Summer Learning in Pittsburgh
Exploring Programming Gaps and Opportunities

Catherine H. Augustine and Lindsey E. Thompson

**Key findings**

- Low-income students tend to lose more ground academically during summer months than their higher-income peers.
- In the 2015–2016 school year in Pittsburgh, there were academic achievement gaps associated with race and income.
- High-quality summer programs can produce persisting gains in student achievement if they can garner high attendance and provide high dosage.
- Many parents are interested in sending their children to summer programs with academic components, especially if they also provide enrichment activities.
- Few Pittsburgh summer programs provided transportation in 2016, highlighting the need to consider program capacity by neighborhood.
- Program costs varied considerably, and subsidies or scholarships may not be available for all who need them.
- Only 26 percent of programs offered through Summer16 provided academic instruction and spanned at least five weeks.
- Programs were not offered uniformly throughout neighborhoods.

Throughout the United States, middle- and high-income students consistently score higher than their low-income peers on language arts and mathematics assessments (U.S. Department of Education, 2015). Part of this disparity stems from learning trajectories over the summer; low-income students’ learning falls behind that of their more-affluent peers during the summer months (Augustine et al., 2016). This might be because low-income children generally have fewer opportunities for academic, cultural, athletic, and other stimulating activities during the summer than these peers.

Summer programs can promote student achievement when they contain academic components, and these programs can also provide students with enrichment experiences that might be otherwise unavailable to them. Indeed, past research has found that summer learning programs can benefit students (Jacob and Lefgren, 2004; Borman, Benson, and Overman, 2005; Schacter and Jo, 2005; Chaplin and Capizzano, 2006; Matsudaira, 2008; Borman, Goetz, and Dowling, 2009; McCombs, Kirby, and Mariano, 2009; Augustine et al., 2016) and potentially mitigate the gap between low-income students and their higher-income peers.

Pittsburgh has its fair share of low-income, low-performing youth. According to U.S. Census Bureau estimates for 2015, approximately one-third of all school-age youth in Pittsburgh, or 11,000 youth, live below the poverty line (see Table 1). However, this figure might undercount the number of youth for whom cost is a significant barrier to summer program access. Pennsylvania allows districts to identify students as economically disadvantaged through a process called direct certification. During the 2015–2016 school year, the district—Pittsburgh Public Schools (PPS)—identified 62 percent of its students, a total of 15,000 youth, as economically disadvantaged. It is safe to say that 11,000 to 15,000 youth living in Pittsburgh may be considered low income and thus might benefit from free or highly subsidized summer programs.
PPS students also scored lower than the state average in every elementary grade in both mathematics and reading in the 2015–2016 school year, as well as on the Keystone Exam (a standardized test that is a state-required component of high school graduation) (Pennsylvania Department of Education, 2015–2016a; Pennsylvania Department of Education, 2015–2016b). Economically disadvantaged students in PPS had lower levels of proficiency on the state assessments for both mathematics and English language arts (ELA) in the 2015–2016 school year than the district average (see Figure 1), and white PPS students outperformed black students. In addition to PPS students lagging behind the state in terms of mathematics and reading performance, low-income and black PPS students performed worse than their higher-income or white peers, respectively, in all subjects and at all grade levels. Thus, both economically disadvantaged and black students stand to benefit from free or highly subsidized summer programs that are academically focused.

**Table 1. Number and percentage of Pittsburgh residents living below the poverty line in 2015 and PPS students qualifying as economically disadvantaged in 2015**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Total</th>
<th>Number Living Below Poverty Line</th>
<th>Percentage Living Below Poverty Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population of Pittsburgh</td>
<td>305,928</td>
<td>64,921</td>
<td>23</td>
</tr>
<tr>
<td>Population of school-age youth</td>
<td>33,538</td>
<td>11,101</td>
<td>33</td>
</tr>
<tr>
<td>Measure</td>
<td>Total</td>
<td>Number Qualifying as Economically Disadvantaged</td>
<td>Percentage Qualifying as Economically Disadvantaged</td>
</tr>
<tr>
<td>Students enrolled in PPS</td>
<td>24,190</td>
<td>14,990</td>
<td>62</td>
</tr>
</tbody>
</table>

**SOURCES:** U.S. Census Bureau, 2015; Pennsylvania Department of Education, undated.

**NOTE:** We estimated the number of Pittsburgh residents living below the poverty line based on the percentage of the population living below the poverty line and the number of people in the total population.

![Figure 1. Percentage of students proficient or advanced on standardized tests in PPS and in Pennsylvania](image)
STUDY OVERVIEW
This report investigates summer program opportunities in Pittsburgh, focusing on free or low-cost programs that provide academic instruction. We provide recommendations for the Jack Buncher Foundation and other Pittsburgh organizations looking to support these summer learning opportunities.

The following four research questions guided this exploratory study of the availability and reach of current academically focused summer programming in Pittsburgh for low-income youth:

1. How many academically focused summer programs serve low-income youth living in Pittsburgh?
2. What proportion of low-income youth living in Pittsburgh could have participated in an academically focused summer program in 2016?
3. Where are there gaps in academically focused summer programming in Pittsburgh?
4. How could new investments improve academically focused summer opportunities for low-income youth in Pittsburgh?

Data and Methods

Data for this report are from five sources: summer program information collected by Allegheny Partners for Out-of-School Time (APOST); interviews with state, county, city, nonprofit, and district employees involved in local summer programming; state-level data on PSSA scores reported by the Pennsylvania Department of Education (2015–2016a, 2015–2016b); responses to a 2013 RAND-administered survey by a subset of PPS students who applied to participate in the National Summer Learning Project (NSLP); and demographic information from the 2010 U.S. Census data and the 2015 American Community Survey (ACS) estimates (see Table 2).

APost Summer Learning Data

To examine summer program offerings in Pittsburgh in 2016, we consulted a database created by APOST. APOST has been collecting information about summer and afterschool providers in Allegheny County for the past several years. While it is not a comprehensive list of all summer programs in the county, APOST representatives reported that they have captured most programs available to low-income youth. APOST actively sought out these programs, and program providers were incentivized to list their programs because of the free advertising they would receive. The list for 2016 contained information about more than 500 summer opportunities in the county, including academic programs, summer day and overnight camps, reading days at the library, open swim sessions at local parks, fitness events, and tutoring centers with summer hours.

We identified programs within the city limit lasting more than one day (excluding such events as movies in the park, swim lessons, and festivals). There were 242 of these programs, run by the school district, city, county, various community-based organizations, and some local universities.

Table 2. Overview of data sources

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Use</th>
<th>Assumptions and Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 APOST summer learning data</td>
<td>• Analyze summer program offerings • Create maps of summer programs</td>
<td>• Incomplete data on summer programs</td>
</tr>
<tr>
<td>Interviews in 2015 and 2016</td>
<td>• Describe Pittsburgh’s summer programming landscape • Describe gaps in summer program coverage</td>
<td>• Relies on interviewees’ perceptions</td>
</tr>
<tr>
<td>2015–2016 PPS achievement data</td>
<td>• Determine academic need for summer programs among city youth</td>
<td>• No achievement data available for students not enrolled in PPS</td>
</tr>
<tr>
<td>2013 NSLP PPS survey results</td>
<td>• Speculate about demand for additional academically focused summer programming in Pittsburgh</td>
<td>• Small and dated sample is not representative of all Pittsburgh youth</td>
</tr>
<tr>
<td>2010 U.S. Census and 2015 ACS estimates</td>
<td>• Describe the population and demographics of city neighborhoods</td>
<td>• Potentially underestimates the number of school-age low-income youth</td>
</tr>
</tbody>
</table>
For each program, we obtained the following information:

- program and agency name
- contact information and address
- description of the program
- membership in APOST’s Quality Campaign
- program type and focus areas
- fees and subsidies
- eligibility and age range of participants
- dosage (e.g., start and end times, days of the week, and number of weeks offered)
- number of slots
- services provided (e.g., drop-in services, transportation, and food).

We categorized and organized these programs by location, program focus, and age group served. We used Microsoft Excel to generate tables and sort programs, and we used the geocoding functionality of ArcGIS, a geographic information system software, to produce maps of the locations of these programs. These data allowed us to better understand the geographical distribution of programs and their accessibility across the city.

Information in APOST’s summer program database was largely self-reported and based on simple “yes” or “no” statements. Although many programs provided complete data to APOST for inclusion in the database, some fields were often blank. For example, of the 242 Pittsburgh programs we identified, 17 percent provided no information about fees, 26 percent provided no information about transportation, and 58 percent did not provide information about the number of youth they could serve. The occurrence of missing data serves as a limitation to our analyses.

2015–2016 PPS Achievement Data
To determine the need for summer learning programs in the city, we examined 2015–2016 PPS achievement data. We consulted two sources: the A+ Schools 2016 Report to the Community on Public School Progress in Pittsburgh (A+ Schools, 2016) and state-level data on PSSA, Keystone, and PASA scores reported by the Pennsylvania Department of Education as part of required federal reporting. Specifically, we accessed the publicly available district- and state-level data on rates of proficiency at each grade level in each subject and overall (Pennsylvania Department of Education, 2015–2016a; Pennsylvania Department of Education, 2015–2016b). We do not, however, have student achievement data for the 33 percent of students in the city who do not attend PPS.

NSLP PPS Survey Results
We also looked at how some rising fourth grade students in PPS answered one NSLP survey question. We looked at students who had applied to a district summer learning program, Summer Dreamers Academy (SDA), in 2013, but were not admitted. Just fewer than 200 unadmitted students responded to the fall 2013 survey. We examined student responses to the question shown in Figure 2 to determine whether the students who were not admitted ended up attending another camp or summer school.

2010 Census and 2015 American Community Survey Estimates
To further explore the need for summer programming in the city, we examined population and poverty data. We accessed citywide and zip code–level data from the 2015 ACS (U.S. Census Bureau, 2015) estimates to determine the following:
In examining poverty levels, we chose to rely on ACS data, rather than on district data about economic disadvantage, because we do not have the addresses of students who qualify as economically disadvantaged.

While city-level characteristics are limited to Pittsburgh, zip code–level data include some residents of other municipalities in Allegheny County because some zip codes in the region span multiple cities or towns. Thus, when we discuss areas with higher rates of child poverty or large populations of youth, we are describing areas based on zip codes that intersect with city limits, recognizing that not everyone who lives within these zip codes resides in Pittsburgh.

**Limitations**

This is an exploratory study, and it has several limitations. First, we did not receive complete data on available slots in some summer programs listed in the APOST database. For the purposes of our analyses, we assigned a capacity of 55 students to programs missing this information, which represents the approximate median capacity for summer programs included in our analyses. Second, it is unlikely that the APOST database includes every summer learning program in Pittsburgh. According to APOST, there are some programs that have chosen not to submit their information. For example, a private club may provide summer programs only to paying members and therefore choose not to be listed on a public website. However, APOST reported that it had collected data on most programs that were free or low-cost and available or targeted to low-income youth in the city. Third, some of our information about gaps in summer program coverage in the city, access to programs by low-income families, existing summer programs, and city initiatives come from interview data. While many of the questions we asked requested factual information, the data reported ultimately rely on the perceptions of the interviewees. Fourth, because of the way the U.S. Census Bureau reports youth data, we estimate the number of school-age students by considering only youth ages five to 17. This potentially leaves out 18- and 19-year-old high school students and may include some young children who are not yet participating in kindergarten classes. Fifth, the survey of PPS students was administered to a small sample of fourth graders in 2013; it is not representative of all youth in the city. But we included these data as one piece of evidence that there might be unmet demand in Pittsburgh for academically focused summer programs. However, this is still a hypothesis. Finally, we might overestimate access to academically focused summer programs by low-income city youth for the following reasons:

• We used the number of youth living below the poverty line in 2015 as our definition of low-income youth, which underestimates the number of families who may be considered low-income by other measures (including those identified as economically disadvantaged by the district and the state).

• We relied on self-reported program focus areas. This means that we do not know the extent to which all programs in our sample provided instruction in academic subjects or, if they did, used a rigorous curriculum taught by qualified teachers.

• We attempted to identify high-dosage programs in Pittsburgh as defined by NSLP research, which concluded that students benefited from at least three hours of academic instruction a day for at least five weeks. Although we know the number of hours academic programs ran each day, we do not know how many hours of academic instruction were provided within the operating hours. We may therefore be overestimating the amount of time youth were engaged in academics.

• We assumed that all program enrollment slots were accessible to low-income students, when, realistically, low-income students would have competed for slots with higher-income youth in the city.

**Figure 2. 2013 student survey question**

<table>
<thead>
<tr>
<th>Question Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) This last summer, I went to camp or summer school . . .</td>
</tr>
<tr>
<td>☐ I did not want to go to camp or summer school</td>
</tr>
<tr>
<td>☐ Went for a few days</td>
</tr>
<tr>
<td>☐ For one week</td>
</tr>
<tr>
<td>☐ For two weeks</td>
</tr>
<tr>
<td>☐ For three weeks</td>
</tr>
<tr>
<td>☐ For at least one month</td>
</tr>
</tbody>
</table>

**SOURCE:** Administered by RAND as part of The Wallace Foundation’s National Summer Learning Project (see Augustine et al., 2016).
About This Report
In the subsequent sections, we examine summer programs in Pittsburgh during summer 2016. We start by describing the summer programming landscape in the city, followed by a description of the academically focused summer programs that were available in 2016. Then, we estimate how many youth had access to these academically focused summer programs. In the concluding section, we identify summer programming needs in the city and make recommendations to address them.

SUMMER PROGRAMMING IN PITTSBURGH
In this section, we describe the summer programs offered in Pittsburgh in 2016 to provide context. We then review prior research on what constitutes a quality academic summer program. We end this section by mapping such academic programs in the city to determine how many slots might have been available to low-income youth, as well as how many of these programs provided transportation and were either free or offered subsidies.

Summer Programs in Pittsburgh in 2016
Because of dedicated nonprofit, community-based organizations; strong school district leadership; committed members of city and county government; and the continued investments of local and national grant-makers, organizations in Pittsburgh have provided academic support and enrichment experiences during the summer for many years. In summer 2016, the mayor’s office launched Summer16—a coordinated effort to develop and publish an online program directory to connect families to citywide summer program opportunities for children and teenagers. Several types of organizations, including the City of Pittsburgh, the public library system, the school district, universities, nonprofits, and faith organizations, offered programs advertised through the city campaign. The campaign was developed to publicize opportunities for all families in the region, regardless of family income.

It is unlikely that all youth in the city could access each of the programs listed in this database. Program fees might have served as one barrier. A majority of summer programs in the Summer16 database (191) reported whether they charged participation fees for their 2016 summer programs. Of these, 77 (40 percent) did—yet more than half (56 percent) of these programs also provided scholarships or subsidies. We do not know the cost for every program, but we found wide variation in program costs based on current online information for a few summer programs on offer in 2017. For example, a summer program hosted by the YMCA in Pittsburgh costs approximately $15 per week and runs for ten weeks (YMCA of Greater Pittsburgh, undated), but a full-day weeklong program run by Carnegie Museums of Pittsburgh costs between $250 and $325 per student (Carnegie Museums of Pittsburgh, undated).

While many of the programs offer subsides and scholarships, we do not know the extent to which these are available or how much of the participation fees they cover. Although we lack comprehensive price data, it seems likely that the cost of some programs may be a significant barrier for many low-income families.

Interviewees also described lack of transportation as a limit to program participation. Of the programs in the database that provided information about transportation, only 17 percent provided free transportation to or from participants’ homes in 2016, and our interviewees did not see many viable alternatives to getting students to sites. Interviewees lamented the lack of accessible and safe public transportation options in the city, describing the city bus system as unable to provide direct access from a child’s home to most programs.

We therefore present opportunities by highlighting their locations alongside areas of poverty in the city (Figure 3). The 242 on-site program opportunities listed in the Summer16 database in Pittsburgh reached many areas of the city, as shown in the figure. The shaded regions of the map represent the ten city zip codes that have above-average rates of youth living in poverty. While not all regions were equally covered by these summer programming opportunities, it is clear that Summer16 programs were accessible to many city youth. However, interviewees described the southern and western sections of the city as particularly lacking in summer programs, and our map confirms these geographic gaps. Moreover, these programs were not all academic in nature. We turn next to examining the supply of academically focused summer programming, after we define what we mean by this term.

Indicators of Quality Academic Summer Programming
High-quality summer learning programs with academic instruction can raise student achievement on tests given in the following fall and, for some students, in the subsequent spring.
In a recent study, students who continued to benefit from these programs throughout the school year attended summer programs at high rates (at least 20 days of the five- or six-week programs), received high dosage of approximately 25 hours of mathematics and 35 hours of reading instruction over the course of the program, and had effective ELA teachers in summer classes (Augustine et al., 2016). These teachers were certified as elementary school teachers and were using a standardized, structured academic curriculum.

In the programs RAND evaluated in the NSLP study (Augustine et al., 2016), students attended (on average) 74 percent of the time. Programs needed to run for at least 25 days to provide sufficient dosages of academic instruction for students to realize persistent academic benefits. Based on these NSLP findings, we attempted to identify programs in Pittsburgh that focused on academics, had high student attendance rates, ran for at least 25 days, and employed effective teachers.

To identify programs with academic components, we referenced the self-reported focus area of summer programs in the APOST database. We considered any program advertised as “academic and educational enrichment” or “education/academic support” to be academically focused.

We reviewed other data in the APOST database to approximate measures for attendance, dosage, and instructional quality. The database was not designed to contain data on student attendance, hours of academic instruction, teacher qualifications, or instructional practices. Although APOST has the Quality Campaign, in which member programs commit to continuous self-assessment and improvement processes, which might be perceived as a proxy for quality, campaign membership does not guarantee quality instruction.

We approximated high dosage from other program data, including days per week and the number of weeks that programs operated, as well as daily start and end times. From these data, we were able to calculate the number of hours per day and the number of days during the summer each program operated. We defined high-dosage academic programs as those with a self-reported academic focus operating for a minimum of three hours a day (in total, not just for academics) for at least 25 days in the summer. We are likely overestimating the number of
high-dosage, academic summer programs in Pittsburgh for a number of reasons, including that three-hour programs might not be spending all of that time on academics.

High-Dosage Academic Programs in Pittsburgh

Access to a multitude of free recreational programs is important to communities and youth for a variety of reasons, but we are interested specifically in how many Pittsburgh children and teenagers had access to summer learning programs that could potentially improve school-year student achievement. Of the 242 summer on-site programs we identified in Pittsburgh that lasted more than one day, we identified 63 high-dosage academic summer programs in the city; their locations are highlighted in Figure 4.

These 63 high-dosage academic programs were run by 24 different organizations. Many of these program providers ran multiple sites, with one agency managing 12 within the city limits. These providers used various approaches to academic programming. For example, Higher Achievement is a college-preparatory program for middle school students that operated in three school sites over a six-week period. Students received instruction in mathematics, literature, social studies, and science each week, as well as enrichment time and Friday field trips (Higher Achievement, undated). Alternatively, the CitiCamps run by Pittsburgh’s CitiParks were located at recreation centers and described as “fun-filled” and exploratory. Students in CitiCamps participated in project-based academic instruction through gardening projects, arts and crafts, and science experiments (Citiparks, undated). Both of these programs met our definition of high dosage and self-identified as having an academic focus.

However, more than half of these 63 programs charged a fee, although most also provided scholarships or subsidies to encourage low-income participants to enroll. We cannot determine from the available data the proportion of program costs covered by these scholarships or subsidies or the proportion of children they could support. For families living at or below the poverty line, it is likely that any fee might serve as a barrier to participation.

Figure 4. High-dosage academic summer program opportunities in Pittsburgh in 2016

SOURCE: Data from APOST and U.S. Census Bureau, 2015.
NOTES: The dark-green shaded regions represent the ten zip codes where, on average, the proportion of youth living in poverty is greater than the overall average (33 percent) for Pittsburgh youth; the light-green regions are the remaining zip codes in the city; and the yellow regions are the portions of the high-poverty zip codes that are outside Pittsburgh’s city limits (depicted by the dotted line). Each dot represents a summer program site, which might host multiple programs.
A second potential barrier is that only 20 percent of the high-dosage academic programs in 2016 provided transportation to or from the program sites. Of those that did, for many it was only for students who lived more than a specified distance from the program or for students in certain neighborhoods.

**HOW MANY YOUTH COULD HIGH-DOSAGE ACADEMIC PROGRAMS HAVE SERVED?**

We turn now to the number of spaces available in these high-dosage academic summer programs in Pittsburgh. We consider total spaces but also highlight neighborhoods and age groups that may be underserved. We conclude this section by speculating about parent demand for high-dosage academic programs.

As described earlier, Pittsburgh had approximately 11,000 youth living below the poverty line in 2015 (e.g., in households of four making less than $24,250 annually). Although it is unlikely that children living below the poverty line would fill all of the openings in the high-dosage academic programs, for this study’s purposes, we assumed that programs would only serve these students. Recall that the school district would identify a larger share of city youth as low-income per the state’s direct certification, so our capacity estimates may instead be conservative. However, it is also the case that not every low-income student needs or would benefit from an academic summer program.

As shown in Table 3, we estimate that the 63 high-dosage academic summer programs had the capacity to serve approximately 6,300 children, more than half of Pittsburgh youth living in poverty. Because some slots in these programs were likely to be filled by higher-income youth or might be unaffordable and only 20 percent of these programs provided transportation, it is likely that fewer than half of low-income youth could actually access these high-dosage academic summer programs.

**Gaps by Neighborhood**

We identified ten zip codes in Pittsburgh—according to 2015 ACS survey data (U.S. Census Bureau, 2015)—that have higher percentages of youth living in poverty, on average, than the overall city average (see Figures 3 and 4). Because there are poverty-based academic achievement gaps among PPS students, it is likely that lower-performing students live in areas of the city with higher rates of youth poverty. We also assumed that transportation is a barrier and that most of these low-income youth would need to attend programs near their homes. Thus, we identified high-dosage academic summer programs located within each of the ten high-poverty zip code areas.

Table 4 provides specific details about the number and percentage of youth in poverty living in each zip code area, the proportion identifying as black or African American, the number of slots in high-dosage academic programs in each of those zip code areas in 2016, and the percentage of low-income youth that could have been served by these fairly local summer learning programs. Moreover, all of the high-dosage academic programs are free or provide some kind of subsidy or scholarship in all but two zip code areas: 15219 and 15213 (including, e.g., the Hill District and Oakland).

As Table 4 demonstrates, it appears that some neighborhoods have sufficient opportunities for low-income families. The zip code encompassing the Hill District (zip code 15219) stands out as the area with the highest percentage of youth living in poverty (64 percent). More than half of the residents in the Hill District identify as black or African American as well (recall that there are also academic achievement gaps by race among PPS students). However, we estimate that high-dosage academic programs here had the capacity in 2016 to serve more low-income children than actually lived in the area (1,400 slots for 743 youth). This depth of service could be due to the work of such organizations as the Hill House, which has provided support for programs and outreach in five strategic areas, including early learning and child development and youth

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Number of Programs</th>
<th>Program Slots</th>
<th>Percentage of All School-Age Youth Who Could Be Served by Programs</th>
<th>Percentage of Low-Income School-Age Youth Who Could Be Served by Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer 2016 programs</td>
<td>242</td>
<td>15,393</td>
<td>46</td>
<td>139</td>
</tr>
<tr>
<td>High-dosage academic summer programs</td>
<td>63</td>
<td>6,372</td>
<td>19</td>
<td>57</td>
</tr>
</tbody>
</table>

SOURCE: Population and poverty data provided by the U.S. Census Bureau, 2015.
services (Hill House Association, undated). Youth living in Oakland (zip code 15213) also had access to a number of programs; we estimate that it had nearly double the slots needed to provide programming to low-income youth in summer 2016. Oakland benefits from the presence of two major universities, both of which provided summer programming opportunities. One important similarity in these two neighborhoods is that fewer than half of the programs offered were free, and at least one program in each neighborhood did not provide subsidies or scholarships. Thus, although available, some of these programs might not have been affordable to low-income families.

In most of the high-poverty zip code areas in Pittsburgh, there were fewer program slots per low-income youth than the city average of 57 percent. These neighborhoods also tend to have a larger percentage of the population identifying as black or African American than in Pittsburgh generally, which may point to academic need, given the gaps we see in achievement between black and white students (as well as between low- and higher-income students) in PPS. Three neighborhoods in particular stand out.

First, the Bloomfield and Garfield neighborhoods (zip code 15224) had no high-dosage academic programs listed in the APOST database, meaning the almost 400 youth living in poverty (and 800 youth overall) would have had to attend programs outside their neighborhoods if they wanted academic support over the summer. In fact, there was only one program

<table>
<thead>
<tr>
<th>Zip Code</th>
<th>Examples of Neighborhoods in Zip Code</th>
<th>Number of Youth Living in Poverty</th>
<th>Percentage of Youth Living in Poverty</th>
<th>Percentage of Population Identifying as Black or African American</th>
<th>Number of High-Dosage Academic Program Slots</th>
<th>Percentage of Youth in Poverty Who Could Be Served by Programs in Their Zip Code Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>All of Pittsburgh</td>
<td></td>
<td>11,101</td>
<td>33.1</td>
<td>25</td>
<td>6,327</td>
<td>57</td>
</tr>
<tr>
<td>15224</td>
<td>Bloomfield, Garfield</td>
<td>375</td>
<td>46.8</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15210</td>
<td>Knoxville, Beltzhoover, Arlington</td>
<td>2,170</td>
<td>43.9</td>
<td>30</td>
<td>220</td>
<td>10</td>
</tr>
<tr>
<td>15214</td>
<td>North Side, Perry</td>
<td>915</td>
<td>39.8</td>
<td>38</td>
<td>103</td>
<td>11</td>
</tr>
<tr>
<td>15204</td>
<td>Sheraden, Esplen</td>
<td>673</td>
<td>42.5</td>
<td>43</td>
<td>140</td>
<td>21</td>
</tr>
<tr>
<td>15221</td>
<td>Homewood, Brushton, East Hills</td>
<td>1,369</td>
<td>33.6</td>
<td>47</td>
<td>320</td>
<td>23</td>
</tr>
<tr>
<td>15201</td>
<td>Lawrenceville, Stanton Heights</td>
<td>515</td>
<td>39.2</td>
<td>22</td>
<td>155</td>
<td>30</td>
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<tr>
<td>15208</td>
<td>Homewood, Point Breeze</td>
<td>615</td>
<td>40.9</td>
<td>63</td>
<td>200</td>
<td>33</td>
</tr>
<tr>
<td>15212</td>
<td>North Side, Allegheny</td>
<td>1,304</td>
<td>38.2</td>
<td>29</td>
<td>1,095</td>
<td>84</td>
</tr>
<tr>
<td>15219</td>
<td>Uptown, Hill District</td>
<td>743</td>
<td>64.1</td>
<td>52</td>
<td>1,400</td>
<td>188</td>
</tr>
<tr>
<td>15213</td>
<td>Oakland, Bellefield</td>
<td>252</td>
<td>34.5</td>
<td>12</td>
<td>478</td>
<td>190</td>
</tr>
</tbody>
</table>

NOTE: Number living below the poverty line is an estimate calculated from the total population and the percentage of the population living below the poverty line.
in the APOST database—the Beverly Jewel Wall Lovelace program at Garfield Heights (United Way, undated)—that provided more than 25 days of programming in the region (but without an academic focus), and it was only accessible to students who lived in public housing communities. With almost half of youth living below the poverty line, these neighborhoods might benefit from increased access to academically focused summer programming.

Second, the Knoxville-Beltzhoover-Arlington area (zip code 15210), on the south side of the city, is home to the largest number of youth (2,170) living in poverty of all the zip code areas intersecting with city limits. As seen in Table 4, this area also has the third-highest rate of youth living in poverty, and almost one-third of the residents of the region identify as black or African American. High-dosage academic summer programs in this zip code area could only have served 10 percent of the region’s low-income youth in 2016. These neighborhoods had the fewest number of available slots for summer programming generally among the identified high-poverty zip code areas, with space in any of the local summer programs for only 20 percent of its youth overall. Only one of the four high-dosage academic programs listed in the APOST database in this area was free: the YouthPlaces program offered at the Warrington Recreation Center (YouthPlaces, undated). While the other three programs offered some kind of scholarship or subsidy, the extent is unknown. This area might also benefit from additional programming.

Finally, the upper part of the North Side (zip code 15214) had space in high-dosage academic programs for only 11 percent of its 915 youth living in poverty. We identified two high-dosage academic programs in this region, and neither was free, although both offered subsidies or scholarships. One interviewee described this neighborhood as underserved. She noted that the lower part of the North Side (zip code 15212) had so many programs and that the upper part “tended to be forgotten.” But because of lack of transportation, the programs nearer to the river may not be accessible to the students living just a few miles north, in neighborhoods such as Perry. In fact, only one high-dosage academic program in either zip code area provided transportation.

Gaps by Age

Interviewees reported that there are not enough summer programs in Pittsburgh for middle school students (ages 12 to 15) and preschool-age children. Middle school students, according to one interviewee, are difficult to attract to summer programs because they are old enough to stay home by themselves and highly motivated by their peers’ activities. One provider whose program focused on middle school students said that there was a lack of engaging and interesting programs that addressed the specific needs of middle school students: a safe space; rigorous academics; and engaging, age-appropriate enrichment. Because many providers offered programs for wide bands of ages (e.g., children ages seven to 15), we were unable to further explore this observation with our data. In terms of preschoolers, organizers of the Summer16 campaign recognized that they had mainly focused on children ages five and older—as does our analysis—and thus did not solicit participation of those programs targeted to younger students. Although many preschools are open year-round, interviewees noted that some students age out of them in the spring prior to their kindergarten year and need care during that summer.

Parent Demand for New Summer Programs

Parents appear to value academically focused summer programs. For example, each of five school districts participating in the NSLP, funded by The Wallace Foundation and including PPS, received more applications from parents for its summer learning program than the district had the capacity to accept. Focus groups conducted as part of the NSLP found that parents’ motivation to enroll their children in summer programs was based on “the [program’s] integration of academics and fun, combined with [their] understanding that the program can help their child be ready to succeed in the next grade” (Zebra Strategies, 2012).

Furthermore, some evidence suggests that parent demand for academically focused summer programming in Pittsburgh is not entirely met by existing programs. In 2014, 51 percent of surveyed parents in Allegheny County (which includes Pittsburgh) reported that they wanted to enroll their children in a summer learning program, while only 40 percent of respondents had children who participated in such a program (After-school Alliance, 2014). We see a similar trend when examining the results of RAND’s NSLP survey (see, e.g., Augustine et al., 2016). Of 656 students who applied for SDA, a full-day academic summer program led by the school district, 246 fourth-graders were turned away. Asked what they did during the summer when they had hoped to be enrolled in SDA, only 41 percent (of 241 responding) reported attending even a single day of another summer program, let alone another multiweek
academic program like SDA. This could indicate that many parents who had wanted to send their children to an academically focused summer program could not find a good alternative to meet their needs.

**CONCLUSIONS AND RECOMMENDATIONS**

Throughout this report, we have attempted to answer three questions related to summer programming in the city of Pittsburgh:

1. How many academically focused summer programs serve low-income youth living in Pittsburgh?
2. What proportion of low-income youth living in Pittsburgh could have participated in an academically focused summer learning program in 2016?
3. Where are there gaps in academically focused summer programming in Pittsburgh?

In this section, we address our fourth research question:

4. How could new investments improve academically focused summer opportunities for low-income youth in Pittsburgh?

Thousands of youth had the opportunity to benefit from summer programming in Pittsburgh in 2016. We identified more than 15,000 available slots for on-site summer programming organized through the Summer16 campaign, which could theoretically have served almost half (46 percent) of the city’s youth. The Summer16 campaign also reported high levels of engagement in online and read-at-home programming. While these are important successes on which to build, our research also uncovered gaps in the city’s ability to serve students who might benefit most.

We identified only 63 high-dosage academically focused summer programs, providing 6,372 slots, which could serve more than half of the low-income youth in the city. This and other evidence indicate that there may be a need for additional summer programming. Our interviewees anticipated no major changes in program opportunities in 2017—they did not anticipate additional programs, major changes in the size of existing programs, or an influx of additional funding to existing programs. Thus, we conclude by summarizing the evidence we have that there are additional programming needs and then providing suggestions for expanding summer learning in Pittsburgh.

**Evidence of Additional Need**

Based on the following data, Pittsburgh appears to have unmet summer programming needs.

- **Research shows academic disparities stemming from summer learning loss.** Low-income students tend to lose more ground academically during summer months than their higher-income peers.
- **Racial and economic achievement gaps persist among PPS students (who represent 70 percent of Pittsburgh youth).** In the 2015–2016 school year, there were academic achievement gaps associated with race and income, and all PPS students, on average, lagged behind state averages on reading and mathematics assessments.
- **Summer offers opportunities for low-income youth.** Research on both near- and long-term outcomes of summer learning programs conducted as part of the NSLP found that high-quality programs can produce persistent gains in student achievement if they can garner high attendance and provide high dosage.
- **Generally, parents appear to want to send their children to programs that include academics.** Parent survey data suggest that many parents are interested in sending their children to summer programs with academic components, especially if they provide enrichment activities as well.
- **Some PPS parents did not enroll their children in summer programs after being turned down from others.** In 2013, many Pittsburgh parents did not find alternative academic (or nonacademic) programs after being turned down by PPS’s Summer Dreamers Academy, which may mean that other convenient or attractive options were not available.
- **Pittsburgh interviewees cited a lack of targeted middle school programs and transportation as barriers to participation.** While we have estimated that high-dosage academic summer programs could have served about 57 percent of youth living in poverty, we do not know the corresponding number for middle school students alone. Few programs provided transportation, highlighting the need to consider program capacity by neighborhood. There may also be gaps in programs targeted toward preschool-age students, but we do not have enough systematic data to determine this.
- **Programs offered through Summer16 varied considerably in cost to families, and subsidies or scholarships may not be available for all who need them.** One week of summer programming can cost as much as $300, and it is likely that for the 11,000 youth living in poverty, any cost will serve as a barrier.
• Few programs provided academics in high dosage. Although 242 programs in Pittsburgh were promoted in the Summer16 campaign, only 63 (26 percent) provided academic instruction in programs spanning at least five weeks. Even if these programs enrolled only low-income youth, they could have served only slightly more than half of the low-income youth in the city.

• Programs are not offered uniformly throughout neighborhoods in the city. While some zip code areas theoretically have almost double the capacity to serve low-income youth living in the vicinity, others do not have local access to a single high-dosage academic program.

Areas for Additional Investment
Based on these indicators of additional need, we recommend three types of investments that might benefit low-income youth in the city.

Support a New Program in Low-Income, Underserved Neighborhoods
Students who live in the Garfield-Bloomfield, Beltzhoover-Arlington-Knoxville, or the upper North Side zip code areas may benefit if new high-dosage academic programs were offered in their neighborhoods. However, given data limitations in this study, a more formal and systematic needs assessment on academically focused programs in these high-poverty zip code areas might be warranted. We might be missing information about available programs. Focusing on these neighborhoods, better identifying the high-dosage academic programs therein, learning more about them from residents, and partnering with existing efforts or local organizations could support decisionmaking around summer programming targeted to these neighborhoods.

Provide Additional Funding to Existing High-Dosage Academic Programs
Funding could be funneled to augment existing high-dosage academic programs. Based on the APOST database, examples of providers of such programs include the Boys and Girls Club, Center of Life, Center That CARES, CitiParks, Higher Achievement, PPS, the YMCA, and YouthPlaces. Additional research could confirm both the academic nature of these programs and the dosage of academic instruction provided. New funding could help these programs improve quality even further, through, for example, hiring qualified academic instructors or adding more instructional hours. New funding could also help programs expand into underserved neighborhoods, develop programming that is attractive to parents of preschool children or middle school students, provide free transportation to program participants, or provide scholarships to cover program fees.

Invest in Future Summer Campaigns and APOST Database
The searchable database associated with Summer16 was considered an easy-to-use tool that helped Pittsburghers locate summer opportunities for their children. However, there is little evidence to support this hypothesis. Additional funding might support future database architects to build in ways to track use of the website—for example, by adding questions for users about their backgrounds and their goals for and experiences with the website. Questions could also be posed to users about their needs for summer to better understand whether the programs in the database are sufficient in multiple regards, such as for families in specific neighborhoods, for all summer time frames, and for students’ interests.
Notes

1 In 2015, a family of four qualified as living in poverty if its household income was below $24,250 (Office of the Assistant Secretary for Planning and Evaluation, 2015).

2 Direct certification allows children who live in families that receive other forms of state assistance, such as Supplemental Nutrition Assistance Program (SNAP) benefits or Temporary Assistance for Needy Families, to automatically qualify for free meals (Project PA, 2013). It is also the process by which the district reports the number of students who are “economically disadvantaged” to the state (A+ Schools, 2016).

3 APOST’s Quality Campaign is a process through which summer and afterschool programs in Allegheny County commit to engage in a process that includes self-evaluation and peer feedback to support continuous program improvement.

4 Programs with drop-in services do not require enrollment; parents can drop off their children on any day.

5 Some interviews were originally conducted as part of the NSLP research in Pittsburgh. Those interviewees had been asked questions about the state of summer learning in Pittsburgh during the same year. The protocols for interviewees through the NSLP research varied slightly from the others. We initially contacted these interviewees by phone or email with consent documents and information about this report, and they provided written or verbal consent for us to access their interview notes.

6 PPS serves approximately 23,000 students in grades K–12 (PPS, undated), and there are approximately 34,000 school-age youth in Pittsburgh (U.S. Census Bureau, 2015).

7 According to the 2015 ACS, 66 percent of Pittsburgh residents identified as white and 25 percent identified as African American or black (U.S. Census Bureau, 2015).

8 The smallest programs had as few as six participants, while the largest programs had as many as 700.

9 Only 179 programs of the 242 reported whether they provided free transportation. Seventeen percent represents the proportion of programs providing free transportation of those that provided this information.

10 The amount of missing data was reduced when we focused on these 63 programs but still incomplete. The following numbers of programs failed to report the following data: eight for fees, three for subsidies, ten for providing food, seven for providing transportation, and 15 for capacity.

11 Seven programs of the 63 did not provide information about transportation, and this percentage represents the programs that did provide transportation out of those that provided information.

12 For the 15 high-dosage programs missing capacity data, we used the median capacity of 55 slots.

References


PPS—See Pittsburgh Public Schools.


About This Report

The summer months afford an opportunity to provide underserved children and teens with experiences that advance their academic performance and engage them in enrichment opportunities that they might not otherwise have the means to pursue. The Jack Buncher Foundation supports summer programs throughout Allegheny County, Pennsylvania, and engaged the RAND Corporation to investigate whether there might be a need for new summer programs or for expanding programs into new neighborhoods in Pittsburgh.

This report investigates summer program opportunities in Pittsburgh, focusing on free or low-cost programs that provide academic instruction for at least five weeks during the summer. We provide recommendations for the Jack Buncher Foundation and other Pittsburgh organizations looking to support such summer learning opportunities.

This study was sponsored by the Jack Buncher Foundation, a family foundation in Pennsylvania, and conducted by RAND Education, a unit of the RAND Corporation that conducts research on prekindergarten, K–12, and higher-education issues, such as preschool quality rating systems, assessment and accountability, teacher and leader effectiveness, school improvement, out-of-school time, educational technology, and higher-education cost and completion.

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