children from lower-income families and Black children registered achievement gains close to those of their more advantaged counterparts during the school year, but over the summer months they lagged behind.

The next study of consequence was the Baltimore-based Beginning School Study (BSS), launched in the fall of 1982. In this research, the reading comprehension achievement gap separating children in lower-income families from children of middle-class family background increased from 0.5 grade equivalents in the fall of first grade to 3.0 grade equivalents in the spring of fifth grade; similar differentials were found on the math concepts and applications subtest of the California Achievement Test battery (Entwisle et al., 1997). Regarding the summer period, the achievement gap increase over this period traced back almost entirely to differences in summer learning, largely to the summers between first and second grade and between second and third grade. Then later, in ninth grade, the first year of high school, two-thirds of the extant reading comprehension gap comparing children from lower-income families against those from middle-income families (up to 3.5 grade equivalents at that point) was found to originate in differential summer learning over the elementary school years (Alexander et al., 2007).

In 1996, Cooper and colleagues (1996) reviewed the literature on summer learning loss, consisting of 39 studies, 13 of which lent themselves to rigorous quantitative meta-analysis. Learning patterns did vary by season, but they were not uniform across testing domains or student populations. Reading comprehension scores declined overall during the summer, more so among children from lower-SES backgrounds, while word recognition scores rose among children from middle class backgrounds and declined among children from lower-SES backgrounds. A composite of the reading domains favored upper-SES children over lower-SES children by 3 months over the summer months, while the Black-White difference was not significant.

Regarding math achievement, computation, concepts, and applications were examined separately, and a composite measure of all three was also examined. All children lost ground in math over the summer months (on the order of 2 months on average), the largest domain-specific loss being for computation.

Recent Studies

Both Heyns' study in Atlanta and the BSS research in Baltimore, as well as many of the studies included in Cooper's literature review, were local

studies each limited to a single city. A national perspective is afforded by more recent studies, including the massive database compiled by the Northwest Education Association (NWEA). In the studies cited below, NWEA's Measures of Academic Progress (MAP) testing program assessed reading and math for nearly 20 percent of the school-age population in grades 2–9 in all 50 states from 2007–2008 through 2011–2012. Although MAP coverage is not strictly representative, the scope of this project affords a broad-based descriptive account of school-year and summer-achievement patterns.

MAP data show that learning slows during the summer months relative to the school year at all grade levels in both reading and math, with absolute declines during most summers. And these losses are appreciable, averaging, across grade levels and years, losses of 3 to 4 points against average school year gains of 4 to 16 points. As an example, over the summer following third grade, students lose nearly 20 percent of their school-year gains in reading and 27 percent of their gains in math. For the summer after seventh grade, the respective figures are 36 percent and 50 percent (Kuhfield, 2018b). On the other hand, MAP data also establish that not all students lose ground during the summer. Those who gain the most during the school year tend to lose the most over the summer months (Kuhfield, 2019), while differences by race/ethnicity in patterns of summer gains and losses are small (Kuhfeld, 2018a).

ECLS-K 1998–1999 and ECLS-K 2010–2011 also afford national perspective, albeit only for the early grades. Like the NWEA data, these are true panel studies in that they monitor the same children's academic progress over time. One of the first studies to examine summer learning with these data (Downey et al., 2004) found large disparities across lines of family socioeconomic status (but not race/ethnicity) in reading and math gains over the summer between kindergarten and first grade (the only summer period monitored); however, this pattern was not replicated in subsequent analyses of these data using different psychometric methods (von Hippel and Hammock, 2019; von Hippel et al., 2018), while analyses of the more recent ECLS-K 2010–2011 cohort have yielded mixed results (Quinn et al., 2016; von Hippel et al., 2018).

Key Themes Across the Literature

The sections that follow summarize these and other key findings from the research, highlighting areas where we have greater or less certainty.

Academic Progress Slows During Summer Months. Research consistently demonstrates that academic progress slows during the summer months relative to the school year (Entwisle and Alexander, 1992, 1994; Heyns, 1978; Quinn et al., 2016; von Hippel and Hamrock, 2019). The slower rate

of academic learning during the summer makes sense, since children and youth are not receiving formal academic instruction during this time.

The Direction of Average Academic Progress Is Unclear. The seminal literature examining how summer affects academic achievement found that not only did academic progress slow during the summer months, it also faded. As noted, Cooper and colleagues (1996) found that on average children lose ground academically over the summer months in math and reading comprehension. However, more recent research shows a far less clear picture regarding whether children and youth, on average, are declining, maintaining, or slightly improving academic skills over the summer months. In most studies that find such declines (Atteberry and McEachin, 2019; Borman and Dowling, 2006; White et al., 2013; Workman and Merry, 2019), the magnitude is less than what was found in earlier literature. For instance, Workman and Merry (2019) find that average skills decline approximately 4 to 6 percent from the prior school year. Other studies find no loss or gain during the summer (Benson and Borman, 2010; McCoach et al., 2006; Ready, 2010; Zvoch and Stevens, 2013), small academic gains during the summer (Burkam et al., 2004; Fitzpatrick et al., 2011), and mixed results for different subjects, with a gain in one subject and no change in another subject (Downey et al., 2004; Hayes and Gershenson, 2016).

The Influence of Summer on Academic Trajectories Is Worse for Children and Youth from Lower-Income Families, Communities, and Schools. With few exceptions, research consistently finds evidence of differential outcomes for students based on family income. The seminal work on academic trajectories found higher rates of summer learning loss among children from lower-income families, particularly in reading (Cooper et al., 1996). Recent studies find that children from lower-income families learn less during the summer relative to their wealthier peers even if they do not experience absolute knowledge losses over the summer (Downey et al., 2004; McCoach et al., 2006; Benson and Borman, 2010; Ready, 2010; von Hippel et al., 2016; Benson and Borman, 2010; Kim, 2004; White et al., 2013). However, two studies in the early grades do not find differential loss (McCoach et al., 2006; von Hippel et al., 2018) and Gershenson (2014) finds mixed evidence that depends on the subject and model specification.

Studies also have found that children and youth living in neighborhoods with high poverty levels (Benson and Borman, 2010) or attending schools with high concentrations of poverty (White et al., 2013; Atteberry and McEachin, 2016) experience larger losses over the summer relative to peers in wealthier neighborhoods or schools.

Children from low-income families start kindergarten at a disadvantage, and that disadvantage persists through secondary school. The extent to which summer contributes to the achievement gap is unclear, with earlier research suggesting that it does and more recent studies more mixed in their conclusions. Nonetheless, as structured, the summer months are not helping to close the gap.

Racial Differences in Summer Academic Trajectories Appear to Be Driven by Family Income. In the United States, Black and Latinx children and youth are more likely to be from lower-income families than are their White peers. As a result, when researchers examine whether Black and Latinx children have differential rates of learning in the summer compared to their White peers, they can approach the question in two different ways. Studies that examine whether Black and Latinx children *unconditionally* have differential learning rates (not controlling for socioeconomic status (SES) differences among families) find that they fall behind their White peers over the summer months (Atteberry and McEachin, 2019; Kim, 2004; Quinn et al., 2016). However, studies that isolate race from family income find that Black and Latinx children have summer learning rates equal to those of their White peers (Benson and Borman, 2010; Burkam et al., 2004; Downey et al., 2004; McCoach et al., 2006).

This is a complicated, highly technical literature and therefore difficult to summarize. Quin and Polikoff's (2017) stock taking and the conclusions that follow from it seem apt: ". . . summer loss and summer gap-growth occur, although not universally across geography, grade level, or subject." More specifically:

- Test score disparities across social lines registered during the years prior to kindergarten exceed those that emerge over the early elementary years (summers and school years combined).
- Lower-income and minority youth do not always keep pace with their more advantaged counterparts during the school year.
- Summer learning differences by socioeconomic background and race/ethnicity are not always evident, consistently patterned, or as large as previously thought.

Poor children and disadvantaged minority youth enter school already behind, over time those achievement gaps persist, and in some studies they widen. Though we cannot parse with certainty what portion of these gaps and gap increases across social lines trace to the preschool years, to time in school, and to the summer months, it is certain that the summer period affords opportunities to mitigate them. It is also certain that these opportunities are not being fully exploited.

CONCLUSIONS

CONCLUSION 3-1: Ensuring optimal nutrition, physical activity, and continuation of effective school-year programs for all children and youth in the summer would reduce health risks related to obesity and food insecurity that children and youth experience in the summer months.

CONCLUSION 3-2: More research is needed to understand the full impact of summertime experiences on outcomes and trajectories related to child and youth safety; pro- and anti-social, risk-taking, and delinquency-related behaviors; mental health; and social and emotional development. This need is especially great for underserved populations, which have been underrepresented in the research literature to date, including children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, child welfare- or justice-system involved, and LGBTQ+, as well as those with special health care or developmental needs.

CONCLUSION 3-3: The Summer Food Service Program and the Summer Electronic Benefits Transfer for Children program play crucial roles in reducing food insecurity and increasing access to healthy foods during the summer.

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4

How Do Summer Programs Influence Outcomes for Children and Youth?

Whereas in Chapter 2 we documented the range of activities children and youth participate in during the summer months, and in Chapter 3 we described the effect that this season has on the development of children and youth, in this chapter we describe what is known from the research literature regarding how participation in summer programs affects young people's outcomes and the factors that enhance program effectiveness (see Box 4-1). The chapter also includes information about international examples of summer programs.

We note that this chapter is not inclusive of all the activities that children and youth participate in over the summer months, for example unstructured activities and summer programs that have not been rigorously studied. As a result, it does not capture all the benefits that children and youth can derive from positive summer activities, such as the opportunities to explore interests, practice new skills, and practice independence and self-regulation during free time. Instead, this chapter focuses on the effectiveness of structured programs that intend to build certain skills and competencies for children and youth.

BOX 4-1
Key Findings from the Program Effectiveness Literature

- The rigorous outcomes research base is not representative of all the types of summer programming and does not represent all types of populations served by summer programs or all agents offering summer programs.
- The rigorous outcomes literature does not investigate the benefits of participating in multiple programs over one or multiple summers.
- Few summer programs have had replicated trials in different contexts or track outcomes in the longer term.
- Due to study design, few studies demonstrate conclusive evidence of benefits; instead, the evidence is more moderate and suggestive.
- There is no evidence of significant negative outcomes from the reviewed studies; this may stem from the low probability of harm from summer programming or from a bias in publication toward positive findings.
- The majority of studies found evidence of effectiveness; however, studies did not typically find that programs were effective in producing all measured outcomes.
- Regular participation, sufficient duration, and targeted programming to meet youth needs appear to be correlated with program effectiveness.

Safety, Risk-Taking, and Pro- and Anti-Social Behaviors

- No rigorous outcome studies examined whether summer programs improve physical safety or supervision.
- There is moderate evidence indicating that summer programs designed to reduce risky behaviors such as alcohol use and unsafe sex are effective.
- There is strong evidence that youth employment programs for adolescents at risk of crime involvement can decrease violent-crime arrests.

CLASSIFICATION OF PROGRAM EFFECTIVENESS EVIDENCE

The earlier chapters drew on a range of research to describe what children and youth do during the summer and how summer affects their development. Much of that discussion is descriptive, but as we turn to examining program effectiveness it is important to determine how confident we are that outcomes measured by the program are the result of the program itself rather than other factors, such as the passage of time or pre-existing differences between participants and those who did not participate. In deciding how to classify research evidence of program effectiveness, the committee was guided by a desire to be helpful to policy makers and practitioners looking to adopt evidence-based practices and to use a scheme that would fit the available evidence. The committee considered a number of classification and rating schemes. We found the U.S. Preventive Services Task Force framework particularly appealing, as it encompasses two important

Physical and Mental Health

- There is suggestive evidence that summer programs designed to promote weight loss can be effective in reducing weight, BMI, and promoting fitness.
- Programs providing targeted interventions to children and youth with mental health needs, such as depression or anxiety, can be effective in promoting mental health outcomes.

Social and Emotional Development

- There is moderate evidence that specialized programs designed to meet the specific needs of specific groups of children and youth can improve social and emotional skills and abilities.
- Suggestive evidence exists for the social and emotional benefits of medical camps and recreational camps.

Academic Learning and Enrichment

- Academic learning was the most frequently studied group of outcomes in the literature and the most frequently studied type of program.
- Academic learning programs have been tested in multiple contexts with large numbers of children and youth.
- We find evidence of effectiveness for many types of summer academic learning programs, including voluntary single and multi-subject programs (strong, moderate, and suggestive), mandatory programs (moderate), and at-home programs (strong and suggestive).

dimensions: certainty of benefit (with high, moderate, and low levels of certainty) and magnitude of net impact (substantial, moderate, small, zero, and negative). However, due to the variety of outcomes studied, limitations of the available evidence base, and variability regarding what constitutes a small or large effect size depending on measure and age level,[1] the committee concluded that we could not accurately classify the magnitude of

[1]The committee did not feel we could rely on effect sizes to distinguish the magnitude of benefits. We know that the magnitude of an effect size is influenced by a number of factors, including the type of assessment used, grade level and subject, and type of study conducted. For instance, annual spring-to-spring gains on broad standardized assessments vary by subject and grade level, from as large as 1.52 in reading between spring of kindergarten and spring of first grade, to as small as 0.01 in mathematics from spring of 11th grade to spring of 12th grade (Lipsey et al., 2012). Further, for many measures in the studies we identified, we have no way to benchmark effect sizes.

the benefit for all outcomes beyond three categories: *positive, zero,* and *negative.*

We also considered the evidence framework used in the Every Student Succeeds Act (ESSA), which outlines four tiers of evidence depending on the certainty that a program will create positive child or youth outcomes based on the strength of the research design. The lowest level of ESSA evidence is based on a program having a theory of action, developed in part from the research base, which is inappropriate for the committee's focus on outcomes. Also, the ESSA framework does not differentiate between well-conducted randomized controlled trials (RCTs) conducted with small numbers of children or youth or at only one site, on the one hand, and studies that had weaker comparison groups, on the other—a distinction the committee felt was important, particularly since some of the interventions studied are not intended to be offered at large scale. Further, given the lack of experimental literature, the committee wanted to include pre/post study designs and to discuss important information about child, youth, and family experiences to provide guidance regarding implementation.

After considering multiple options, the committee determined we would classify quantitative outcomes evidence into three categories that signal our certainty that the program created the measured effect and would do so in other contexts:

1. ***Conclusive evidence.*** There is strong certainty that the program created positive outcomes for many children and youth that could be replicated in other settings. This evidence comes from a well-conducted rigorous experimental design to identify for causal inference—an RCT that has been conducted with many children or youth (more than 350) across more than one site. In an RCT, participants are randomly assigned to either receive the intervention or participate in a comparison group that does not receive the intervention, providing a robust counterfactual.
2. ***Moderate evidence.*** There is reasonable certainty that the program created positive outcomes for children and youth. Evidence in this category comes mainly from studies with well-conducted quasi-experimental designs. These designs approximate experimental research by identifying a comparison group that is similar to the program participants' observed pre-intervention characteristics (e.g., test scores, grade, race, gender). Alternatively, the evidence may come from RCTs where the generalizability of the findings are uncertain due to having a small number of children and youth in the study or due to being conducted at only one site.
3. ***Suggestive evidence.*** There is evidence of a relationship between program participation and youth outcomes; however, certainty

regarding causality is low and generalizability may be low as well. Evidence in this category comes from three types of studies (a) RCTs with design problems; (b) studies that include a comparison group that was not rigorously matched to intervention participants but includes statistical controls to help reduce selection bias; and (c) pre/post design studies that measure changes in participant outcomes over time but do not have a comparison group of children or youth who did not participate in the program.

In a few cases, we provide *qualitative research evidence* to document the perspective of children, youth, and families about their program experiences.

The RAND Corporation recently published an ESSA evidence review of summer programming (McCombs et al., 2019). The committee drew heavily on that review to identify the applicable outcomes literature, although our classification of evidence differs from the one used in that review. In addition, committee members identified additional pre/post studies and qualitative literature, including systematic reviews, to include. Because we did not conduct a comprehensive literature review of the pre/post studies, there are studies with suggestive findings that are not cited below. We also note that while the pre/post studies cited examine how participants changed over time, they do not include a comparison group (to observe those that did not participate in the program), and this makes it very difficult to draw conclusions about cause and effect.

EVIDENCE FOR THE EFFECTIVENESS OF SUMMER PROGRAMS

In this section, we detail the evidence for the effectiveness of summer programs by the four categories of outcomes the committee was tasked to investigate: safety, risk-taking, and pro- and anti-social behavior; physical and mental health; social and emotional development; and academic learning and enrichment. Within each of these outcome domains, we discuss the types of programs that show evidence of effectiveness and provide information on the agents that typically offer this type of program.

There is evidence of effectiveness for many different types of programs, but the outcomes research base is not representative of all the types of summer programming available and it does not represent the full range of populations served or all types of agents offering programs. For instance, the majority of identified outcomes studies examined academic summer programs targeted to youth who are low-income or performing below grade level. Even within the academic programs, we found far more evaluations of reading than of mathematics, writing, or science. Other types of popular programs, including sports camps and religious camps, have not been rigorously studied. Also, the literature does not investigate the benefits of

the most common pattern of participation in summer programs, namely, participating in multiple, short programs over multiple summers.

Few summer programs have been studied through trials replicating them in different contexts. Many of the studies we identified are one-off program evaluations, and many contain little information regarding implementation, making exact replication difficult. Further, many of the RCTs include small numbers of children and youth because the programs themselves are intentionally small, while many studies of programs that do include larger populations are not randomized trials. As a result, we found few studies demonstrating conclusive evidence of benefits. Instead, we found more moderate and suggestive evidence.

At the same time, we found no evidence of significant negative outcomes from the reviewed studies. This may stem either from the low probability of harm coming from summer programming or from a bias in publication toward positive findings. It is important to note that while the majority of studies found evidence of effectiveness, studies did not typically find that programs were effective in producing all measured outcomes. Across the studies we identified, about a third of the outcomes measured were positive and statistically significant.

Safety, Risk-Taking, and Pro- and Anti-Social Behaviors

Safety and Supervision

Although no rigorous outcomes studies examined whether summer programs improve physical safety or supervision, the committee believes such effects are both important and likely benefits of many types of summer programs. This is partly because in the afterschool literature conclusive evidence does exist for effects on supervision. RCT of afterschool programs find that children and youth assigned to participate in these programs were more likely to be supervised by adults, and elementary school participants reported feeling safer compared with youth not assigned to these programs. Increased adult supervision also meant that children were less likely to be cared for by older siblings and had less time for unsupervised activities with peers (Dynarski et al., 2003, 2004; Gottfredson et al., 2010; James-Burdumy et al., 2005). Appropriate adult supervision promotes personal safety and reduces participation in risky behaviors (Gottfredson et al., 2010). It is reasonable to think these same benefits accrue to participants in summer programs as well.

Risky Behaviors

Summer can be used as a time to provide programs and interventions intended to reduce risky behaviors, such as alcohol use and unsafe sex. There is moderate evidence that programs can achieve these outcomes (see Table 4-1). For instance, a summer program designed by Johns Hopkins University professors, in collaboration with local community partners, which included a targeted intervention to increase safe sex practices among youth, yielded moderate evidence that it improved youth's confidence in condom use and their ability to respond safely to potentially risky sexual situations (Tingey et al., 2015). Similarly, a study of an intervention program intended to reduce risky behaviors among girls in foster care transitioning to middle school found moderate evidence that the program reduced substance use and delinquency the next school year (Kim and Leve, 2011).

Crime

As described in Chapter 2, many city governments offer youth employment programs. One of the goals of this type of program is to reduce the probability that youth will be the victims or perpetrators of crime during the summer, as these risks increase during the summer months. An RCT of Chicago's youth employment programs for adolescents at risk of crime involvement found moderate evidence that the programs decreased violent crime arrests, though they had no effect on school enrollment, property crime arrests, or drug crime arrests (Heller, 2013).

TABLE 4-1 Safety: Research Evidence for Summer Program Effectiveness

Benefits	Evidence Level	Type of Program	Children and Youth Targeted by Studied Program	Agents Providing Programs
Reduced Drug Use	Moderate	Intervention: Program for caregivers and girls in foster care to reduce substance use and delinquency	Foster youth entering middle school (24 youth: 11 treatment, 13 control)	Government, nonprofit
Increase in Safe Sex Practices and Dispositions	Moderate	Intervention: Safe sex and healthy relationship curriculum embedded in a recreation program	Native American adolescents (267 youth: 138 treatment, 129 control)	University, nonprofit
Decrease in Violent Crime Arrests	Moderate	Youth employment program	Adolescents at risk of crime involvement (1,634 youth: 700 treatment, 934 control group)	Government, private

Physical and Mental Health

Physical Health

Summer programs can be designed to improve the physical health and well-being of children and youth, and we have suggestive evidence they can achieve this goal. One study found that overweight children and youth in a residential physical health summer program who attended for at least 29 days had short-term weight loss, improved blood pressure, and increased aerobic fitness (Gately et al., 2005). Another pilot study of a 7-week summer program for migrant children that included a healthy eating and exercise curriculum, found that BMI improved for the participants, with greater benefits accruing to children who attended regularly (Kilanowski and Gordon, 2015).

There is suggestive evidence that structured programs, such as summer school, may prevent weight gain and help maintain physical fitness over the summer due to the structured environment itself, with its restricted access to unhealthy food and time set aside for exercise (Park and Lee, 2015). There is also descriptive evidence that both day camps and overnight camps establish conditions for physical activity that would support physical health. For instance, Hickerson and Henderson (2014) measured the number of steps youth took during a typical day camp experience and a typical overnight camp experience; they found that the number of steps nearly met or exceeded the guidelines for youth physical activity set by the U.S. Department of Health and Human Services. Similarly, Brazendale and colleagues (2017) found that the majority (70% to 80%) of day camp attendees were meeting the recommended levels of moderate to vigorous physical activity during their camp time.

As noted earlier, many communities offer free summer meal programs, because summer is a time of greater food insecurity for low-income children and youth who rely on free and reduced-price lunches during the school year. While there are no studies examining the effectiveness of such programs in promoting physical health, a recent study indicates that there may be an unmet need for these programs. Only 15 percent (3 million students) of the 20 million children who receive free and reduced-price lunches during the school year consistently received free summer lunches during the summer (Anderson et al., 2018).

Mental Health

The committee found no evidence that summer detrimentally effects the mental health of children and youth. Indeed, summer is a time when children and youth with mental health needs can participate in targeted programs that provide them with support.

We found moderate evidence (see Table 4-2) that these targeted programs can be effective in achieving some improved mental health outcomes. The majority of the studies providing this evidence are RCT of small populations of children and youth; at the same time, these programs are not intended to be offered at scale to large numbers of children at one time.

For example, a week-long program for girls with separation anxiety disorder—which provided cognitive behavioral therapy, repeated practice in separating from parents and peers, and opportunities for social interaction—produced moderate evidence of decreasing separation anxiety and increasing global functioning (Santucci and Ehrenreich-May, 2003). A 4-week

TABLE 4-2 Physical and Mental Health: Evidence for Summer Program Effectiveness

Benefits	Evidence Level	Type of Program	Children and Youth Targeted by Studied Program	Sectors Providing Programs
Weight Loss and Improved Blood Pressure and Aerobic Fitness	Suggestive	Residential weight loss	185 overweight treatment children and 94 comparison children (some overweight and some normal weight)	Nonprofit, for-profit
Improved BMI	Suggestive	Nonresidential healthy living curriculum	Migrant children in grades 1–8 (33 comparison and 138 intervention)	Schools, nonprofit
Prevented Weight Gain and Maintained Physical Fitness	Suggestive	Academic summer school	Hispanic high school students (138 students: 70 summer school attendants and 68 non-attendants)	Schools
Reduced Anxiety and Improved Global Functioning	Moderate	Intervention: 1 week-long program providing cognitive behavioral therapy, repeated exposure to separation, and opportunities for social interaction	Children and youth with diagnosed anxiety disorder (29 girls: 15 treatment and 14 control)	Nonprofit, university
Reduced Levels of Depression	Moderate	Intervention: 4-week school-based self-advocacy training program for rising ninth graders with learning disabilities	Youth with disabilities (83 youth: 43 treatment, 40 comparison)	Schools, nonprofit

program providing self-advocacy training among students with learning disabilities reduced depression among participants (Stevens, 2005).

Social and Emotional Development

Summer is a time all agents can use to advance various aspects of children's and youth's social and emotional skills. We found moderate evidence (see Table 4-3) that programs designed to meet the specialized needs of specific groups of children and youth produced social and emotional benefits.

For instance, two studies examined programs that focused on increasing self-advocacy among students with disabilities. The shorter of these, a 1-week program, was found to improve youth self-advocacy skills (Grenwelge and Zhang, 2012), and the longer of these, a 4-week program, improved participants' attributional style (i.e., how one explains the cause of events) and self-esteem (Stevens, 2005). Similarly, we find moderate evidence from a 3-week Canadian therapeutic summer program for children and youth with learning disabilities coupled with social, emotional, or behavioral issues, namely that the program reduced social isolation and improved self-esteem into the next school year (Michalski et al., 2003).

Programs designed for children and youth with social difficulties show moderate evidence of effectiveness in improving social skills (Hektner et al., 2017) and the ability to seek friendship help (Foley-Nicpon et al., 2017). All the specialized programs that were rigorously studied demonstrated moderate or suggestive evidence of effectiveness. It may be that the efficacy of these programs is tied to their intense targeting of populations identified as being in need of such programs. However, as is the case with other types of programs, none of the programs that measured multiple outcomes was effective in producing *all* the outcomes measured.

One study of a voluntary pre-kindergarten (pre-K) academic program for low-income children found moderate evidence that participation in the program aided students with social aspects of their transition to school (Berlin et al., 2011). Another study, which examined the effects of residential camp for overweight children and youth, found suggestive evidence that in addition to reducing participants' weight it resulted in improving their self-esteem (Gately et al., 2005).

There is substantial suggestive evidence that medical camps, such as camps for cancer patients and children with diabetes, can provide social and emotional benefits to participants. For instance, in research reviews of studies of summer camps for cancer patients, authors identify suggestive evidence that the camps improved participants' self-concept, friendship, empathy, quality of life, and emotional well-being (Martiniuk et al., 2014; Packman et al., 2005). For instance, children at a camp for cancer patients described gaining more confidence in social settings and increased engagement with peers:

TABLE 4-3 Social and Emotional Development: Evidence for Summer Program Effectiveness

Benefits	Evidence Level	Type of Program	Children and Youth Targeted by Studied Program	Agents Providing Programs
Improved Social Skills	Moderate	Early Risers: A 6-week program providing social skills training and opportunities to engage in activities with children without social difficulties	Children with social difficulties (80 youth with difficulties: 54 treatment youth and 26 control youth; and 110 well-adjusted youth: 60 treatment and 50 control)	Schools, nonprofits
Improved Ability to Find Friendship Help	Moderate	Social skills training during a talent development program: a university-based 2-week program providing a set of enrichment activities aimed at developing social skills	High-ability children and youth with self-reported social difficulties (43 youth: 34 treatment and 9 comparison)	University
Improved Self-Esteem and Attributional Style	Moderate	Just Do It: A 4-week school-based self-advocacy training program for rising 9th-graders with learning disabilities	Youth with learning disabilities (83 youth: 43 treatment and 40 comparison)	Schools
Improved Ability to Self-Advocate	Moderate	Texas Youth Leadership Forum: A week-long university-based camp that focused on building leadership and self-advocacy skills in youth with disabilities	Youth with disabilities (68 youth: 34 treatment and 34 comparison)	University
Reduced Emotional Lability (exaggerated and intense displays of emotion)	Suggestive	Therapeutic play groups focusing on social competence and self-regulation skills: A 7-week program designed to improve school readiness among foster youth by teaching social skills through therapeutic play groups	Children in foster care (24 youth: 11 treatment and 13 control)	University, nonprofit

continued

TABLE 4-3 Continued

Benefits	Evidence Level	Type of Program	Children and Youth Targeted by Studied Program	Agents Providing Programs
Improved Social Abilities (ability to interpret adults' tone of voice and assertion)	Moderate	Socio-dramatic affective-relational intervention: A 6-week program offering a socio-dramatic affective-relational intervention (SDARI) to improve social skills among youth with Asperger syndrome and high-functioning autism diagnoses	Youth with Asperger syndrome and high-functioning autism diagnoses (17 youth: 9 treatment and 8 comparison)	University, nonprofit
Reduced Social Isolation, Improved Self-Esteem	Moderate	3-week therapeutic camp providing therapeutic and outdoor recreational activities designed to improve social skills, self-confidence, and self-esteem	Children and youth with disabilities coupled with social, emotional, and behavioral problems (48 children and 48 adolescents, pre/post design)	Government (Canadian)
Improved Social Transition to Kindergarten	Suggestive	Voluntary pre-K summer programs	Rising kindergarteners from low-income families (100 youth: 60 treatment, 40 control)	Schools
Improved Self-Esteem	Suggestive	Weight loss camp	Children and youth who are overweight (185 children)	Nonprofit, for-profit
Improved Social Skills, Leadership, Self-Efficacy, Values, Humor, Independence	Suggestive	Recreation program	Children and youth (various pre/poststudies)	Nonprofit, for-profit
Improved Self-Concept, Empathy, and Friendship, Quality of Life, and Emotional Well-Being	Suggestive	Medical camps	Children and youth with medical conditions and siblings of children and youth with medical conditions (various pre/poststudies)	Nonprofit

> I was super nervous and shy 'cause I was bald—being a girl and bald, it does not work that well! But [my mother] made me come and it was the best thing that could have ever happened to me. After I left camp, I wasn't shy. (Gillard and Watts, 2013, p. 893)

In a literature review of camps for burn victims, lasting 2 days to 1 week, authors find qualitative evidence suggesting that burn camp can decrease camper isolation, improve self-esteem, and promote coping and social skills, though the quantitative pre/post studies had mixed findings. (Maslow and Lobato, 2010).

Although they are very popular, summer camps (both day and overnight) are typically not formally evaluated. The American Camp Association (2017) finds that 93 percent of overnight camps target the development of youth social skills, but only 25 percent of them measure social skill outcomes. Pre/post studies suggest that camps offered to all children and youth can be a context for positive, personal development for youth (Garst et al., 2011), especially when programming is intentionally designed to do so (Bialeschki et al., 2007). Participation in camps has led to improved social and emotional competencies, including teamwork and public speaking (Povilaitis and Tamminen, 2018), leadership development (Garton et al., 2007; Thurber et al., 2007), reading self-efficacy (Garst and Ozier, 2015), independence (Allen et al., 2006), and values (Collado et al., 2013).

Academic Learning

Academic learning was the most rigorously studied area of outcomes in the literature we identified. We find evidence of effectiveness for several types of summer academic learning programs, including voluntary programs, mandatory programs, and at-home programs (see Table 4-4). Many of these types of programs have been examined by multiple studies. When this is the case, Table 4-4 reports the highest level of evidence provided by the studies and also indicates, with an asterisk, where there were mixed results from different studies (some having positive findings and others null findings). We note that not all types of academic learning programs have been rigorously studied. For instance, we found no studies of extended school-year programs, likely because school districts are mandated to provide these services to meet the educational needs of students with special needs. Most of the rigorously studied academic learning programs were programs that targeted children and youth from low-income families in an effort to address differential summer learning loss or targeted students performing below grade level to provide academic remediation. We also find evidence of spill-over academic effects in an employment program and an arts program designed for youth in correctional education. Below we

TABLE 4-4 Academic Learning: Evidence for Program Effectiveness

Benefits	Certainty of Benefit	Type of Program	Children and Youth Targeted by Studied Program	Sectors Providing Programs
Improved Reading Achievement Scores	Moderate	Mandatory grade retention program	Children performing far below grade level (2 studies of large urban districts: [1] 57,889 youth in the cohort, with 13% invited to attend the program; [2] analysis sample of 338,608 students)	Schools
	Moderate[a]	Voluntary reading programs	Elementary school children performing below grade level or from low-income families (8 studies with positive, significant findings in multiple contexts, several with large samples of children and youth; 6 studies with no significant findings)	Schools, nonprofits
	Suggestive	Voluntary pre-K program	Pre-K children from low-income families (94 youth from one school district: 46 treatment, 48 comparison)	Schools
	Moderate[a]	Voluntary multi-subject programs	Elementary and middle school children and youth performing below grade level or from low-income families (Multiple studies: 7 studies with positive, significant findings, across multiple contexts, several with large samples of children and youth; 4 studies with no significant findings)	Schools, nonprofits
	Conclusive[a]	Reading at home programs	Children from low-income families (Multiple studies: 4 studies with positive, significant findings across multiple contexts with samples larger than 350 students; 3 studies with null findings)	Schools, universities
Improved Mathematics Achievement Scores	Moderate	Mandatory grade retention program	Children performing far below grade level (analytic sample of 338,608 students)	Schools
	Moderate	Voluntary math program	Middle and high school students performing below grade level (Multiple studies: 4 studies with positive significant findings in different contexts, most with samples larger than 350 students)	Schools, nonprofits

	Suggestive	Mathematics at home	Middle school students (825 youth: 149 treatment, 676 comparison)	Schools, nonprofits
	Conclusive	Voluntary multi-subject programs	Elementary and middle school students performing below grade level or from low-income families (5,637 youth across five school districts: 3,192 treatment, 2,445 control)	Schools, nonprofits
Increased School Year Attendance	Moderate (though only for one cohort studied)	Voluntary STEM program	Middle school students (193 youth)	Schools, nonprofits
Increased Number of English Language Arts Courses Taken	Suggestive	High school credit recovery	English learners (1,140 youth)	Schools
Increased Course Completion	Suggestive	High school bridge program	Ninth-grade youth at risk of dropping out (2,866 youth in six school districts)	Schools
Improved Enjoyment of Academic Learning and Intention for High School Selection	Moderate	Voluntary, multi-subject	Academically motivated, underserved middle school students (423 youth)	Nonprofit
Increased Advanced Test Taking and Test Scores	Conclusive	Youth employment	Youth from low-income families (195,289 youth)	City government
Improved Grades	Suggestive	A 3-week summer-intensive musical theater program intended to increase self-confidence, presentation and commitment skills, and assimilation to school	Youth in correctional education (46 youth: 21 treatment, 25 comparison)	Nonprofit, government

[a]An asterisk is applied wherever the table reports the highest level of evidence provided by the studies and also indicates that there were mixed results from different studies (some having positive findings and others null findings).

describe the research evidence for academic learning outcomes by type of summer program.

Mandatory Academic Programs

Almost all school districts provide summer programs for high school students who have failed to pass a course, and some require elementary or middle school students who are performing far below grade level and are at risk of being retained in grade to attend summer programming. For these programs, participation and successful completion are mandatory to allow these students to move on to the next grade or to the next course. Studies have found moderate certainty of benefits achieved from mandatory summer school programs that provide reading and math instruction to elementary school students, specifically in improving reading (Matsudaira, 2008) and in mathematics achievement (Mariano and Martorell, 2013; Matusdaira, 2008).

While credit recovery programs are prevalent, we identified only two rigorous evaluations of these programs. One study found suggestive evidence that a high school credit recovery program for English learners increased the number of English language arts courses taken by 12th grade, but it found no evidence that the program improved test scores in English language arts, raised the number of math or science courses taken, or improved on-time graduation rates (Johnson, 2017). Another study tested the efficacy of an online Algebra I course as compared with an in-person Algebra I course. This last study found moderate evidence of the effectiveness of in-person courses relative to online courses, as students taking in-person courses had higher algebra assessment scores, grades, and credit recovery rates than online students. However, the mode of the course did not differentially affect longer-term math performance (Heppen et al., 2016).

Voluntary Academic Programs

Some schools, districts, universities, and community partners offer voluntary academic summer programming to children and youth with the intent of improving students' success in school, most often in reading and mathematics. These programs usually target students performing below grade level or low-income students considered at greater risk of academic loss during the summer months.

The content and structure of studied programs vary from one another in the following ways:

- *By grade level*: Some programs targeted certain grade levels (e.g., early elementary, middle grades), while others spanned multiple grade levels (e.g., grades 1–7).

- *By duration*: Some programs were offered for half-days, although most studied programs ran for a full day. Programs ran anywhere from 3 weeks to 6 weeks over the summer.
- *By content*: Some programs focused on one academic subject, others spanned multiple subjects, and many (but not all) included nonacademic enrichment activities (e.g., arts or sports).
- *By curriculum*: Programs tended to have a set curriculum; however, each program offered a different curriculum, and some studies did not describe the curriculum that was used.

Given the variability in programs, study design, and measures, it is unsurprising that in this category some programs demonstrated academic benefits and others did not. We interpret the combined evidence from these studies to suggest that voluntary summer learning programs have the potential to benefit children and youth but are not guaranteed to do so.

There is suggestive evidence that a voluntary pre-K program improved participants' early literacy skills (Edmonds et al., 2009). However, another study of this type of program found no benefits for early literacy or mathematics (Story, 2008).

Studies of voluntary reading programs targeted to students performing below grade level or low-income students provide moderate evidence of benefits in reading achievement (Borman et al., 2009; Schacter and Jo, 2005; Zvoch and Stevens, 2013), while other studied programs provide suggestive evidence of benefits (Cleary, 2002; Luftig, 2003; Waters, 2004). However, a number of studies of reading programs found no benefits for participating children and youth (Dynia et al., 2015; Story, 2008). None of the reading programs that were shorter in duration (e.g., half-day, 3-week programs) was found to be effective.

We found both moderate and suggestive evidence of effective voluntary mathematics programs for middle and high school students (Bowens and Warren, 2016; Stewart, 2017). Additionally, a study of a voluntary STEM program provides suggestive evidence that the middle school youth who participated had stronger attendance in the following school year in one cohort, although those findings were not replicated in other cohorts (Mac Iver and Mac Iver, 2015).

We find evidence that multi-subject voluntary programs can benefit children and youth. There is suggestive evidence that such programs yield benefits in reading and/or mathematics achievement (Betts et al., 2005; Chaplin and Capizzano, 2006; Concentric Research and Evaluation, 2018), although some studies found no evidence of effectiveness (Bakle, 2010). A longitudinal, multidistrict RCT was conducted to evaluate 5-week voluntary learning programs that included academic instruction and enrichment activities. It found conclusive evidence of short-term benefits in mathemat-

ics when children returned to school in the fall, although the initial gains the treatment group experienced in the fall did not persist at the same levels in the spring. The study also provides suggestive evidence that highlights the importance of strong attendance: among students with high attendance, mathematics gains seen in the fall were also found in the spring, when state assessments were done, and among students who attended a second summer those with high attendance outperformed control group students in mathematics and reading in the fall and spring. The quality of instruction (focused on clear instruction, on-task behavior, and teachers' ensuring that all students understood the material) was also correlated with language arts achievement (Augustine et al., 2016).

At-Home Programs

At-home learning programs are compelling options for policy makers and funders because they tend to be lower in cost than in-person programs for helping students gain or maintain academic skills over the summer. We found conclusive and moderate evidence of benefits from this type of program. Only one program focused on mathematics, a 9-week program for middle school students that thematically linked to the Boston Red Sox baseball team and covered key mathematical concepts from the prior school year. This program produced suggestive evidence of benefits in mathematics achievement (Nelson, 2014).

The other type of at-home learning programs studied were reading programs offered to elementary school students. These programs, which provide children with high-interest books at their own reading level, have been provided both through book fairs by sending books directly home to families and through book mobiles that visit rural communities. We have conclusive and moderate evidence of benefits from this type or program, although an equal number of studies of at-home reading programs show no evidence of effectiveness. Effective at-home reading programs for elementary students often occurred over multiple summers (Allington et al., 2010; Stein, 2017) and/or were scaffolded by teachers prior to or during the summer program (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 showed an effect on their state reading scores (Allington et al., 2010). For the Project Reads program, there is evidence of effectiveness for the version of the program in which scaffolded instruction was provided by teachers prior to the summer (Kim and White, 2008; Kim et al., 2016); programs without this scaffolding have not been associated with positive outcomes (Kim, 2006, 2007).

Non-Academic Programs

In addition to providing benefits to youth safety, we find conclusive evidence that New York City's summer youth employment program, which targeted low-income youth, resulted in improved youth engagement with school and participation in and performance on academic assessments (Leos-Urbel et al., 2003; Schwartz et al., 2014). There is also suggestive evidence that youth in correctional education who participated in a 3-week summer theater program had higher overall GPAs than nonparticipants (Coronado, 2000)

RESEARCH-BASED BEST PRACTICES

In sum, the research base demonstrates that summer programming can measurably benefit youth across multiple domains, although it is not guaranteed to do so. Because the overall evidence base is fragmented and not representative of all programs available to children and youth over the summer, it is particularly important to understand what factors increase the quality and effectiveness of summer programs. In the following, we draw out key themes that emerge from the literature we reviewed and the testimony heard by the committee.

Intentional Design to Meet Student Needs and Desired Outcomes

As discussed earlier, programs designed to meet specific students' needs and that link their content to desired student outcomes appear to be particularly successful. For instance, programs designed to address the social and emotional needs of children and youth with disabilities demonstrated moderate or suggestive evidence of effectiveness. This suggests that the efficacy of these programs might be tied to the intentional targeting of the program to a population that has been identified as in need of such a program (McCombs et al., 2019). Similarly, meta-analyses of out-of-school time programs have found that programs designed to enhance students' social and emotional skills were successful in doing so, while programs that were not intentionally addressing these skills tended to be ineffective in improving these skills (Durlak et al., 2011).

Based on testimony provided to the committee, we identified cultural responsiveness as a key component of intentional programming. Programs that are not responsive to students' cultural values, beliefs, and backgrounds are, at a minimum, unlikely to attract and retain youth, and at worst could do harm by inflicting offensive beliefs or actions on students.

In the context of summer, and concerning out-of-school time programs broadly, cultural responsiveness requires considering both the staff practices

that directly influence youth experiences (e.g., behavior management strategies, expectations for youth, and interaction styles) and the organizational structures (e.g., program communications, written rules and policies) that both directly and indirectly influence youth access to and experiences in programs (Simpkins et al., 2017). For example, program structures should connect to content that is relevant to youth's lives in culturally meaningful ways, and in their interactions with youth staff should support opportunities to explore youth's cultural identity. These approaches are relevant for summer experiences as well.

Sustained Attendance

Research also clearly demonstrates that students need to *attend* summer learning programs to benefit from them (Augustine et al., 2016; Borman et al., 2005; Borman and Dowling, 2006; Kilanowski and Gordon, 2015; McCombs et al., 2009). For instance, in a study of an academic voluntary summer learning programs, the authors found that students who attended the summer 2013 program for at least 20 days benefited in mathematics in the fall of 2013 relative to comparison-group students, and those effects persisted through spring 2014. After the summer 2014 program, high attenders outperformed the comparison group in both mathematics and language arts in the fall and spring. These benefits were also demonstrated on state academic assessments in spring (Augustine et al., 2016).

Sufficient Duration

Summer programs should be of sufficient duration to meet the goals established for the program. Duration seems particularly important for academic programs. None of the programs we reviewed that lasted 3 weeks or less resulted in benefits for children and youth. For voluntary academic programs, recent research suggests programs should last at least 5 weeks so that they can provide sufficient content to demonstrably improve student achievement (Augustine et al., 2016). There are also indications that greater benefits accrue across multiple summers of participation (Augustine et al., 2016); for example, a study of Horizons National, a multisummer program, found academic benefits that accrued after multiple summers of participation (Concentric Research and Evaluation, 2018).

INTERNATIONAL EVIDENCE

The committee was also charged with understanding whether there are lessons and examples from other nations that may have implications for the United States. To respond to this charge, the committee commissioned a

paper on international summertime experiences. A review of the published literature highlighted international examples of summertime programming and offered some potentially promising practices and lessons for the United States (see Box 4-2) (Pulizzi, 2019).

Several limitations were noted, however, in the review of this global summertime literature, limitations that also apply to findings from the United States. The international programs that were evaluated were often stand-alone activities and lacked follow-on support (Davies et al., forthcoming). The evaluation time frames typically were short and did not

BOX 4-2
International Lessons for Summer Programming in the United States

- All learners can benefit from summer programs. There are summer programs designed for the gifted and elite as well as programs for learners who are struggling academically and for everyone else in between. Though the nature of the programs may be different, the approach is largely the same, that is, using a flexible curriculum so that the learning experience is adapted to their needs and providing a lot of contact time with mentors and other leaders.
- Students can, and must, take ownership over their own learning. Many programs stressed the importance of empowering learners to understand their choices, whether that concerns what to read at an early age or what career path to choose as an older youth. Many programs also sought to reinforce this life skill through program content and by engaging parents to support and build habits for learning at home.
- Mentors and personal connections can make for a transformative experience. Programs often stressed the importance of providing learners with contact time with mentors and leaders. These relationships were personal and iterative, allowing learners to explore issues and receive guidance at a pace best for them.
- Positive youth development is at the core of summer programs. Positive outcomes in social and emotional learning and life skills were often observed in programs, regardless of their primary objectives. Skills such as communication, relationship building, leadership, empathy, and emotional development were mentioned, often as ancillary aims. This suggests that summer programs could achieve even greater success if designers explicitly embraced these skills and designed more effectively to advance them.
- A distinct setting offers students a useful alternative for learning. Though many programs were informed or guided by the school curriculum, their setting was distinct from the school. Examples of this were programs that took place in a different physical space, such as a community center, or at the school but with a different cadence to the day.

SOURCE: Pulizzi (2019).

extend beyond a single summer, resulting in uncertainty about longer-term outcomes and sustained changes. In addition, the measurement of international program outcomes was frequently pre/post intervention after a single summer experience, and program evaluation designs were generally not structured to account for other factors that could affect the measured outcomes, reducing confidence in causal attributions.

CONCLUSIONS

Based on our review of the outcomes and the best-practice literature, the committee reached a number of conclusions that have implications for policy and practice.

CONCLUSION 4-1: Summer programs can be designed to promote children's and youth's safety, physical and mental health, social and emotional development, and academic learning, but they must be targeted to the needs of participants, have programming linked to desired outcomes, be of sufficient duration, and promote strong attendance.

CONCLUSION 4-2: Summer employment is an important and effective summer experience for middle and late adolescents and is effective in reducing crime and improving academic outcomes.

CONCLUSION 4-3: The research evidence on summer program effectiveness does not represent the totality of experiences and programs available to children and youth over the summer and, therefore, cannot be the *sole* basis upon which to make decisions regarding appropriate programming for children and youth.

CONCLUSION 4-4: Research is needed on the impact of summer programs on the developmental trajectories of children and youth over the course of multiple years. The current literature examines one-off programs but does not address the effect of the multiple experiences children and youth have over the course of their childhood.

CONCLUSION 4-5: Research is needed on different types of programs, replication studies in different contexts, and programs serving underserved populations. This last need includes programs serving children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant or refugee, homeless, system-involved, LGBTQ, and those with special health care or developmental needs.

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5

The Effects of Children's Circumstances on Summertime Experiences

In order to examine the availability and accessibility of summertime experiences for the nation's 56.6 million school-age children and youth (National Center for Education Statistics, 2019), it is helpful to first understand some key characteristics of this population and the settings that shape their experiences throughout the year. In this chapter, therefore, we review the contextual and individual factors that affect their summertime experiences, including family structure, parental influence, and community environments (see Box 5-1).

We first briefly describe the demographic characteristics of where children, youth, and their families live and how these demographic trends are changing. We then examine how community contexts and children's circumstances may affect children's summer experiences, both generally and in connection with such specifics as safety, health, social and emotional development, academic learning, and opportunities for enrichment. Special attention is given to variations around racial, cultural, ethnic, and other individual attributes. This review places emphasis on the concepts of disparity, equity, and multisectoral interactions (i.e., complex social-ecological systems) for understanding the systemic factors that produce and perpetuate inequitable outcomes during the summer.

BOX 5-1
Key Findings

- Access to diverse opportunities during summertime—from unstructured self-directed play and leisure to involvement in structured, organized activities—is influenced by a broad range of factors, including family income, parent work status, family structure, and geography.
- One in seven children from low-income families who are eligible for free and reduced-price lunch during the school year are receiving meals through government Summer Nutrition Programs.
- Some communities are finding success in leveraging their existing resources—such as buildings, transportation, and partnerships with community organizations—to increase access to summer programming.
- Only very limited populationwide data are available about the general pattern of circumstances and experiences that children and youth have during the summertime.

WHERE CHILDREN AND FAMILIES LIVE

According to surveys by the Pew Research Center, for a majority of Americans across community types, living in an area that is a "good place to raise children" is a high priority. About 6 in 10 Americans in urban areas (57%), suburban areas (63%), and rural areas (59%) say it is very important to them, personally, to live in a community that is a good place to raise children. Smaller shares say the same about living in a place with access to recreational and outdoor activities (42% overall), where they have family nearby (38%), and where there is a strong sense of community (27%) (Pew Research Center, 2018a).

Demographic trends for children and families have been shifting in recent years (see Table 5-1), but these changes are manifesting differently in the nation's rural, suburban, and urban communities. In recent decades, the flow from central cities and rural areas to suburban areas has led to

TABLE 5-1 Population (in millions) Living in Urban, Suburban, and Rural Communities, and Changes in Community Sizes, 2000 to 2012–2016

	Population, 2000 (millions)	Population 2012–2016 (millions)	Change (%)	Proportion of Total Population (%)
Urban	87	98	13	31
Suburban	150	175	16	55
Rural	45	46	3	14

SOURCE: Pew Research Center (2018b).

suburbanites now accounting for more than half of the U.S. population (Burdick-Will and Logan, 2017; Lichter and Brown, 2011).

Total populations in rural, suburban, and urban communities are growing (albeit at different rates), but trends for the population under age 18 reveal a different story (see Figure 5-1). Rural populations may have less of the total population than suburban and urban communities, but within rural communities, children and youth under age 18 represent nearly the same proportion of the population—between 22 and 23 percent—as in other county types (Pew Research Center, 2018b). In 2016, about 13.4 million children under age 18, out of a total 74.2 million in the United States, lived in rural areas (Census Bureau, 2016). In recent decades, the flow from central cities and rural areas to suburban areas has led to suburbanites now accounting for more than one-half of the U.S. population (Burdick-Will and Logan, 2017; Lichter and Brown, 2011). Poor and minority families are moving into suburban neighborhoods at increasing rates. By 2008, the poor population in the suburbs was growing faster than in the cities or rural areas. Immigrants are also moving directly into suburban and rural areas (Burdick-Will and Logan, 2017; Ehrenhalt, 2012; Kneebone and Garr, 2010; Lichter and Brown, 2011).

Of the country's 25.8 million elementary public school students, approximately one-half go to school in the suburbs, a little under one-third attend urban schools, and 15 percent attend schools in a rural area. Unsurprisingly, there are stark differences between these groups. Overall, the proportion of White students grows substantially the farther schools are located from the urban core. There is a steep urban-to-rural decrease in Black and Hispanic students and a sharp increase in American Indian students. Free and reduced-price lunch eligibility, on the other hand, is lowest in suburban areas (42.8%), and it is only slightly lower in rural areas (58.0%) than in urban ones (62.5%) (Burdick-Will and Logan, 2017).

Children in poverty still tend to live in rural ("nonmetro") counties—many with persistently high poverty (see Figure 5-2). Child poverty rates

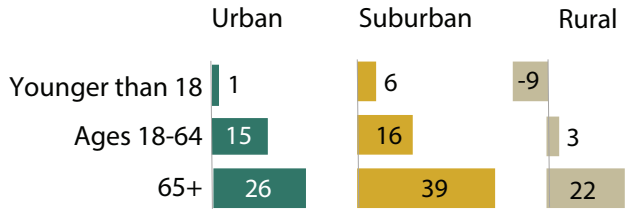

FIGURE 5-1 Percentage change in population, by age group and county type since 2000.
SOURCE: Pew Research Center (2018b).

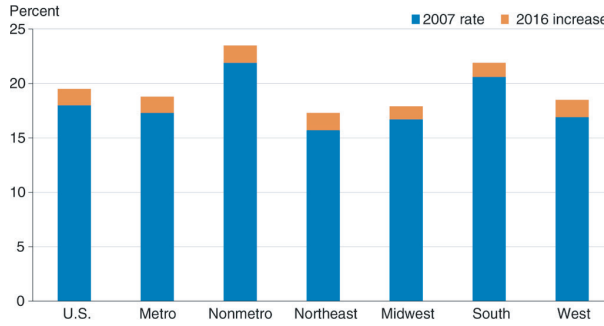

FIGURE 5-2 Child poverty rates are persistently highest in rural counties and in the South.
SOURCE: Farrigan (2018).

continue to be highest in the South and Southwest, particularly in counties with concentrations of Native Americans and along the Mississippi Delta. In 2016, 23.5 percent of rural children were poor, compared with 20.5 of urban (metro) children (Farrigan, 2018).

Across the country, 14 percent of children are now living in high-poverty communities (see Figure 5-3), up from 9 percent in 2000 (Kids Count Data Center, 2017a). Residents of these neighborhoods contend with poorer health, higher rates of crime and violence, poor-performing schools, and limited access to support networks and job opportunities.

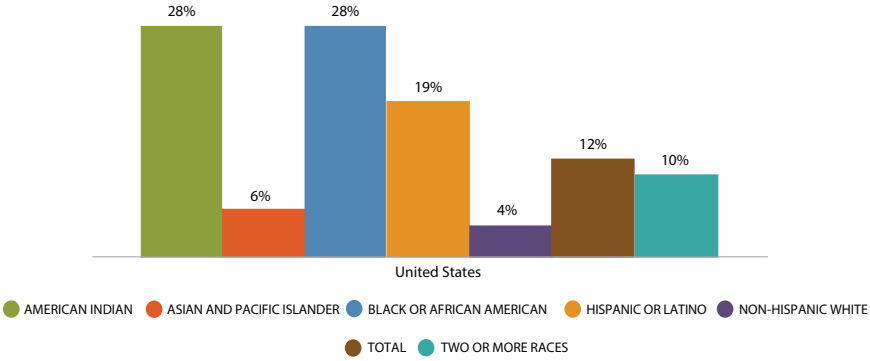

FIGURE 5-3 Children living in areas of concentrated poverty, by race and ethnicity, in the United States, 2013–2017.
NOTE: In this figure, areas of concentrated poverty are defined as those census tracts with overall poverty rates of 30 percent or more.
SOURCE: Kids Count Data Center (2019).

They also experience higher levels of financial instability (Annie E. Casey Foundation, 2018).

The outcomes associated with living in areas of concentrated poverty are well documented and extend to nonpoor as well as poor residents of these communities. These outcomes include diminished school quality and academic achievement; diminished health and health care quality; pervasive joblessness, employment discrimination, and reduced employment networks; increased crime, especially violent crime; declining and poorly maintained housing stock and devaluation of home values; and difficulty building wealth and experiencing economic mobility. Compounding these problems, individuals living in poverty-saturated areas are less likely than others to live in the vicinity of nongovernmental social service organizations, proximity to which is a key factor in service utilization. Poor individuals who live in more-advantaged areas are, in some respects, safeguarded from the most negative impacts of poverty (Meade, 2014).

Disparities in neighborhood environmental conditions among racial and ethnic groups contribute to inequities in health outcomes and economic opportunity for children and youth over the course of their lives (Acevedo-Garcia et al., 2014; Chetty et al., 2016). For example, chronic stress and adversity in childhood, such as chronic exposure to neighborhood violence, poverty, and discrimination, can have negative, persistent, and cumulative effects on neurological, physical, and psychosocial development (Shonkoff et al., 2009). Consequently, improving the economic and safety conditions of neighborhoods where children live could reduce exposure to chronic stress and, in fact, such improvements have been associated with improved health outcomes over the life course for some populations (Chetty et al., 2016; Ludwig et al., 2011). Housing mobility, urban planning, and community development policies may mitigate disparities by supporting healthy community development, access to educational opportunity, access to healthy foods, and safer neighborhoods (Ludwig et al., 2011; Pollack et al., 2014; Thornton et al., 2016).

The Child Opportunity Index is a nationally available population-level measure that looks at the neighborhood environments of children in the 100 largest metropolitan areas in the United States. This index shows the extent of racial/ethnic inequity among children across levels of "neighborhood opportunity"—that is, neighborhood-based conditions and resources that promote healthy child development. Using 19 indicators in three domains of opportunity (educational, health/environmental, and social/economic), this measure focuses on neighborhood factors that impact child development (see Box 5-2). It also provides a window into the context of neighborhood conditions and resources that may affect the availability,

BOX 5-2
The Child Opportunity Index

Educational Opportunities
- School poverty rate (eligibility for free or reduced-price lunch)
- Student math proficiency level
- Student reading proficiency level
- Proximity to licensed early childhood education centers
- Proximity to high-quality early childhood education centers
- Early childhood education participation
- High school graduation rate
- Adult educational attainment

Health and Environmental Opportunities
- Proximity to health care facilities
- Retail healthy food environment index
- Proximity to toxic waste release sites
- Volume of nearby toxic waste release
- Proximity to parks and open spaces
- Housing vacancy rate

Social and Economic Opportunities
- Foreclosure rate
- Poverty rate
- Unemployment rate
- Public assistance rate
- Proximity to employment

SOURCE: Acevedo-Garcia et al. (2014).

quality, and variety of summer opportunities available to children and youth in ways that further exacerbate inequities.

Data from this index demonstrate pervasive inequities across the three domains measured, highlighting the differences in exposure to risk and protective factors that children and youth in the United States encounter. The disproportionately high concentration of Black and Hispanic children in the lowest-opportunity neighborhoods is a pervasive issue across U.S. metropolitan areas, with 40 percent of Black children and 32 percent of Hispanic children living in very-low-opportunity neighborhoods, as compared to 9 percent of White children. This inequity is even more extreme in some metropolitan areas, especially those with high levels of residential segregation (Acevedo-Garcia et al., 2014).

HOW DO COMMUNITY AND FAMILY CONTEXTS AFFECT THE SUMMERTIME EXPERIENCES OF CHILDREN AND YOUTH?

Socioeconomic Status, Family Structure, and Composition

Summertime experiences across youth populations vary by social and economic circumstances, with consequences for children's healthy development that can be long-lasting. American youth have a substantial amount of discretionary time when not in school (Mahoney et al., 2005), yet the summertime experience of many children is not characterized by a healthy balance of structured vs. unstructured and self-directed activities in organized programs with a range of other family, peer, and self-directed experiences (see Chapter 2 more in-depth discussion). Therefore, it is critical to acknowledge factors within a young person's family and environment that can impact their experiences during the summer months. These contextual factors are explored in the section that follows.

There is a high demand for summer programming among families living in rural, urban, and suburban high-poverty neighborhoods. More than 4 in 10 parents living in areas of concentrated poverty (41%) report that their child took part in a summer learning program, a rate that is 8 percentage points higher than the national average (33%) (Afterschool Alliance, 2016). Despite this level of participation, there is considerable unmet demand within these communities. Furthermore, the committee suspects that there may differences in the type and quality of programming available to children living in concentrated poverty and low-opportunity neighborhoods (refer to Box 5-2) such that it is qualitatively different from the programming available to children and families with more economic resources or who live in neighborhoods of opportunity.

Family poverty can harm children's healthy development insofar as it affects access to resources, and "families who occupy different SES niches because of parental education, income, and occupation have strikingly different capacities to purchase safe housing, nutritious meals, high-quality child care, and other opportunities that can foster health, learning, and adaptation" (National Research Council and Institute of Medicine, 2000, p. 268). For example, children in poverty are much more likely than other children (59% vs. 39%) to have a mother who works a non-daytime work shift outside the typical 8 a.m. to 4 p.m. schedule (National Research Council and Institute of Medicine, 2000, p. 273).

Children living in poverty are also likely to have a greater than average need for high-quality summertime experiences that provide opportunities for healthy development, but they may be less likely to have access to such experiences and opportunities as a result of economic barriers. Families with higher incomes spend significantly more on goods and ser-

vices aimed at enriching the experiences of their children than families with lower incomes: in 2005–2006, those in the highest income quintile on average spent $7,000 more than those in the bottom quintile, with the differences most pronounced for activities such as music lessons, travel, and summer camps (Duncan and Murnane, 2011, p. 11). Across the board, families are spending more money on children than they formerly did, measured as a percentage of total income, but high-income families spend more than twice as much, on average, as low-income families. Such differences contribute to significant inequalities in access to summertime opportunities across the income spectrum (McLanahan and Jacobson, 2015).

The average cost of summer programs can be viewed in the context of varying household incomes. For example, the average reported cost of a summer program nationally in 2014 was $288/week (Afterschool Alliance, 2015).[1] According to the 2018 Federal Poverty Guidelines, a family of four living at 100 percent of the poverty level has $25,100 in yearly income or approximately $483/week. As this comparison of the cost of 1 week of summer programs and the weekly income of a family living at poverty level shows, for many families it is virtually impossible to involve their children in a summer program with average costs.

Because so many children in the United States are growing up in poverty, this cost presents a significant barrier to access. Estimates suggests that greater than 30 percent of children in the United States live in poverty or near-poverty (National Academies of Sciences, Engineering, and Medicine, 2019a). This is corroborated by research from the Pew Research Center, which found that approximately 25 percent of parents report barely making ends meet basic expenses, while another 9 percent of parents report being unable to meet their family's basic needs (Pew Research Center, 2015). Many of these parents are included among the working poor—the majority of children in low-income families have at least one parent who is working full time (National Center for Children in Poverty, 2018).

The proportion of children living in single-mother, female-headed households is increasing, and the largest part of this increase is among children in low-income families. These mothers are younger and have lower workforce participation rates than high-income mothers, which further contributes to economic disadvantage (Center for American Progress, 2019). The proportion of children in single-parent households is substantially higher for Black children and American Indian children than for other racial subgroups (Kids Count Data Center, 2017b). Children growing up

[1] A more recent 50-state analysis by the Center for American Progress (Novoa, 2018) estimates that the typical family would pay $3,000 for 5 weeks of summer care for two children.

in single-parent families typically have access to fewer economic resources and less of the valuable time spent with adults than children in two-parent families, where parenting responsibilities can be shared. Other research suggests that children take on more family responsibilities and spend more time on household chores in the summer when they live with single parents (Hofferth and Sandberg, 2001; Ribar, 2015).

Family size too can influence the experiences a child has during the summer months. For example, smaller families may have more resources in both time and money to support summer enrichment or leisure activities, as they have fewer children to support financially; however, in smaller families, children lack siblings with whom they can play (Hofferth and Sandberg, 2001). Other research supports differences in summertime opportunities based on family size. For example, in a nationally representative survey of 1,250 individuals ages 15 or older, Mowen and colleagues (2016) found that respondents with three or more people in their household were more likely to live within walking distance of a park, suggesting that park-based experiences are more available to larger families.

It is also important to note that some children are living outside of their biological or extended family context due to circumstances such as homelessness or foster care placement. Other children are living outside of their homes or in situations separated from their parents as a result of juvenile justice system involvement. These children may be the most at risk of adverse outcomes, and summertime may represent a unique opportunity for targeted programming or intervention; however, there is little existing research on summer-specific experiences of these populations (see Box 5-3).

Parental Involvement

The extent to which parents are involved with their children or value parent involvement is another factor that can influence children's summertime experiences (Gershenson, 2013). Providers of summertime programs for children have highlighted parent engagement as a priority (Garst et al., 2016; Roth, 2018); however, parents may not all view parental involvement in the same way (Lareau and Weininger, 2008). For example, parents from high-income households may be more likely to believe that parental involvement is important for supporting their child's participation in summertime experiences when compared to parents from low-income households (Entwisle et al., 2001).

Employment status may also affect parents' involvement in the summertime experiences of their children. Children of employed parents, particularly employed mothers, are more likely than are children of unemployed mothers to be involved in daycare throughout the year (Hofferth and

BOX 5-3
Children and Youth Involved with the Juvenile Justice or Child Welfare Systems

Children and youth involved with the juvenile justice or child welfare systems have common characteristics that define their family structure, educational background, and overall health. Understanding this context can be helpful in considering what types of needs are most important to address through summer programming.

- Point-in-time estimates in 2017 found that nearly half of all foster children in the country (440,000) lived in the foster homes of non-relatives (U.S. Department of Health and Human Services, 2018). Over 45,000 youth (ages 20 and under) were placed in juvenile residential custody facilities in 2016 due to their involvement in the juvenile justice system.[a] These facilities include shelters, reception/diagnostic centers, group homes, boot camps, ranch/wilderness camps, residential treatment centers, and long-term secure facilities (Puzzanchera et al., 2018).
- Racial/ethnic minority children are overrepresented both in foster care and in the juvenile justice system relative to their share of the population (Child Welfare Information Gateway, 2017; National Academies of Sciences, Engineering, and Medicine, 2019b; National Research Council and Institute of Medicine, 2001).
- Although some youth in the juvenile justice system have interfaced with health care providers in their community on a regular basis, others have had inconsistent or nonexistent care (American Academy of Pediatrics, 2011).
- Among all youth and young adults who come into contact with the juvenile justice system, a large proportion—nearly 7 in 10 (65–70%)—have at least one diagnosable mental health need, and 20 to 25 percent have serious emotional issues. Twenty-seven percent of youth in detention, correctional, and community-based placements experience disorders so severe that their ability to function is highly impaired (Cocozza et al., 2010).
- Additionally, youth in the juvenile justice system also have higher rates of adverse childhood experiences, which researchers have identified as risk factors for chronic disease in adulthood.[b]

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[a]Includes juveniles who are committed, detained, or in diversion. For definitions, see https://www.ojjdp.gov/ojstatbb/ezacjrp/asp/glossary.asp#Placement.

[b]The 10 adverse childhood experiences researchers have identified are: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, violent treatment toward mother, household substance abuse, household mental illness, parental separation or divorce, and having an incarcerated household member; see Baglivio et al. (2014).

Sandberg, 2001). Similarly, employed parents may have fewer opportunities than unemployed parents to spend time in less structured activities with their children, and as a result their children tend to have more structured summers that fit into working parents' schedules (Hofferth and Sandberg, 2001). One might therefore expect children of employed parents to spend more time in structured activities in summertime as well, particularly if their mothers are employed. Other factors, such as parents' language, culture, or immigration status, may also be important considerations that impact children's summertime experiences.

Children in many rural communities experience very limited access to summer programming for a variety of reasons, including difficulty for parents and caregivers to offer supervised time while also working, limited programmatic offerings, and geographic isolation. The isolation of youth is an important recurring problem in the summer for rural youth, who may have very limited contact with adults other than their caregivers. These barriers limit access to many summertime experiences for children and youth in rural communities.[2]

Juvenile and criminal justice system involvement and incarceration also affect parental involvement. Estimates for 2010–2011 indicate that more than 5 million children in the United States experienced the incarceration of a parent (Annie E. Casey Foundation, 2016). Between 1991 and 2007, the number of children whose mothers were incarcerated increased by more than 130 percent (Goshin, 2015). Point-in-time estimates suggest that the mothers of more than 145,000 children are incarcerated in the United States on any given day (Goshin, 2015). Despite similar crime rates, juveniles and adults living in communities of color are far more likely to be incarcerated than their White peers (Child Trends, 2016; National Research Council and Institute of Medicine, 2001; The Sentencing Project, 2017).

Differences in families based on racial, ethnic, and cultural background can also influence the types of summertime experiences in which children engage. For instance, concerning free-time activities, Hofferth and Sandberg (2001) found that Black and Asian children watched much more television than White (non-Hispanic) children. Although research across disciplines related to the outcomes of interest for this report documents or describes differences in specific behaviors or preferences, the extent to which these differences are motivated by intrinsic cultural factors alone is unclear. Further, families from racial and ethnic minority and/or lower-income backgrounds report having less access to high-quality after-school programming (Afterschool Alliance, 2014). This may further increase dispari-

[2]Comments made by Jocelyn Richgels of the Rural Policy Research Institute at a public information-gathering session held by the Committee on Summertime Experiences and Child and Adolescent Education, Health, and Safety on September 19, 2018.

ties in educational and psychosocial outcomes apart from any difference in cultural predisposition

Safety

Three aspects of safety during children's and youth's summertime experiences merit special attention: the role of parental supervision and interaction, the effects of neighborhood environment, and the nature of policing. We discuss these in turn, next.

Parental Supervision and Interaction

The extent to which children are supervised during the summer—a factor closely related to household income—is another major consideration with regard to children's summertime experiences. For example, Redford and colleagues (2018)[3] found that children from poor households (83%) were more likely than children from nonpoor households (70%) to have irregular care and supervision during the summer. In other words, families of children living in poverty had less capacity to provide supervision directly or to connect with other sources of reliable and consistent supervision. Gershenson (2013) found that children from lower-income households spent less time in conversation with their parents and more time watching television in the summer. Specifically, this research found that children in low-income households watched an average of almost 2 more hours of television per day during the summer when compared to children in higher-income households.

Neighborhood Safety

Parents, children, and youth all view neighborhood safety as an important consideration during the summer (Worobey et al., 2013). Although violent crime has been decreasing over the past two decades, crime is still disproportionately concentrated in communities of disadvantage. Children and youth who are exposed to violent crime may experience adverse stress responses, which can raise their risk of suffering future health conditions in adulthood (National Academies of Sciences, Engineering, and Medicine, 2019b).

Both actual and perceived safety within neighborhoods affect how far children venture from home and how they spend their time outdoors (Villanueva et al., 2012; Worobey et al., 2013). Crime, high-volume traffic,

[3]Study of a nationally representative sample of 18,170 children ages 5–6 from 1,310 schools, mentioned in Chapter 2.

and poorly maintained neighborhoods (e.g., litter, broken windows) are among the many neighborhood factors associated with reduced time spent outdoors by people living in lower-income communities (Taylor and Lou, 2011). A study of two low-income neighborhoods in New Orleans looked at the impact of having open and supervised school playgrounds during out-of-school time and summer. The study found that attendance was 84 percent higher at the open and supervised playground compared to the playground without adult supervision. In addition, children who utilized the supervised playground reported less time spent indoors watching television or playing video games (Farley et al., 2006). Another study, which looked at youth in Boston, found that on average playgrounds in areas with greater proportions of youth living in poverty were less safe (Lopez, 2011). In their study of children ages 10–12, Villanueva and colleagues (2012) found that in cases where their parents reported living near a busy road, foot travel by children and youth within their neighborhoods was reduced compared with those not living near a busy road. A 2000 study of children's perceptions of their neighborhoods found that children living in neighborhoods with a high incidence of violence did not feel safe playing outside and had less trust in law enforcement (Farver et al., 2000).

Policing

According to data from the National Longitudinal Survey of Youth, between 15 and 26 percent of American youth have been arrested by age 18 (Brame et al., 2012). An analysis of more recent population-based data from the Fragile Families and Child Wellbeing Study examined contemporary urban teens around their 15th birthday and found that, at this age, police contact is prevalent and that racial/ethnic minority youth, particularly boys, face qualitatively different forms of police contact from that faced by their white counterparts (Geller, 2018). Black, Latinx, and multiracial youth experience significantly more intrusive police encounters, such as frisks, searches, and handcuffing, and have significantly more police contact at school. Key results indicate that approximately 25 percent of boys, including 39 percent of Black boys, report having been stopped by the police.

A recent study by Del Toro and colleagues (2019) found that high rates of contact with law enforcement among Black and Latinx boys as a result of proactive policing was a predictor of decreased psychological well-being with the potential to increase the likelihood of their participation in criminal behaviors—especially when these contacts occurred earlier in life. Delinquent behavior was not a predictor of subsequent police stops by the youth in the study; however, frequent police stops were predictive of increased delinquent behavior resulting from psychological distress among

study participants. Law-abiding youth were not found to have a decreased likelihood of being stopped by police. More work is needed to examine differences in the effects of police contact among youth of different races, as well as youth from marginalized groups beyond racial minorities that have been shown to be heavily policed, such as LGBTQ youth (see Box 5-4) (Mallory et al., 2015) and youth with disabilities (U.S. Department of Education, 2018).

Despite their frequent contact with youth (ages 12–24), law enforcement agents/personnel typically receive little training in how to manage encounters with youth or in adolescent development. The police training that does exist varies widely, ranging from just 2 hours in five states to 20–24 hours in two states (Florida and the District of Columbia) (Thurau, 2013), and it tends to focus on the juvenile legal code rather than on youth development or youth psychology (Thurau, 2009).

Attitudes toward the police generally correlate with the frequency of police contacts, such that those groups that have the most contact with

BOX 5-4
Children and Youth Who Are Gender-Nonconforming and Children and Youth Who Are LGBTQ

LGBTQ youth face a variety of challenges related to the four outcome domains emphasized in this report. They face stigma and discrimination in their communities and sometimes within their families that can undermine health, well-being, development, and safety. A longitudinal study published in *Pediatrics* found that youth who reported identifying as LGB or having same-sex attractions were more likely to be stopped by police, to be expelled from school, or to be arrested and convicted as juveniles and adults (Himmelstein and Brückner, 2011). Recent research shows that transgender youth and transgender youth of color are especially vulnerable to violence and struggle to find protection from law enforcement harassment (Dank et al., 2009; Mallory et al., 2015).

LGBTQ youth are also over-represented in the juvenile justice system. Of the roughly 300,000 gay and transgender youth who are arrested and detained each year, more than half are Black or Latinx (Hunt and Moodie-Mills, 2012). LGBT youth also frequently report that officers presume they are involved in sex work, which exposes them to more serious forms of punishment (Majd et al., 2009). A review of the literature on homeless LGBT youth in New York City documents how youth who received citations for low-level offenses experienced an "upward spiral of consequences," because these youth had no money to pay fines or even the subway fare to get to court. Youth were also exposed to more serious sanctions in criminal and immigration courts. For transient youth, these consequences were identified as barriers to progress toward independent living (Ream and Forge, 2014).

police tend to have less favorable attitudes toward the police, as do students who reported living in less safe neighborhoods or neighborhoods in which crime was a problem (Sanden and Wentz, 2017, p. 420). Although there is much less literature on policing in rural settings, the existing research suggests that youth in small rural and suburban settings tend to have more favorable attitudes toward the police than youth in urban areas (Hardin, 2018).

There is a broad range of potential engagement opportunities for law enforcement interacting with youth in urban neighborhoods that experience a significant police presence that might help improve relationships between communities and police and decrease negative interactions. One approach would be to invest in "buffers and bridges" for youth in these neighborhoods (Jones, 2018). "Buffers" act as intermediaries between the police and young people, while "bridges" facilitate the movement of young people from contexts of violence or over-policing to pro-social community and neighborhood settings. Buffers and bridges should be built for all youth, and especially for those youth most likely to engage in or become victims of violence (Bostic and Buckley, 2012).

Health

Maintaining basic health in the summertime, as during the rest of the year, requires adequate nutrition and adequate physical activity. In this section we look more closely at trends in these areas as well as disparities in access to the resources that make physical activity and a healthy diet possible.

Physical Health

Obesity. In the United States, the percentage of children and adolescents affected by obesity has more than tripled since the 1970s. Data from 2015–2016 show that nearly one in five school-age children and young people (ages 6–19) in the United States has obesity (Centers for Disease Control and Prevention, 2018a). Childhood obesity rates are higher among certain populations, specifically among Hispanic children (26%) and non-Hispanic Black children (22%), as compared to non-Hispanic White children (14%) (Hales et al., 2017). Childhood obesity prevalence also varies by income and education (Ogden et al., 2018). Social and structural factors such as differential access to clean water, violence-free neighborhoods, law enforcement contact and surveillance, safe outdoor play areas, high-quality enrichment activities, adequate healthy food, and other environmental features shape the environments in which children and youth live and can lead to disparities in outcomes.

Physical Activity. Regular physical activity in childhood and adolescence is important for promoting lifelong health and well-being and preventing various health conditions. Less than one-quarter (24%) of children and youth ages 6–17 in the United States participate in 1 hour of physical activity every day (Centers for Disease Control and Prevention, 2018b). Structural factors such as walkability, access to recreational facilities, population density (see Box 5-5) (Ding et al., 2011), and crime rates (Kneeshaw-Price et al., 2015) may also influence time use in ways that impact child outcomes by reducing children's and youth's outdoor physical activity.

Many low-income communities and communities of color lack the features that promote physical activity and can help prevent childhood obesity, such as bike lanes, sidewalks, safe playgrounds, trees, and appeal-

BOX 5-5
Rural Settings and Summertime

Children living in rural areas have higher rates of obesity compared with children living in urban areas (Johnson and Johnson, 2015). Rural areas have fewer safe places to be physically active and fewer places available for physical activity programming (Hansen et al., 2015; Hansen and Hartely, 2015), while at the same time they experience the highest rates of food insecurity (Piontak and Schulman, 2014). This may be due in part to less access to healthy and affordable foods in rural areas (Ko et al., 2018; Pereira et al., 2014; Shikany et al., 2018).

Obesity, lack of physical activity, and poor diet all track into adulthood (Craigie et al., 2011; Singh et al., 2008), and these are associated with chronic illness in adulthood. Interventions have therefore been developed that are aimed at promoting physical activity and healthy diets and at mitigating unhealthy weight gain in children, and many of these are showing success (Dobbins et al, 2013; Ho et al., 2012; Perry et al., 2012; Pozuelo-Carrascosa et al., 2018; van Sluijs et al., 2008, 2011; Waters et al., 2011). However, there has been less focus on interventions specifically designed for the summer, when children are not in school. It is estimated that only one of seven children who are eligible for it actually receive lunch as part of the federal Summer Nutrition Programs, in part due to a lack of available summer programs that could serve as a venue to provide summer meals (Anderson et al., 2018).

There are several strategies that could be applied during the summer months to promote physical activity and healthy eating among rural children and counter the observed decline in physical activity and the accelerated weight gain during the summer. Policy and environmental strategies recommended by the Centers for Disease Control and Prevention in its Common Measures for Obesity Prevention (COCOMO) that have been found to be effective in promoting physical activity in rural areas include increasing opportunities for extracurricular physical activity, improving access to outdoor recreational facilities, enhancing

ing scenery. In addition, lower-income communities and racial and ethnic minorities are less likely than others to have access to such amenities as parks and recreational centers and thus are less likely to be active (Taylor and Lou, 2011). A 2006 study that examined a nationally representative cohort of adolescents found that adolescents from lower-income or racial and ethnic minority neighborhoods were half as likely to live near recreational facilities (either public or private) as other adolescents and that this was associated with decreased physical activity and increased incidence of overweight (Gordon-Larsen et al., 2006).

Population density also affects access to opportunities for physical activity and access to adequate nutrition (refer to Box 5-5). In rural communities, where there may not be enough residents to support new rec-

infrastructure that supports bicycling, and enhancing infrastructure that supports walking (Khan et al., 2009; Umstattd Meyer et al., 2016).

Similarly, two nutrition-related recommended COCOMO strategies that have been found to be effective are to increase the availability of healthier food and beverage choices and restrict the availability of less healthy foods and beverages (Calancie et al., 2015).

There are constraints to implementing environmental and policy interventions in rural communities, such as the small and dispersed population, the lack of a sufficient tax base, the lack of concentration of recreational facility users, the lack of public transportation, and the lack of leadership and human capital (Barnidge et al., 2013; Hansen et al., 2015; Yousefian et al., 2009). Nevertheless, communities have been able to address these challenges by building on existing infrastructure and resources, developing cross-sector partnerships, and using the schools as a central resource (Barnidge et al., 2013; Calancie et al., 2015; Umstattd et al., 2016).

One approach that incorporates the aforementioned strategies is to provide summer physical activity and nutrition programming and meals for children at public school spaces, which are eligible to serve as feeding sites as a part of the Summer Food Services Program (SFSP). Through formal or informal agreements known as shared use or joint use agreements, public school recreational facilities such as indoor gyms and outdoor fields can be used to provide safe and affordable places for summer physical activity programming (Young et al., 2014). Other evidence-based physical activity and/or nutrition programs that would allow for the distribution of meals through the SFSP could also be adapted for a summer program for rural children and youth. Building on existing rural community resources, leveraging cross-sector partnerships, and engaging local community leaders and members in the effort to offer summer programming to rural children could lead to children having a more active summer with healthy meals (Barnidge et al., 2013; Calancie et al., 2015; Umstattd et al., 2016).

SOURCE: Cynthia Perry, memorandum to the committee, January 10, 2019.

reation infrastructure and where there are structural barriers to physical activity, schools are often among the few spaces outside of the home where children and youth can be active. There are opportunities for communities to work together with schools and utilize existing infrastructure and to adapt programs such as Safe Routes to School that fit community needs (Dalton et al., 2011; Safe Routes to School National Partnership, 2015; Young et al., 2014). However, staffing, maintenance, safety concerns, and cost may be barriers to keeping schools available outside of normal school hours for some communities (Cox et al., 2011).

Food Insecurity. Children in the United States are exposed to higher rates of food insecurity than the overall population. In 2016, 18 percent of children under age 18 (more than 13 million children) lived in food-insecure households. Food insecurity is more common in low-income households. Along racial lines, household food insecurity was almost twice as prevalent in 2016 among children in households headed by non-Hispanic Black (26%) or Hispanic (24%) parents than in those headed by non-Hispanic White (13 percent) parents. Additionally, the prevalence of household food insecurity among children was three times as high in households headed by single women as in those headed by married couples (33% and 11%, respectively) (Child Trends Databank, 2018). Food insecurity tends to be more prevalent in households with older children: 18 to 19 percent of households with school-age children (ages 5–17) are food-insecure, compared with 14.5 percent of households with children ages 0–4 (USDA, 2017).

As previously mentioned in this report, children and youth in low-income communities often experience food insecurity during the summer. The U.S. Department of Agriculture's Summer Food Service Program (SFSP), which was created to fill the gap in access to food between school years, provides meals to students to promote their health and well-being. However, SFSP consistently has difficulty meeting the needs of eligible children, serving only one in seven students who receive free and reduced-price lunch during the school year (Food Research & Action Center, 2018). A key barrier to increasing participation in SFSP is insufficient public and private funding for those summer programs that could serve as feeding sites for it as well as providing some form of enrichment. In addition, eligibility criteria for communities to participate in the program require at least half of the children in the area to be low-income. Thus, in areas where poverty is less concentrated or in rural communities, it may be difficult to establish feeding sites (Food Research & Action Center, 2018).

Children with Special Health Care Needs

As of 2016, an estimated 14.2 million children, or 19 percent of all children in the United States, have special health care needs,[4] increasing from 13 percent in 2001. Their needs result from a range of conditions, including Down syndrome, cerebral palsy, and autism. They may require services such as nursing care to live safely at home, therapies to address developmental delays, or mental health counseling. Medicaid and the Children's Health Insurance Program (CHIP) covered about half (48%) of children with special health care needs in 2016 (Musumeci and Foutz, 2018). One in four non-Hispanic Black children and youth have special health care needs, as reported by their parents, which is 5 to 15 percentage points more than any other major racial or ethnic group. A lower percentage of Hispanic children and youth have special health care needs, but the reported prevalence among this group rose between 2009–2010 and 2016, from 11 to 17 percent. Non-Hispanic Asian children and youth were the least likely to have special health care needs, at 10 percent (Child Trends, 2019).

Children and youth with special health care needs have chronic health conditions—physical, mental, and developmental—that require services beyond what most children generally require and have implications for summertime experiences (Family Voices, 2019; McPherson et al., 1998). Despite federal laws protecting children and youth with special health care needs, summer educational programming for them is highly variable. Unlike during the school year, federal laws intended to protect these children (along with children with disabilities) do not insure their right to receive any specific services or programming during the summer. This means that, among other challenges, barriers to physical access for children with physical limitations can limit their access to and participation in certain types of recreational experiences.

Transportation challenges can limit opportunities for children and youth with special health care needs when summer programs lack appropriate equipment for securing wheelchairs or summer recreation destinations are inaccessible to those with physical disabilities. For children with significant nursing or home health needs, the summertime puts additional burdens on caregivers when school is out, which can mean inconsistency in home health caregivers over the summer. For families with limited economic resources or inflexible work hours, these are major concerns and can have detrimental impacts on the social, emotional, and cognitive development of their children and youth with special health care needs.

[4]According to the U.S. Department of Health and Social Services, these children "have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and also require health and related services of a type or amount beyond that required by children generally" (U.S. Department of Health and Human Services, 2019).

For these children, the challenges to accessing high-quality summertime experiences may be exacerbated if they live in rural communities or belong to low-income families, racial/ethnic minority groups, immigrant families, or families that primarily speak a language other than English.

Health Care Disparities

Research into health disparities and health equity has similarly identified a need to address cultural appropriateness and bias in health care. Addressing bias among health and social service professionals has been identified as an important component of comprehensive efforts to address disparities and inequities in health and health care that manifest along racial/ethnic or cultural lines (see Box 5-6) (Betancourt et al., 2005; Dovidio and Fiske, 2012; Institute of Medicine, 2003; Van Ryn and Fu, 2003).

Work in this field increasingly connects health care disparities to social conditions, and persistent disparities for non-White groups in particular (Zimmerman and Anderson, 2019). In an evaluation of 25 years of data from the Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System, Zimmerman and Anderson (2019) looked at health equity across four measures: disparities across income groups; disparities between Black and White populations; correlation of health outcomes with income, race/ethnicity, and gender; and a summary health equity metric. Findings from this study found that despite improvements in the Black-White gap, there has been an overall lack of progress in achieving health equity.

Social and Emotional Development

As discussed in Chapter 3, there is a lack of research on seasonal trajectories of social and emotional learning and skill development. This makes it difficult to pinpoint the specific effects of family and community influences on youth social and emotional learning during the summer months. However, there is some literature from which we can infer how these influences may operate during summertime.

As noted earlier in the report, disparities have been documented in the social and emotional skills that children have when they first enter formal schooling, disparities that track with socioeconomic status and related social conditions (Greenberg and Weissberg, 2018; Halle et al., 2009; Reardon and Portilla, 2016). Thus, it is important to consider how the social conditions related to socioeconomic status may impact social and emotional skill development. As noted previously, the effects of social conditions may be exacerbated in the summer months for youth from communities with higher levels of stressors and fewer opportunities for enriching programs or activities.

BOX 5-6
Children and Youth Who Are American Indian or Alaska Native

American Indian and Alaska Native (AIAN) communities face significant disparities and inequities in health, economic opportunity, and well-being. AIAN communities span rural and urban geographies and experience many of the same deleterious effects of living in poverty as do other children in rural and urban geographies, illustrated by these salient facts:

- The estimated poverty rate among AIAN children, including those who identify as having mixed heritage, is between 27 and 31 percent (based on U.S. Census and American Community Survey data) for the period 2000–2015).
- Among children identifying as AIAN alone, the poverty rate is estimated at 33 to 38 percent over the same time period (Akee and Simeonova, 2017).
- AIAN children are at increased risk of health and behavioral problems, including increased risk of obesity, allergies, asthma, and emotional problems (Akee and Simeonova, 2017).
- A 2017 report by the National Indian Child Welfare Association suggests that AIAN children are disproportionately represented among children in foster care, particularly in states with the largest AIAN populations (Akee and Simeonova, 2017; National Indian Child Welfare Association, 2017).

AIAN populations face particular challenges that stem from their historical context. Communities have experienced intergenerational trauma, including forcible removal from lands and placement of children in federally sponsored boarding schools intended to assimilate them. This exposed children to trauma and abuse that fuels ongoing distrust of Western-style education and may contribute to persistent health inequities (Akee and Simeonova, 2017; Evans-Campbell, 2008).

Though it was not specific to summertime, a 2016 National Academies Workshop on Advancing Health Equity for Native American Youth concluded that programs and interventions to achieve youth health equity in general and behavioral health and substance abuse in particular must center on establishing and maintaining a "solid cultural identity" (National Academies of Sciences, Engineering, and Medicine, 2016).

A 2019 National Academies report on adolescence found that high levels of stress have a negative effect on children's brain development and that children from low-income and minority families are more likely to experience stress than children who are not (National Academies of Sciences, Engineering, and Medicine, 2019b). In addition, the socioeconomic status of parents was found to be a driver of parental stress, which can affect the ability of parents to mitigate the harmful effects of stress for their children. Thus, lower-income parents face not only a limited ability to make mone-

tary investments in their children but also challenges to delivering nonmonetary investments in them, such as quality time and caregiving (National Academies of Sciences, Engineering, and Medicine, 2019a). While social conditions may affect youth's development of social and emotional skills, these skills also have important benefits for youth exposed to trauma and chronic stress, as social and emotional skills can help buffer the negative effects of stress and trauma (The Aspen Institute National Commission on Social, Emotional, and Academic Development, 2019).

At the same time, it is important to keep in mind the ways in which gaps in social and emotional skill development may also reflect cultural bias, an issue raised in Chapter 3. For example, research has documented that teachers view the same behavior differently depending on who is displaying it, with harsher assessments of behavior for Black youth than for White youth (Carter et al., 2017; Gilliam et al., 2016; Okonofua and Eberhardt, 2015). This bias may then be reflected in teacher ratings of social and emotional skills in students, which are often used in studies of social and emotional skills in order to avoid self-report bias. At the same time, there is potential for social and emotional learning (SEL) to address rather than reify existing inequities if cultural issues are taken seriously. Jagers and colleagues (2018) coined the term *transformative SEL* to center issues such as power, privilege, social justice, discrimination, and self-determination within the field. They provide a thoughtful overview of the opportunities for equity to be addressed within core social and emotional competencies.

In their recent review of the evidence on SEL, Greenberg and Weissberg (2018) highlight the importance of a systems-level approach to social and emotional learning. This requires schools to have integrated and developmentally aligned SEL interventions and programs. But it also requires connections between schools, families, and communities to create a more equitable and systemic approach to supporting children and youth's SEL.

Academic Learning and Enrichment

The frequently mentioned "achievement gap," which refers to disparities in educational attainment and outcomes for youth from different social groups, persists. Although some narrowing has occurred over the past few decades in the racial academic achievement gap between Black and White students, disparities have actually widened in educational outcomes between youth from lower-income families and those from higher-income families (Reardon, 2013).

Family Characteristics

A parent's level of education often reflects his or her own academic skills and the emphasis he or she places on academic learning, and therefore children of more educated parents may spend more time on activities such as reading and studying (Hofferth and Sandberg, 2001). Redford and colleagues (2018) found that children whose parents had a high school diploma or less (32%) were more likely to never use a computer for educational purposes during the summer than children whose parents had some postsecondary education (18%) or a bachelor's degree (15%).

Research suggests a family's economic resources also play a major role in the nature of summertime experiences for children. A 2017 RAND report found a growing gap in the amount spent on enrichment between families with higher incomes and those with low incomes (McCombs et al., 2017). The result is that without access to more sustained programming (Huggins, 2012; McCombs et al., 2011), many low-income youth will lose even more ground academically during the summer than their middle-income peers.

Redford and colleagues' (2018) study showed that once children's summertime experiences are categorized, differences emerge based on household poverty status and parents' education (see Table 2-1 in Chapter 2). Although this study accurately represents the influence of household poverty status on children's summertime experience, because it was conducted with children ages 5–6 some experiences may be less likely to be reported than others (such as overnight camp experiences, which are generally unavailable until a child turns age 8 or 9). Redford and colleagues' research found that children from poor (81%) and near-poor households (82%) were less likely to participate in enrichment experiences such as visiting a beach, lake, river, or national park. Similarly, although 64 percent of children visited a zoo or aquarium, only 54 percent of children from poor households did so (for youth in near-poor households, the figure was 66%). In sum, when a child's parents had a high school diploma or less, children were less likely to have access to enrichment opportunities. In the case of summer school, no differences were found based on household poverty status or parent education (Redford et al., 2018).

SUMMARY

The reviews and supporting evidence presented in this chapter provide a compelling case that family structure, parental education and employment, the built environment, community resilience and adaptive capacity, and public safety and law enforcement contact all affect summertime experiences for children and youth. Moreover, these elements interact dynamically and have both immediate and delayed effects on learning, health, and social and emotional development.

Summer-specific data are sparse in many areas, and gaps in knowledge have been identified throughout the chapter. Nevertheless, available data make it clear that opportunities are severely restricted for many children and youth as a consequence of poverty, impoverished neighborhoods, geography, and deficiencies of the built environment. As a consequence of this ecosystem inequity, disparities in health and learning are perpetuated or exacerbated during the summer months for many children and youth. Conversely, strong families abound in disadvantaged and low-income communities, presenting assets that can be leveraged along with systemic and substantial investments to reduce poverty and improve system elements and programming for better outcomes in the health, academic learning, and social and emotional development of our children and youth.

CONCLUSIONS

CONCLUSION 5-1: Communities and families have existing resources and infrastructure that can be leveraged through partnerships to increase access to summer programs for children and youth.

CONCLUSION 5-2: Children who are poor or near-poor or live in geographies of concentrated disadvantage have less access to adequate nutrition and high-quality summertime programming that provide opportunities for healthy development in the summer.

CONCLUSION 5-3: Sources of risk (e.g., racial and ethnic discrimination, special health care needs, LGBTQ+ status, trauma history, justice or child welfare system involvement) can heighten inequities in access to summertime experiences that affect health, development, safety, and learning.

CONCLUSION 5-4: More children could have access to high-quality summer experiences if socioeconomic constraints and systemic obstacles that families face (e.g., limited economic means to devote to summertime activities and competing demands from employers) were reduced.

CONCLUSION 5-5: More research on disparities related to family socioeconomic status, racial/ethnic subgroup, family status, and geography is needed to inform policy initiatives that address inequitable access to quality summer experiences.

CONCLUSION 5-6: More research is needed that specifically examine summertime experiences and their distribution across children and

youth living in different types of family and community contexts, particularly underserved populations (e.g., children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, system-involved, LGBTQ, and those with special health care or developmental needs).

CONCLUSION 5-7: Systems where the state plays an active role of supervision or custodial responsibility for children and youth, including local policing systems and juvenile justice and child welfare systems, have an enhanced obligation to improve their practices by applying positive youth development principles in their interactions with children and youth.

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6

Future Directions for Policy, Practice, and Research

OVERALL CONCLUSIONS FOR POLICY, PRACTICE, AND RESEARCH

The committee has reached seven overall conclusions related to the target outcome domains from our review of the literature and the conclusions reached in Chapters 2 through 5. These cross-cutting conclusions serve as the basis for the committee's nine recommendations related to policy, practice, and research, detailed further below. The seven overall conclusions are these:

CONCLUSION 6-1: Summertime experiences can affect academic, health, social and emotional, and safety outcomes for children and youth, with those in disadvantaged communities at risk for worse outcomes.

CONCLUSION 6-2: There are opportunities for systems and agents to implement innovative new programs and extend effective practices that already exist during the school year into the summer period.

CONCLUSION 6-3: The assets and priorities of communities must be central to the planning, development, design, and evaluation of summertime programs and services.

CONCLUSION 6-4: All children have basic developmental needs, including the need for adequate nutrition and the need for safety, that must be met as a critical precondition for summer programs and services.

CONCLUSION 6-5: Children and youth who live in less advantageous circumstances (e.g., with poverty or food insecurity or in neighborhoods with high incidence of violence, crime, or over-policing) face numerous obstacles in having their needs met across the four developmental domains and in accessing positive summer experiences; these subpopulations require a special focus in the committee's recommendations.

CONCLUSION 6-6: Although there is a robust research literature documenting the impact of summer on academic developmental trajectories, research on the impact of summer on other developmental domains examined by the committee is scarce, leaving many questions about best practices unanswered. This is a priority research need.

CONCLUSION 6-7: Existing data systems do not adequately capture seasonal differences in outcomes in the four domains examined by the committee, making it difficult to fully understand the summertime experiences of children and youth.

RECOMMENDATIONS

Improving Planning, Administration, and Coordination

RECOMMENDATION 1: Local governments (e.g., county, city) should establish a quality management system (QMS)[1] to identify and provide positive developmental summertime experiences for children and youth, experiences that advance academic learning, improve health and well-being, and promote safety and social and emotional development. The QMS process should be specific to summertime and continuous, and it should contain the following six components:

1. **a systematic assessment of existing summertime programs and services;**
2. **a systematic community needs assessment that is inclusive of parents and youth to assess summertime programming and services;**
3. **the identification and prioritization of gaps between current and needed programs and services;**
4. **the development and implementation of plans to address prioritized needs from the summertime community needs assessment;**
5. **the development and measurement of key process indicators and relevant outcomes; and**
6. **a continuous quality improvement process.**

[1]See International Organization for Standardization (2019a, 2019b).

The academic school year is organized and structured to measure, evaluate, and achieve well-defined goals, and school systems use it to integrate supplemental activities such as nutrition, safety, and behavioral health. All the activities that make up the academic school year are attached to agents with ownership and accountability, including school systems, government agencies, and suppliers. In contrast, summertime often lacks designated ownership and planning, administration, and coordination among sectors and agents, resulting in stand-alone, siloed programs and services addressing independently determined needs. This approach sub-optimizes the matching of programs and services to community priorities, the standardization of measurement, and continuous improvements, and in general it undercuts the total potential impact of summertime experiences, programing, and services as investments in children and youth.

Local government has authority in many sectors through its legislative, regulatory, public safety, and health functions. It is best positioned to convene families, youth, community leaders, sectors, and the agents operating in summertime programs and services to establish jointly a system for improving outcomes from summertime activities for children and youth. A QMS is a well-established, formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives, which can help localities coordinate activities in order to meet objectives and continuously improve effectiveness and efficiency (American Society for Quality, 2019). Local governments, the business sector, and the nonprofit sector already have exposure to and experience using QMS, making it a familiar strategy that can be adapted and applied to help improve summertime experiences. Local Governments can co-create plans for assessing needs, eliminating ineffective practices, prioritizing the needs of disadvantaged children and youth, planning and implementing programs, and measuring, evaluating, and continuously improving summertime experiences for children and youth in their communities.

Supporting Conclusions for This Recommendation

CONCLUSION 2-1: Existing summertime programs and services for children and youth are provided by multiple sectors and agents; however, decisions by these sectors and agents on what experiences to provide are made independently and typically with limited or no coordination to optimize the total impact of summertime experiences for children and youth.

CONCLUSION 2-2: Improving the accessibility and availability of summer programs by reducing barriers to equitable participation (e.g., cost, geography, special needs) could help to address the unmet demand that families have for quality summer experiences for their children and improve access to summer nutrition programs.

CONCLUSION 2-3: There is limited comprehensive data on how children and youth spend their summer. Systematic assessments of community needs for summertime experiences and longitudinal studies of unstructured and structured summertime experiences (both in terms of what is being provided as well as what is needed) are needed to identify opportunity gaps and priorities across diverse populations of children and youth.

CONCLUSION 3-2: More research is needed to understand the full impact of summertime experiences on outcomes and trajectories related to child and youth safety, pro- and anti-social, risk-taking, and delinquency-related behaviors; mental health; and social and emotional development. This need is especially great for underserved populations, which have been underrepresented in the research literature to date, including children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, child welfare or justice system involved, and LGBTQ+, as well as those with special health care or developmental needs.

CONCLUSION 4-1: Summer programs can be designed to promote children's and youth's safety, physical and mental health, social and emotional development, and academic learning, but they must be targeted to the needs of participants, have programming linked to desired outcomes, be of sufficient duration, and promote strong attendance.

CONCLUSION 4-4: Research is needed on the impact of summer programs on the developmental trajectories of children and youth over the course of multiple years. The current literature examines one-off programs but does not address the effect of the multiple experiences children and youth have over the course of their childhood.

CONCLUSION 5-1: Communities and families have existing resources and infrastructure that can be leveraged through partnerships to increase access to summer programs for children and youth.

CONCLUSION 6-3: The assets and priorities of communities must be central to the planning, development, design, and evaluation of summertime programs and services.

RECOMMENDATION 2: Foundations and other philanthropic organizations should augment their funding, technology, and in-kind supports to intermediaries that are creating systems, platforms, and communication vehicles for—and promoting promising and effective practices focused on—summertime experiences for children and youth.

The work of intermediaries has been catalyzed and supported largely by foundations and other philanthropic organizations, which provide the funding that allows them to ensure that resources are available to organizations operating summer programs at the local, state, and national levels. Intermediaries play a unique role in out-of-school time systems, which lack the formal organizational structures that public education enjoys, such as school districts. Intermediaries, with foundation and philanthropic support, have evolved to provide the systemic infrastructure, expertise in programmatic areas of interest, and knowledge of community contexts that helps facilitate resource deployment for out-of-school time systems, and as such, summertime experiences. The committee would be remiss to overlook the critical roles intermediaries play in convening, funding, and creating systems of quality implementation and improvement, in aligning professional learning systems for out-of-school time professionals, in evaluation, and in some cases, in advocacy.

Supporting Conclusions for This Recommendation

CONCLUSION 2-7: Intermediaries play an important role in connecting public, private, and nonprofit entities with shared goals, improving efficiencies within partnerships, and supporting children and youth during the summer.

CONCLUSION 2-8: In many communities, intermediaries serve as the central organizing, leadership, fundraising, measurement, and support systems for groups of afterschool, summer, and other youth- and family-serving programs.

CONCLUSION 6-2: There are opportunities for systems and agents to implement innovative new programs and extend effective practices that already exist during the school year into the summer period.

Improving Availability, Access, and Equity

RECOMMENDATION 3: Governors and mayors should convene local public and private employers to leverage and support employer policies, practices, and programs to expand the capacity of and access to quality summertime experiences for children and youth, particularly those in underserved communities.

Employers (i.e., the business community) can offer municipal leaders several potential avenues for cooperative work to expand access to quality summertime experiences for children and youth. These include innovative

public-private partnerships, corporate social responsibility programming, summer employment for adolescents, and human resource policies designed to give their own employees better "work-life balance" (see Chapter 2).

Governments and the business community have a long history of forming public-private partnerships (PPPs) to address issues of common interest and importance, such as leveraging private real estate for public schools (Utt, 2001) and reinventing education in technology through P-TECH (Partnership for Technology Early College High School) (IBM Institute for Business Value, 2018). Corporate social responsibility programs are charged with making a positive social impact in communities, and to date they have been successfully used to provide summertime and academic-year enrichment to youth, particularly in the STEM domain (see Chapter 2, Box 2-5). Human resources policies on flexible work schedules, employee volunteer programs, and work from home or early release during the summer months can all provide opportunities for greater parental involvement or supervision in the summertime experiences of children and youth at home or in their communities.

Supporting Conclusions for This Recommendation

CONCLUSION 2-2: Improving the accessibility and availability of summer programs by reducing barriers to equitable participation (e.g., cost, geography, special needs) could help to address the unmet demand that families have for quality summer experiences for their children and improve access to summer nutrition programs.

CONCLUSION 2-5: The private sector is well positioned to have an impact on summer experiences by employing youth directly and by promoting family-friendly policies and corporate social responsibility initiatives that engage children and youth during the summer months.

CONCLUSION 4-2: Summer employment is an important and effective summer experience for middle and late adolescents and is effective in reducing crime and improving academic outcomes.

CONCLUSION 5-1: Communities and families have existing resources and infrastructure that can be leveraged through partnerships to increase access to summer programs for children and youth.

CONCLUSION 6-5: Children and youth who live in less advantageous circumstances (e.g., with poverty or food insecurity or in neighborhoods with high incidence of violence, crime, or over-policing) face numerous obstacles in having their needs met across the four developmental domains and in accessing positive summer experiences.

RECOMMENDATION 4: Federal and state government agencies should review existing policies and regulations for programs and services for children and youth to enable the continuation during the summer months of school-year funding and resources for effective physical activity, nutrition, obesity prevention, and enrichment programs, particularly those that serve children and youth in poor and underserved communities.

Continued funding and resources beyond the school year would provide city, county, and state school systems the opportunity to extend effective physical activity, nutrition, obesity, and enrichment interventions into the summer and to continue serving high-priority underserved populations of children and youth. The evidence is clear that participation in structured programs during the summer reduces youth problem behavior and promotes positive outcomes (Osgood et al., 2005). Facilitating access to summertime funding for agencies, organizations, and sectors successfully engaging these populations may be a promising approach for more effectively engaging a broad range of youth in meaningful summertime experiences.

Supporting Conclusions for This Recommendation

CONCLUSION 2-2: Improving the accessibility and availability of summer programs by reducing barriers to equitable participation (e.g., cost, geography, special needs) could help to address the unmet demand that families have for quality summer experiences for their children and improve access to summer nutrition programs.

CONCLUSION 3-1: Ensuring optimal nutrition, physical activity, and continuation of effective school-year programs for all children and youth in the summer would reduce health risks related to obesity and food insecurity that children and youth experience in the summer months.

CONCLUSION 5-2: Children who are poor or near-poor or live in geographies of concentrated disadvantage have less access to adequate nutrition and the high-quality summertime programming that provide opportunities for healthy development in the summer.

CONCLUSION 6-1: Summertime experiences can affect academic, health, social and emotional, and safety outcomes for children and youth, with those in disadvantaged communities at risk for worse outcomes.

CONCLUSION 6-2: There are opportunities for systems and agents to implement innovative new programs and expand existing effective practices that exist during the school year into the summer period.

RECOMMENDATION 5: The U.S. Department of Agriculture should work with state and local governments to reduce food insecurity for children and youth during the summer through existing mechanisms by increasing access to the Summer Food Service Program (SFSP), reducing barriers to community eligibility for the SFSP, and expanding the Summer Electronic Benefits Transfer for Children Program.

Food insecurity can impact a child's learning and health outcomes during summertime and is associated with poorer health for children and their family members, lower academic test scores, and suboptimal cognitive development (Beaulieu, 2014; Cook et al., 2006). However, a large percentage of children who receive meals during the academic year do not receive a meal through the SFSP (Food Research Action Center, 2019). In order to expand the reach of this program and increase its utilization, barriers to participation need to be addressed. These barriers include the inability of many children and youth to access summer programs, which often serve as the service delivery point of the SFSP, due to cost or lack of transportation, as well as eligibility requirements that exclude some low-income communities.

In addition to the SFSP, the Department of Agriculture is currently implementing demonstrations of the Summer Electronic Benefits Transfer for Children program (SEBTC) through existing infrastructure built for its Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants and Children (WIC). SEBTC has been shown to have high levels of participation and may be an additional effective means of meeting the nutritional needs of children and youth during the summer.

Supporting Conclusions for This Recommendation

CONCLUSION 2-2: Improving the accessibility and availability of summer programs by reducing barriers to equitable participation (e.g., cost, geography, special needs) could help to address the unmet demand that families have for quality summer experiences for their children and improve access to summer nutrition programs.

CONCLUSION 3-3: The Summer Food Service Program and the Summer Electronic Benefits Transfer for Children Program play crucial roles in reducing food insecurity and increasing access to healthy foods during the summer.

CONCLUSION 5-2: Children who are poor or near-poor or live in geographies of concentrated disadvantage have less access to adequate nutrition and the high-quality summertime programming that provide opportunities for healthy development in the summer.

CONCLUSION 6-1: Summertime experiences can affect academic, health, social and emotional, and safety outcomes, with children and youth in disadvantaged communities at risk for worse outcomes.

CONCLUSION 6-4: All children have basic developmental needs, including the need for adequate nutrition and the need for safety, which must be met as a critical precondition for summer programs and services.

RECOMMENDATION 6: Federal, state, and city officials, in partnership with the private sector, should increase funding for structured summer employment programs in order to serve more adolescents.

Robust studies of city-run summer youth employment programs—which braid city, state, and federal dollars to fund wages for employed youth—show strong results. These programs are an efficient approach to public policy that leverages modest public investment in order to secure private-sector employment experiences for teenagers.

Supporting Conclusions for This Recommendation

CONCLUSION 2-5: The private sector is well positioned to have an impact on summer experiences by employing youth directly and by promoting family-friendly policies and corporate social responsibility initiatives that engage children and youth during the summer months.

CONCLUSION 4-2: Summer employment is an important and effective summer experience for middle and late adolescents and is effective in reducing crime and improving academic outcomes.

RECOMMENDATION 7: Those government agencies (federal, state, and local), nongovernmental organizations (e.g., foundations), and parts of the business community that fund, deliver, or otherwise support summertime experiences for children and youth should target summer programs that

- **focus on underserved children and youth;**
- **target the specific needs of participants;**

- **meet the health and safety requirements of participants in developmentally and culturally appropriate ways;**
- **identify specific outcomes and measurements;**
- **have concrete plans to promote strong attendance; and**
- **are accessible to participants and of sufficient duration to meet desired programming outcomes.**

Summer programs can support the development and well-being of children and youth, but they are not guaranteed to do so (McCombs et al., 2019). To maximize the return on investment, funders should prioritize programs and services that will be highly accessible to participants and are aligned with the factors that make programs effective, including intentional programming designed to meet the developmental and cultural needs of specific populations and desired outcomes, to achieve strong participant attendance, and to be of sufficient duration.

Supporting Conclusions for This Recommendation

CONCLUSION 2-2: Improving the accessibility and availability of summer programs by reducing barriers to equitable participation (e.g., cost, geography, special needs) could help to address the unmet demand that families have for quality summer experiences for their children and improve access to summer nutrition programs.

CONCLUSION 4-1: Summer programs can be designed to promote children's and youth's safety, physical and mental health, social and emotional development, and academic learning, but they must be targeted to the needs of participants, have programming linked to desired outcomes, be of sufficient duration, and promote strong attendance.

CONCLUSION 5-2: Children who are poor or near-poor or live in geographies of concentrated disadvantage have less access to adequate nutrition and high-quality summertime programming that provide opportunities for healthy development in the summer.

CONCLUSION 5-3: Sources of risk (e.g., racial and ethnic discrimination, special health care needs, LGBTQ+ status, trauma history, justice or child welfare system involvement) can heighten inequities in access to summertime experiences that affect health, development, safety, and learning.

CONCLUSION 6-1: Summertime experiences can affect academic, health, social and emotional, and safety outcomes for children and youth, with those in disadvantaged communities at risk for worse outcomes.

CONCLUSION 6-4: All children have basic developmental needs, including the need for adequate nutrition and the need for safety, which must be met as a critical precondition for summer programs and services.

CONCLUSION 6-5: Children and youth who live in less advantageous circumstances (e.g., with poverty or food insecurity or in neighborhoods with high incidence of violence, crime, or over-policing) face numerous obstacles in having their needs met across the four developmental domains and in accessing positive summer experiences.

RECOMMENDATION 8: Government agencies (federal, state, and local) that play an active role in the supervision, detention, or custodial care of children and youth should provide comprehensive developmental (academic, social, emotional), health, and safety programs during the summer period. This programming should consider and respond appropriately to the risks to healthy development, health, and safety that affect children and youth in these circumstances and that disproportionately affect poor, immigrant, homeless, and racial and ethnic minority populations in this group.

For many system-involved children and youth (i.e., those involved in the child welfare or juvenile justice system or under police custody), government agencies are the main providers of supervision, and in some cases they fill the role of custodian. System involvement puts these children and youth at particular risk for decreased access to effective summertime programming, and there are few examples where these government agencies have implemented comprehensive programs and practices that implement positive youth development approaches or meet the developmental needs of those in their care. Research shows that the systems that interact with this population should ensure that their policies and practices are developmentally appropriate, meet health and educational needs, and avoid causing harm. Because many system-involved children and youth are living with family, in foster homes, or in community-based congregate care of some kind rather than in commitment facilities, communities, municipalities, and state agencies should collaborate, design, and make available the programming that these young people need to experience healthy development over the summer.

Providing effective resources, opportunities, and services designed to promote the healthy development of system-involved young people is a cost-effective strategy for promoting long-term public safety. Criminal justice strategies that focus on punishment and incapacitation are counterproductive if the goal is to help young people grow into law-abiding adults.

Supporting Conclusions for This Recommendation

CONCLUSION 2-1: Existing summertime programs and services for children and youth are provided by multiple sectors and agents; however, decisions by these sectors and agents on what experiences to provide are made independently and typically with limited or no coordination to optimize the total impact of summertime experiences for children and youth.

CONCLUSION 2-6: Juvenile justice and child welfare systems do not have a comprehensive approach for system-involved children and youth specific to summertime.

CONCLUSION 5-3: Sources of risk (e.g., racial and ethnic discrimination, special health care needs, LGBTQ+ status, trauma history, justice or child welfare system involvement) can heighten inequities in access to summertime experiences that affect health, development, safety, and learning.

CONCLUSION 5-7: Systems where the state plays an active role of supervision or custodial responsibility for children and youth, including local policing systems and juvenile justice and child welfare systems, have an enhanced obligation to improve their practices by applying positive youth development principles in their interactions with children and youth.

CONCLUSION 6-1: Summertime experiences can affect academic, health, social and emotional, and safety outcomes, with children and youth in disadvantaged communities at risk for worse outcomes.

CONCLUSION 6-5: Children and youth who live in less advantageous circumstances (e.g., with poverty or food insecurity or in neighborhoods with high incidence of violence, crime, or over-policing) face numerous obstacles in having their needs met across the four developmental domains and in accessing positive summer experiences.

Advancing Data Collection and Research

RECOMMENDATION 9: Government agencies (federal, state, and local) and nongovernmental organizations (e.g., foundations) that sponsor surveys and collect data on children and youth that includes the summer months should

- **establish and maintain databases that allow for disaggregation of data by month;**
- **extend academic-year data collection to include the summer months when appropriate to the subject of the data collection; and**
- **share data across systems when possible.**

In its review of the evidence related to the four outcome domains, the committee found multiple instances where data collection that occurred during the school year ceased during the summer months, leaving gaps in the available evidence related to summertime experiences and the effect of summer on developmental growth.

The committee also identified numerous examples of existing datasets where it was not possible to disaggregate data by month or season. Having monthly and/or seasonal data available would make it possible to attain valuable insights into the experiences of children and youth during the summer. Improving and better integrating data sources and systems would help to inform policy, practice, and research. The following are examples at the federal government level where such improved data collection could occur:

- Agencies within the Department of Health and Human Services should ensure that infrastructure exists for monitoring seasonal variations in child/youth health outcomes. This would include the Centers for Disease Control and Prevention creating and maintaining a database for summer-specific morbidity, mortality, behavioral risk factors, and risk-taking behaviors; and at other agencies (e.g., National Institutes of Health; Substance Abuse and Mental Health Services Administration; Administration for Children and Families) establishing and maintaining databases that track summer-specific health and social and emotional well-being outcomes.
- The National Center for Educational Statistics should create and maintain a database that tracks summer-specific academic learning, social and emotional learning, and outcomes.
- The Department of Justice should create and maintain a database that tracks summer-specific youth–police encounters, crime, victimization, and delinquency.

- The Department of Education's 21st Century Community Learning Center (Title IVB) program should update the 21 Annual Performance Reporting (21 APR) System to build on existing data and reporting on summer, including data on participants by type of program, geography, and demographics.

Supporting Conclusions for This Recommendation

CONCLUSION 2-3: There is limited comprehensive data on how children and youth spend their summer. Systematic assessments of community needs for summertime experiences and longitudinal studies of unstructured and structured summertime experiences (both in terms of what is being provided as well as what is needed) are needed to identify opportunity gaps and priorities across diverse populations of children and youth.

CONCLUSION 3-2: More research is needed to understand the full impact of summertime experiences on outcomes and trajectories related to child and youth safety, pro- and anti-social, risk-taking, and delinquency-related behaviors; mental health; and social and emotional development. This need is especially great for underserved populations, which have been underrepresented in the research literature to date, including children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, child welfare or justice system involved, and LGBTQ+, as well as those with special health care or developmental needs.

CONCLUSION 4-4: Research is needed on the impact of summer programs on the developmental trajectories of children and youth over the course of multiple years. The current literature examines one-off programs but does not address the effect of the multiple experiences children and youth have over the course of their childhood.

CONCLUSION 4-5: Research is needed on different types of programs, replication studies in different contexts, and programs serving underserved populations. This last need includes programs serving children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant or refugee, homeless, system-involved, LGBTQ, and those with special health care or developmental needs.

CONCLUSION 5-5: More research on disparities related to family socioeconomic status, racial/ethnic subgroup, family status, and geography is needed to inform policy initiatives that address inequitable access to quality summer experiences.

CONCLUSION 5-6: More research is needed that specifically examines summertime experiences and their distribution across children and youth living in different types of family and community contexts, particularly underserved populations (e.g., children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, system-involved, LGBTQ, and those with special health care or developmental needs).

CONCLUSION 6-1: Summertime experiences can affect academic, health, social and emotional, and safety outcomes, with children and youth in disadvantaged communities at risk for worse outcomes.

CONCLUSION 6-7: Existing data systems do not adequately capture seasonal differences in outcomes in the four domains examined by the committee, making it difficult to fully understand the summertime experiences of children and youth.

In its examination of the evidence, the committee identified existing gaps and specific needs for future research with the potential to inform evidence-based summer programs and practices and to increase understanding of the summertime experiences of children and youth in the United States. These research needs are summarized in Table 6-1.

Supporting Conclusions for Recommended Future Research

CONCLUSION 2-3: There is limited comprehensive data on how children and youth spend their summer. Systematic assessments of community needs for summertime experiences and longitudinal studies of unstructured and structured summertime experiences (both in terms of what is being provided as well as what is needed) are needed to identify opportunity gaps and priorities across diverse populations of children and youth.

CONCLUSION 3-2: More research is needed to understand the full impact of summertime experiences on outcomes and trajectories related to child and youth safety, pro- and anti-social, risk-taking, and delinquency-related behaviors; mental health; and social and emotional development. This need is especially great for underserved populations, which have been underrepresented in the research literature to date, including children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, child welfare or justice system involved, and LGBTQ+, as well as those with special health care or developmental needs.

TABLE 6-1 Research Needs to Inform Evidence-Based Summertime Programs and Practices

General Category	Specific Research Needs
Developmental Trajectories	• Conduct longitudinal studies that examine the effect of different types of summertime experiences over the course of childhood/adolescence and the effect on long-term developmental outcomes for children and youth. • Conduct research on resilience and asset-based approaches to improving developmental outcomes with special attention to underserved populations.
Effectiveness of Programs and Practices	• Examine how participation in summer programs over multiple years affects outcomes for children and youth. • Conduct replication studies to understand how different contexts may change outcomes. • Review existing public/private employer summertime programs for effectiveness and define elements that could be replicated by employers in underserved communities. • Move beyond pre/post program studies to prospective controlled studies, ideally with randomization. • Develop a standardized set of effectiveness metrics for summertime program evaluations. • Understand how supports for parents and caregivers can shape family-based and informal experiences into opportunities for growth across the four areas of well-being. • Conduct studies on how to implement, disseminate, and scale effective programs and practices.
Time Use of Children and Youth	• Conduct longitudinal studies of unstructured and structured summertime experiences. • Expand time-use surveys to differentiate between summertime and other times of the year; to include children living within foster care and juvenile justice settings; to include time use by children and youth under age 15; to differentiate opportunities by agents; and to consider changes in children's technology use and access.
Underserved Populations	• Understand how community, neighborhood, and family contexts affect outcomes for children and youth during the summer. • Conduct research on the characteristics of programs that have been shown to be effective for children and youth from underserved populations. • Understand the needs of system-involved children and youth and policies/practices that can be implemented to meet their developmental needs.

TABLE 6-1 Continued

General Category	Specific Research Needs
Academic Learning and Enrichment	• Conduct research to establish optimal best practices (e.g. dosage, staffing, curriculum, mix of academic and enrichment content) separately and in combination to advance the academic development of children from different backgrounds, at different developmental stages, and in different family and community contexts in targeted academic outcomes. • Conduct research to better understand the summer-related academic learning outcomes and enrichment opportunities for subpopulations of children and youth who are currently underrepresented in the literature, which has focused primarily on the Black-White and low-high socioeconomic status gaps. These populations include but are not limited to children and youth who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, system-involved, LGBTQ+, and those with special health care or developmental needs.
Social and Emotional Development	• Examine seasonal patterns related to the developmental trajectories of social and emotional skills for children and youth. • Identify seasonal trajectories of social and emotional learning for children and youth across grades. • Conduct research to understand the effects of different types of summer experiences on social and emotional skills.
Physical and Mental Health	• Examine best practices for reducing food insecurity for children and youth during the summer. • Conduct research to understand whether there are changes in rates of injury (e.g., motor vehicle injuries, recreational injuries, firearm injuries, self-inflicted injuries) during the summer. • Conduct research on rates and causes of violence (e.g. domestic violence, child/youth homicide and victimization, exposure to neighborhood violence) during the summer. • Examine best practices and supports needed to promote the mental and behavioral health of children and youth during the summer.
Safety, Risk-taking, and Anti-/Pro-Social Behaviors	• Conduct research to understand whether participation in risky behaviors (e.g., smoking and e-cigarette use, underage alcohol consumption, teen pregnancy) changes during the summer. • Conduct research to learn more about effective practices for promoting pro-social behaviors during the summer. • Conduct research to learn more about rates of and circumstances surrounding police contact with youth during the summer.

CONCLUSION 4-4: Research is needed on the impact of summer programs on the developmental trajectories of children and youth over the course of multiple years. The current literature examines one-off programs but does not address the effect of the multiple experiences children and youth have over the course of their childhood.

CONCLUSION 4-5: Research is needed on different types of programs, replication studies in different contexts, and programs serving underserved populations. This last need includes programs serving children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant or refugee, homeless, system-involved, LGBTQ, and those with special health care or developmental needs.

CONCLUSION 5-5: More research on disparities related to family socioeconomic status, racial/ethnic subgroup, family status, and geography is needed to inform policy initiatives that address inequitable access to quality summer experiences.

CONCLUSION 5-6: More research is needed that specifically examines summertime experiences and their distribution across children and youth living in different types of family and community contexts, particularly underserved populations (e.g., children who are American Indian, Alaska Native, Native Hawaiian, Pacific Islander, immigrant, migrant and refugee, homeless, system-involved, LGBTQ, and those with special health care or developmental needs).

CONCLUSION 6-6: Although there is a robust research literature documenting the impact of summer on academic developmental trajectories, research on the impact of summer on other developmental domains examined by the committee is scarce, leaving many questions about best practices unanswered. This is a priority research need.

CONCLUSION 6-7: Existing data systems do not adequately capture seasonal differences in outcomes in the four domains examined by the committee, making it difficult to fully understand the summertime experiences of children and youth.

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Epilogue

Now and in the summertime.
May our work plant the trees, bring the shade that we may never sit under.
Children and summertime months should make us think of laughter and joy.
Not pain and suffering.
Not loneliness, despair
Violence, hunger, and poor health.
May our recommendations fall on receptive ears.
May our conclusions bring us to a greater awareness of the work yet to be done.

—Barbara Medina, Committee Member

Appendix A

Terminology

This report examines how summertime experiences affect school-age children (rising K–12) across four areas of well-being: (1) academic learning and opportunities for enrichment; (2) social and emotional development; (3) physical and mental health and health-promoting behaviors; and (4) safety, risk-taking, and anti- and pro-social behavior. Key terms not explicitly defined in the report narrative are defined in this glossary, along with synonyms used interchangeably. To the extent possible, the report narrative uses these definitions, although the literatures the committee draws on are not always precise or consistent in how the very same terms, and ones closely related, are used. Indeed, often familiar terms are used without explicit definition, relying instead on how they are commonly understood. When reporting content from original sources, we defer to their language usage, noting instances where there might be risk of confusion.

Terms Related to Poverty, Family, Income, and Material Well-Being

Poverty: The Supplemental Poverty Measure (SPM) reflects economic need based on expenses in today's economy (such as child care and transportation) as well as noncash benefits (e.g., SNAP), taxes, and tax credits. The SPM "poverty line" is based on what people generally spend on basic needs (food, clothing, shelter, and utilities), plus a little extra for other expenses such as household supplies. It is based on the low end of costs in the past 5 years. SPM poverty thresholds can be lower or higher than Office of Personnel Management levels because of adjustments made for housing costs.

The breakdowns for levels of poverty are

- near poverty: greater than the poverty line but <150% of the poverty line (some sources use <100%)
- poverty: <100% of the poverty line
- deep poverty: <50% of the poverty line

When contrasted against poverty-level incomes specifically, *low income, lower income, low income families/households, and lower income families/households* all refer to incomes between 100 and 200 percent of the poverty line; otherwise the terms are used more broadly as referencing income below 200 percent of the poverty line.

Family socioeconomic status (SES) or standing: Socioeconomic status, referring to the social standing or class of an individual or group, is typically measured by some combination of education, income, and/or occupational level. There are no generally agreed upon criteria for distinguishing among discrete SES levels. Accordingly, such distinctions connote relative standing, for example, *lower family SES; higher family SES*.

Educational attainment level: The highest degree or the highest level of schooling completed.

Unemployed: All civilians ages 16 and older are classified as unemployed if they (1) were neither "at work" nor "with a job but not at work" during the reference week, and (2) were actively looking for work during the past 4 weeks, and (3) were available to accept a job. Also included as unemployed are civilians who did not work at all during the reference week, were waiting to be called back to a job from which they had been laid off, and were available for work except for temporary illness.

High poverty or concentrated poverty neighborhood: Concentrated poverty describes areas, often census tracts, where a high proportion of residents are poor. Poverty areas are those in which at least 20 percent of residents are poor; extreme or concentrated poverty areas are those in which at least 40 percent of residents are poor. Such areas, neighborhoods, or communities (used interchangeably in this report) often are characterized as *distressed areas* or *areas of concentrated poverty*.

Terms Related to Race/Ethnicity and Nativity:

The U.S. Office of Management and Budget (OMB) identifies five minimum race categories (White, Black or African American, American Indian

or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander). The OMB identifies two minimum ethnicity categories (Hispanic or Latino and Not Hispanic or Latino). OMB considers race and Hispanic origin to be two separate and distinct concepts. Hispanics and Latinos may be of any race.

Hispanic/Latino/Latinx: When referencing census data or statistics or studies that use census data in this report, the committee uses the OMB definition for the terms Hispanic and Latino[1]: A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race. In all other instances, the committee uses the committee uses the term *Latinx* to refer to these groups.

Black or African American: A person having origins in any of the Black racial groups of Africa. It includes people who self-identify as "Black or African American." Persons in the United States of Afro-Caribbean descent often are included in the category Black or African American.

American Indian: An individual who self-identifies as being of American Indian descent. The United States recognizes 42 broad categories of tribes, or tribal groupings for American Indians.

Native or Indigenous Peoples: Persons and communities that self-identify as American Indian, Alaskan, or Hawaiian.

White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes those who self-identify as "White" or "Caucasian."

Nativity status: Refers to whether a person is native or foreign born.

English learners: The federal definition of an English learner (EL)—sometimes referred to as English language learner (ELL) or English as a second language (ESL) student—as articulated in the Elementary and Secondary Education Act of 1965 (ESEA), is currently defined in Section 8101 of ESEA as follows: "The term English Learner, when used with respect to an individual, means an individual—(A) who is aged 3 through 21; (B) who is enrolled or preparing to enroll in an elementary school or secondary school; (C)(i) who was not born in the United States or whose native language is a language other than English; (ii)(I) who is a Native American or Alaska Native, or a native resident of the outlying areas; and (II) who

[1]See https://www.census.gov/topics/population/hispanic-origin/about.html.

comes from an environment where a language other than English has had a significant impact on the individual's level of English language proficiency; or (iii) who is migratory, whose native language is a language other than English, and who comes from an environment where a language other than English is dominant; and (D) whose difficulties in speaking, reading, writing, or understanding the English language may be sufficient to deny the individual—(i) the ability to meet the challenging State academic standards; (ii) the ability to successfully achieve in classrooms where the language of instruction is English; or (iii) the opportunity to participate fully in society. These children are sometimes referred to as English Language Learners (ELL) or English as Second Language students (ESL)."

Immigrant: According to the Department of Homeland Security (DHS), immigrants are foreign-born persons who obtain legal permanent residence in the United States.

Childhood and Youth K–12

Childhood: The American Association for the Advancement of Science (AAAS)[2] distinguishes three periods of growth and human development relevant to this report: early childhood (ages 3–8), middle childhood (ages 9–11), and adolescence (ages 12–18). Some usage distinguishes among early adolescence (under age 14), mid-adolescence (ages 15–17), and late adolescence/early adulthood (ages 18–24).

Early childhood overlaps the preschool, kindergarten, and early elementary school years; middle childhood overlaps the later years of elementary school; adolescence overlaps the typical middle school grade structure (grades 6–8) through high school. This correspondence is only approximate, as are the age boundaries used to distinguish periods of key physical and cognitive developmental milestones.

Youth: The United Nations defines the boundaries of youth as ages 15–24, overlapping late adolescence and early adulthood. A broader construction of youth encompasses the entire range of ages and levels of schooling from grades K–12.

This report reserves the terms *childhood* for grades K–5 and *adolescence/youth* for grades 6–12 unless the literature being referenced uses the more general construction.

[2]See http://sciencenetlinks.com/lessons/growth-stages-1-infancy-and-early-childhood/.

Appendix B

Characteristics of American Camp Association Accredited Day and Overnight Camps in 2016

	Day camps	Overnight camps
Of the 14,000 day and overnight camps in the U.S. . . .	5,600 operate as day camps.	8,400 operate as overnight camps.
Sessions typically last for . . .	8 or more weeks for day camp sessions (39% of all day camps).	1 week or less (29% of all overnight camps) or 7–8 weeks (20% of all overnight camps).
The most common programs offered are . . .	recreational and instructional swimming, arts/crafts, basketball, archery, Ga-Ga ball, baseball/softball, theatre/drama, and soccer.	recreational swimming, arts/crafts, archery, canoeing, camping skills, team-building, hiking, fishing, basketball, leadership training, and challenge/ropes course.
Time spent outdoors is . . .	5–6 hours outdoors daily for 32% of day campers.	5 hours or more outdoors daily for 96% of youth attending overnight camp; and 8 hours daily for 68% of youth attending overnight camp.
Time spent in intense physical activity is . . .	an average of at least 3 hours in intense physical activity daily for 47% of children during day camp.	An average of at least 3 hours in intense physical activity daily for 49% of children during overnight camp.
Most popular activities are . . .	watersports/waterfront programs, field trips, and arts/crafts.	watersports/waterfront programs, archery, and challenge/ropes course.
The program outcomes most likely to be targeted are . . .	development of social and emotional skills, character, and physical activity.	development of social and emotional skills, character, and physical activity.

continued

Continued

	Day camps	Overnight camps
Age		
18 or older	1%	13%
13–17	11%	34%
10–12	31%	37%
6–9	44%	16%
Under 6	13%	1%
Gender		
Female	49%	53%
Male	51%	47%
Race/Ethnicity		
Caucasian/White	68%	72%
Black/African American	12%	10%
Hispanic/Latino	8%	8%
Biracial or multiracial	6%	4%
Asian	6%	3%
Other	1%	1%
Health		
Youth with special health care needs or disabilities (e.g. physical, mental, emotional, cognitive)	13%	20%
Most Common Disability Designations		
Attention-deficit disorder/attention-deficit hyperactivity disorder	35%	25%
Autism spectrum disorders	27%	17%
Food allergies/dietary issues	22%	25%
Asthma/respiratory ailment	21%	17%
Intellectual disabilities	14%	11%
Diabetes	13%	15%
Epilepsy		12%

SOURCE: American Camp Association, *2016 Sites, Facilities, & Programs Study Report: Overnight Camps* (Martinsville, IN: 2017); American Camp Association. *2016 Sites, Facilities, & Programs Study Report: Day Camps* (Martinsville, IN: 2017).

Appendix C

Public Session Agenda

Public Information Gathering Session
September 19, 2018

National Academy of Sciences
500 Fifth Street, NW
Washington, DC

1:00–1:05 pm **Welcome and Goals**

1:05–2:40 pm **PANEL 1: Summertime Experiences of Children and Adolescents in Rural Communities**
Moderator: Barry Garst, Associate Professor, Youth Development Leadership, Clemson University

- **Maeghan Gilmore**, Program Director, Health, Human Services, and Justice, National Association of Counties
- **Jocelyn Richgels**, Director of National Policy Programs, Rural Policy Research Institute
- **Lauren Tingey**, Associate Director, Johns Hopkins Center for American Indian Health
- **Woodie Hughes, Jr.**, Assistant Extension Administrator, State 4-H Program Leader, Fort Valley State University, Cooperative Extension Program

2:40–3:00 pm	**BREAK**
3:00–4:35 pm	**PANEL 2: Engaging the Private Sector to Improve Summertime Experiences** Moderator: Martín Sepúlveda • **Kim Fortunato**, Director of Community Affairs, Campbell Soup; President, Campbell Soup Foundation • **Steve Baskin**, Owner, Camp Champions • **Nathalie Hawkins**, Manager, Safety Communications and Training Content Development, and • **Juli Shaw**, Program Manager, Worldwide Safety & Health, Walt Disney Parks and Resorts
4:35–4:55 pm	**Open Discussion Period**
4:55–5:00 pm	**Closing Remarks and Adjourn**

Appendix D

Authors of Memos Submitted to the Committee

Individuals

Juliette Berg, American Institutes for Research
Subject: Overview of the brain science behind healthy developmental trajectories of children and youth

Shaena Fazal, Esq., Chief of Public Policy, Advocacy and External Communications, and *Carla Benway,* MSW, Chief Strategy Officer, Youth Advocate Programs, Inc.
Subject: Work with young people involved in the child welfare or juvenile justice systems over the summer months

Barry A. Garst, Clemson University, *Linda Ebner Erceg*, Association of Camp Nursing, and *Stuart T. Weinberg*, Vanderbilt University
Subject: Addressing transition of care across youth settings in summertime

Miriam Heyman, PhD, Applied Developmental and Educational Psychology, Senior Program Officer, Ruderman Family Foundation
Subject: Summer programming for youth and adolescents with disabilities

Alicia Sasser Modestino, Associate Professor, Northeastern University
Subject: Employment policies and programs to improve youth outcomes during the summer months

Justin B. Moore, PhD, MS, FACSM, *R. Glenn Weaver,* PhD, and *Michael W. Beets,* PhD, *MPH,* on behalf of Policy to Practice in Youth Programs (www.P2YP.org)
Subject: Policies and programs to improve youth outcomes during the summer months

Cynthia Perry, PhD, FNP, FAHA, Oregon Health and Science University
Subject: Recommendations for strategies to promote rural youth physical activity and healthy eating during summertime

Christopher A. Thurber, PhD, ABPP, FAACP, Psychologist, Instructor and ASAP Coordinator, Counseling & Psychological Services (CAPS), Phillips Exeter Academy
Subject: Summer camp outcomes and homesickness prevention

Jonathan F. Zaff, PhD, *Max Margolius,* and *Anna Skubel,* Boston University
Subject: Youth and summer employment

Organizations

Bethel Youth Facility
Subject: Cultural programming that promotes positive outcomes for youth at Bethel Youth Facility in Bethel, AK

Commonwealth Corporation
Subject: Recommendations related to taking a custom approach to soft skill development in young people ages 16–24 and providing coordinated funding for youth employment and career readiness along a continuum of need

Family Voices, Inc.
Subject: Summertime recreation for children and youth with special health care needs/disabilities

Appendix E

Biosketches of Committee Members and Project Staff

COMMITTEE MEMBERS

Martín-José Sepúlveda (*Chair*) is an IBM fellow, member of the National Academy of Medicine, and CEO of Claraluz LLC, an advisory and project consulting firm specializing in health data, analytics, technology, health, and health systems. In addition to his service on the Board on Children, Youth, and Families (BCYF), Dr. Sepúlveda has participated in numerous committee and roundtable activities within the National Academies, including the Committee on Improving the Health, Safety, and Well-Being of Young Adults. He also serves on several boards outside of the National Academies, including the Board of Overseers of the University of Pennsylvania School of Nursing and the Council on Research for Development. Widely recognized for his contributions in public and population health, private-sector health care, wellness, and health benefits innovation, Dr. Sepúlveda led a private-sector collaboration with clinicians for medical home transformation, leading to the formation of the Patient Centered Primary Care Collaborative. He has also collaborated with multidisciplinary scientists on applied research for multisectoral data analytics related to health in cities, primary care transformation, and human performance in the workplace. Dr. Sepúlveda holds a B.A., magna cum laude, from Yale University, M.P.H. and M.D. degrees from Harvard University, and an Sc.D. from the University of Iowa.

Karl Alexander was most recently executive director of the Thurgood Marshall Alliance (TMA). Dr. Alexander founded TMA, which ran from 2015 to fall 2019, to assist schools in Baltimore that are committed to

economic and racial diversity. He presently holds appointments at Johns Hopkins University as the John Dewey professor emeritus of sociology, and academy professor. He is past president of the Southern Sociological Society, past editor of the journal *Sociology of Education*, and a fellow of the American Educational Research Association. For more than a quarter century, Dr. Alexander and colleague Doris Entwisle directed the Baltimore-based Beginning School Study, which tracked the life progress of 790 Baltimore children from first grade into mature adulthood. He is author of nearly 100 scholarly publications and six books. In addition to his work with the TMA, he serves on the Board of the National Summer Learning Association (NSLA). His studies of summer learning loss in Baltimore have helped bring attention to the problem of "summer slide" among low-income children. With the leadership of NSLA, he is co-editor of *The Summer Slide: What We Know and Can Do About Summer Learning Loss* (Teachers College Press, 2016). Dr. Alexander holds a Ph.D. in sociology from the University of North Carolina at Chapel Hill.

Nisha Botchwey is an associate professor of city and regional planning at the Georgia Institute of Technology and an adjunct professor in Emory University's School of Public Health. She is an expert in health and the built environment, as well as health equity, community engagement, and data dashboards for evidence-based planning and practice. Dr. Botchwey codirects the National Physical Activity Research Center; the Atlanta Neighborhood Quality of Life and Health Dashboard; and the data dashboard for Health, Environment and Livability for Fulton County; and she directs the Built Environment and Public Health Clearinghouse. She has won distinctions, including a National Science Foundation ADVANCE Woman of Excellence Faculty Award and a Rockefeller-Penn Fellowship from the University of Pennsylvania's School of Nursing, and she was nominated as a Changemaker by the White House Council on Women and Girls under President Obama. Dr. Botchwey has also served on the Advisory Committee to the Director for the Centers for Disease Control and Prevention and is a member of the Voices for Healthy Kids Strategic Advisory Committee for the American Heart Association. She holds a B.A. from Harvard University, an M.P.H. from the University of Virginia, and both a master's and a Ph.D. in city and regional planning from the University of Pennsylvania.

Nancy L. Deutsch is professor of research, statistics, and evaluation and applied developmental science at the University of Virginia and the director of Youth-Nex, the University of Virginia Center to Promote Effective Youth Development at the Curry School of Education. She is also affiliated with the Curry School's Youth & Social Innovation Program. Dr. Deutsch's research examines the socio-ecological contexts of adolescent development,

particularly issues related to identity. She has focused on the role of after-school programs and relationships with important adults, and is especially interested in understanding the process of adolescent learning and development as it unfolds within local environments to learn how to create settings that support youth, especially those at risk due to economic or sociocultural factors. In 2017, Dr. Deutsch became editor of the *Journal of Adolescent Research*. She also sits on the editorial boards for *Applied Developmental Science* and *Qualitative Psychology*. In addition to journal articles, she has published two books on youth in after-school programs. Her work has been funded by organizations including the William T. Grant Foundation; the United States Department of Justice, Office of Juvenile Justice and Delinquency Prevention; and the United States Department of Education. She holds a B.A. from Vassar College and a Ph.D. in human development and social policy from Northwestern University.

Joshua Dohan is director of the Youth Advocacy Division (YAD), the juvenile defender branch of Massachusetts' statewide public defender agency, the Committee for Public Counsel Services. Mr. Dohan became a public defender in 1988 and joined the Youth Advocacy Project, the predecessor organization to the Youth Advocacy Division, at its inception in 1992 as its first staff attorney. Using a Positive Youth Development approach, YAD lawyers and social workers work with children and youth in the Massachusetts juvenile justice system to advance their legal and human rights, promote their healthy development, and help them achieve their legal and life goals. YAD also actively partners with other state agencies and community-based organizations to help create safer, healthier communities. YAD has been recognized for excellence in juvenile defense by the National Legal Aid and Defender Association, the National Juvenile Defender Center, the Juvenile Detention Alternative Initiative, the MacArthur Foundation, and others. Mr. Dohan is also president of the board for the Youth Advocacy Foundation, a founding member of the Child Welfare and Juvenile Justice Leadership Forum, and a member of several other boards, including the Community Advisory Board of the Institute on Race and Justice at Northeastern University. He is a former Peace Corps volunteer and holds a B.A. from Harvard College and a J.D. from Northeastern University School of Law.

Barry A. Garst is associate professor of youth development leadership at Clemson University. Dr. Garst's research and professional interests concern the developmental outcomes of youth programs and factors that influence program outcomes, with a particular emphasis on out-of-school time youth settings. A nationally recognized researcher in the area of summer camp experiences, his scholarship has also examined the meaning that youth

and families attribute to nature-based experiences and the impact of these experiences on family functioning. Dr. Garst is currently examining overparenting and parental perceptions of anxiety associated with out-of-school time experiences. He serves on the National Evaluation Advisory Board for After-School All-Stars, the National Advisory Board for the Center for Adolescent Research and Education, and the Healthy Camps Research Committee for the American Camp Association, and he is chair of the research committee for the Association of Camp Nursing. He holds a B.S. from Virginia Tech, an M.S. in recreation administration from Arizona State University, and a Ph.D. in forestry from Virginia Tech.

Sandra Hassink is the medical director of the American Academy of Pediatrics Institute for Healthy Childhood Weight. She has focused her career on preventing and treating obesity in children, an area in which she is an internationally recognized expert. She was the founder of the Nemours Obesity Initiative at Nemours/Alfred I. DuPont Hospital for Children in Wilmington, DE, and past president of the American Academy of Pediatrics. Dr. Hassink has testified before Congress on childhood obesity, food insecurity, and hunger, focusing on supporting the foundations of child health. She was co-principal investigator for the Healthy Active Living for Families project, which promotes active healthy living for parents and families of young children, and was the principal investigator on an Obesity Cluster Grant to develop population health management systems for children with obesity. She has authored numerous articles for pediatricians and parents as well as two books on pediatric obesity and pediatric weight. She holds a master's degree in pastoral care and counseling from Neumann College and an M.D. from Vanderbilt University School of Medicine, and she completed her residency at St. Christopher's Hospital for Children in Philadelphia.

Jennifer McCombs is a senior policy researcher and director of the Behavioral and Policy Sciences Department at RAND. Her research focuses on evaluating the extent to which public policies and programs improve outcomes for at-risk youth. Dr. McCombs is currently leading a five-district longitudinal study of the effectiveness and implementation of voluntary summer learning programs for low-income elementary youth and an evidence review of summer programs. Her studies combine implementation and outcome data to give practitioners and policy makers guidance on how to improve programs and promote student outcomes. Over the course of her career, she has studied the development of systems for out-of-school time programs; ways to improve teacher effectiveness; the implementation and impact of test-based promotion policies; and the effects of federal accountability policies on schools, classrooms, and students. Dr. McCombs holds a Ph.D. in public policy from The George Washington University.

Barbara Medina teaches as an adjunct faculty member for the University of Northern Colorado, Center for Urban Education. Dr. Medina began her career as a classroom teacher, serving K–12 students and educators throughout her career. From her first position as an educator serving students in a rural migrant summer program to her leadership at the Colorado Department of Education as assistant commissioner, she has been actively involved at the district, state, and national levels in the areas of language and literacy for diverse populations. Her work has focused on equity for culturally and linguistically diverse students and their families. During Dr. Medina's 37-year career in public education in Colorado, she served in various roles including coordinator of Secondary-level Second Language Programs in Boulder Valley Schools; professor and chair of the Department of Teacher Education at Adams State University; assistant commissioner of the Colorado Department of Education; director of the Office of Language, Culture, and Equity at the Colorado Department of Education; and director of English Language Acquisition in the Denver Public Schools. Dr. Medina has served on several boards, including CASE (Colorado Association of School Executives and Education Specialists), Diversity and CAES, and CABE (Colorado Association of Bilingual Education). She served two terms on the City of Denver's Denver Human Rights Council and also on its Latino Commission, both mayoral appointments. She holds a Ph.D. in educational policy from the University of Colorado, Boulder.

Deborah Moroney is a managing director at American Institutes for Research (AIR), where she serves as the director of the Youth Development and Supportive Learning Environments practice area. Dr. Moroney's research and practice experience is in social and emotional learning and youth development. The architect of a collaborative method for the design of dual-purpose (improvement and demonstration) evaluation frameworks, she has led numerous projects to explore the factors that influence child and family well-being. She works with national multisite programs, including the YMCA of the USA and the Boy Scouts of America, and she is the principal investigator for a number of city and statewide evaluations, including those for the Partnership for Children and Youth in California and School's Out New York City. Dr. Moroney is also a member of the Afterschool Technical Assistance Collaborative for the C. S. Mott Foundation's statewide afterschool networks. She serves on the publications committee of the *Journal of Youth Development,* is a reviewer for journals including *Afterschool Matters,* and has authored numerous chapters and publications on social and emotional development and assessment, including social and emotional learning in out-of-school time. Prior to joining AIR, Dr. Moroney was a clinical faculty member

in educational psychology at the University of Illinois at Chicago in the Youth Development Graduate Program. She holds a Ph.D. and M.Ed. from the University of Illinois at Chicago.

Chris Smith is president and executive director of Boston After School & Beyond (Boston Beyond), an organization that expands learning and skill development opportunities for students by mobilizing partnerships among program providers, philanthropy, business and higher education, the Boston Public Schools, and the City of Boston. Over the past two decades, Mr. Smith has created, scaled, and led cross-sector partnerships in education and workforce development. Under his leadership, Boston Beyond has developed a nationally recognized model of summer learning that improves student outcomes, built a citywide program performance measurement system, and cultivated a network of 230 programs serving more than 18,000 students. Previously, Mr. Smith worked at the Boston Private Industry Council, where he collaborated both with business leaders, to integrate work and learning in order to help thousands of students graduate, and with legislative leaders to address the dropout rate in Massachusetts. He began his career at the United States Department of Education, where he coordinated partnerships for the Secretary of Education. Mr. Smith holds a B.A. in American studies from Trinity College and an M.B.A. from Babson College in Wellesley, MA.

Rachel L. J. Thornton is associate professor of pediatrics at Johns Hopkins University in the Division of General Pediatrics and Adolescent Medicine. Dr. Thornton is a board-certified pediatrician and public health researcher who previously served as a health policy advisor to the United States Department of Housing and Urban Development and worked on the National Prevention Strategy and Implementation Plan, which had the goal of having people live longer, healthier, and more productive lives. Her policy work addresses "health in all policies," with an emphasis on housing, community development, and urban planning policy. Her research focuses on childhood obesity and cardiovascular disease risk, health disparities, and social determinants of health. An expert in racial/ethnic disparities in health and health care, Dr. Thornton's scholarship informs the development of novel interventions to eliminate health disparities by addressing individual-, family-, and community-level factors that contribute to disparities in child and adolescent obesity and cardiovascular disease risk. She holds an M.D. from Johns Hopkins School of Medicine and a Ph.D. in health policy and management from the Johns Hopkins Bloomberg School of Public Health. She received additional fellowship and postdoctoral training in behavioral aspects of cardiovascular disease and general academic pediatrics and later in public policy as a White House Fellow.

PROJECT STAFF

Rebekah Hutton (*Study Director*) is a program officer with the Board on Children, Youth, and Families. Previously, she was as an education management and information technology consultant and worked on projects in the United States as well as Haiti, Equatorial Guinea, and Djibouti. She has also worked as a program manager and researcher at the National Center on Performance Incentives at Vanderbilt University, studying whether teacher pay for performance has measurable impact on student outcomes, and as an English language lecturer in Tourcoing, France. She holds a master's degree in international education policy and management from Vanderbilt University and a bachelor's degree in French language and literature from the University of Tennessee.

Priyanka Nalamada is an associate program officer with the Board on Children, Youth, and Families at the National Academies of Sciences, Engineering, and Medicine. Upon completing a congressional internship, she joined the National Academies and worked for a number of years in its Health and Medicine Division. Her work involves research and project management in the areas of public health and education. Her past work focused on a range of global health issues including public-private partnerships in low- and middle-income countries, medical device donations in low-resource settings, and the role of multinational companies in health literacy. She holds a bachelor's degree in political science from Bryn Mawr College.

Stacey Smit serves as a senior program assistant with the Board on Children, Youth, and Families, supporting consensus studies on the board. In the past, she has supported the Executive Office of the Division of Behavioral and Social Science and Education with the following: the Decadal Survey of Social and Behavioral Sciences for Applications to National Security; the Committee on the Use of Economic Evidence to Inform Investments in Children, Youth, and Families; the Committee on Supporting the Parents of Young Children; the Forum on Children's Cognitive, Affective, and Behavioral Health; and the Committee on Increasing Capacity for Reducing Bullying and Its Impact on the Lifecourse of Youth Involved. She holds a B.A. in sociology from the University of Maryland, College Park.

BOARD ON CHILDREN, YOUTH, AND FAMILIES

The Board on Children, Youth, and Families (BCYF) is a nongovernmental, scientific body within the National Academies of Sciences, Engineering, and Medicine that advances the health, learning, development, resilience, and well-being of all children, youth, and families. The board convenes top experts from multiple disciplines to analyze the best available evidence on critical issues facing children, youth, and families. Our ability to evaluate research simultaneously from the perspectives of the biological, behavioral, health, and social sciences allows us to shed light on innovative and influential solutions to inform the nation. Our range of methods—from rapidly convened workshops to consensus reports and forum activities—allows us to respond with the timeliness and depth required to make the largest possible impact on the health and well-being of children, youth, and their families throughout the entire lifecycle. BCYF publications provide independent analyses of the science and go through a rigorous external peer-review process.