



Expanding Afterschool Opportunities

Connecting STEM Afterschool Providers and Schools

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Summary of Key Findings

- The number-one factor about afterschool programming that principals would change would be to offer more science, technology, engineering, and math (STEM) programming. Principals said that it is challenging to find STEM program providers in general, high-quality STEM program providers in particular, and the funding to pay for them.
- According to our survey of principals, 65 percent of the schools partnering with an external provider of afterschool programming offered a STEM option, and principals estimated that 14 percent of their students engaged in this STEM programming.
- Of the eight factors we listed on the survey, principals reported that student interest in the activity was the most important component in selecting a STEM afterschool provider and in renewing a contract—more important than either the quality or the cost of the program.
- However, principals did report that finding afterschool program funding is a challenge. Only about one-third of principals said that they had more funding for afterschool programming as of the 2022–2023 school year, when federal coronavirus disease 2019 (COVID-19) pandemic stimulus funds were still active, than they did before COVID-19.
- According to our district survey, 67 percent of district leaders plan to spend the same amount of funds that they have been spending on afterschool programming after the stimulus dollars expire. Suburban districts (82 percent) were much more likely to plan to maintain their funding for afterschool programming than were urban districts (55 percent).

Children and youth have benefited from afterschool programs in terms of academic, physical health, school attendance, promotion, graduation, and social and emotional outcomes (Neild, Wilson, and McClanahan, 2019). Research on afterschool programs focused on science, technology, engineering, and math (STEM) has found that such programs can improve science knowledge and skills, the valuing of science as a subject, self-reported science efficacy, school engagement, school attendance, and future college plans (Chittum et al., 2017; Neild, Wilson, and McClanahan, 2019). Afterschool programming in general—and STEM afterschool programming in particular—is also popular among both school officials and parents. According to the Afterschool Alliance’s 2020 national survey of parents or guardians of school-aged children, 18 percent of K–5 students were participating in an afterschool program (Afterschool Alliance, 2020). Although not all these students were participating in a STEM program, 72 percent of parents agreed in this 2020 survey that STEM and computer science learning opportunities are important when selecting an afterschool program. Unfortunately, according to the Afterschool Alliance 2020 survey data, for every child in an afterschool program, three more children were waiting to get into one—24.6 million more children would participate in an afterschool program if one had been available. The organization also reported that, in 2021, unmet demand was greater in rural areas, for children of color, and among youth living in families experiencing poverty.

This unmet demand for afterschool programming has led private funders such as Overdeck Family Foundation to support afterschool providers. Although many schools provide their own in-house afterschool programming, external afterschool providers have the potential not only to help address unmet demand but also to offer opportunities that students might not get during regular school hours, broadening their knowledge, skills, and interests. Overdeck focuses on STEM programming, believing that “philanthropic support is essential in order to equip organizations with the resources needed to provide high-quality afterschool STEM education at a price point that doesn’t bar low-income families from participating” (Overdeck Family Foundation, 2021).

As part of this support, the foundation asked RAND researchers to learn how district and school leaders partner with external organizations to provide STEM afterschool programs. Schools have direct access to youth and families and, therefore, have great potential to influence afterschool choices. Overdeck requested that we survey principals and district leaders and interview principals to illuminate how administrators learn about potential afterschool partners, what they look for in partnerships, and why they renew them. Afterschool STEM partners might use this report to hone their offerings to meet district and school needs.

To obtain a national picture of why and how principals and district leaders partner with STEM afterschool providers, we conducted three tasks. We administered a survey to a nationally representative sample of K–8 public school principals in November

and December 2022 through the American School Leader Panel (ASLP).¹ Of the 6,040 surveys sent, 994 school leaders were both eligible to complete the survey (meaning that they both offered afterschool programming and partnered with an outside provider for at least one program) and then did so.

We also included a question on the survey on their willingness to participate in an interview. Of those who were willing, we interviewed 30 school leaders, representing rural, suburban, and urban schools. We asked them 15 questions about partnering with afterschool STEM providers, including why they partner, how they learn about partners, and what they look for in partners.

Third, we included questions on afterschool programming on a spring 2023 American School District Panel (ASDP)² survey administered to a nationally representative panel of 1,107 districts; 222 district leaders participated (ASDP, 2023).³ We posed seven afterschool questions on the district leader survey (a substantially lower number than the 39 questions on the principal survey). We sought more information from principals because they are more likely to regularly interact with afterschool providers.

This report presents the findings of this research. We present findings to mirror the process of partnering, starting with what a district or school looks for in a partner and ending with plans for future programming. We conclude this report with implications and recommendations.

¹ The ASLP is a nationally representative panel of public K–12 school leaders recruited through probability-based methods from a comprehensive list of U.S. school leaders. The ASLP began in 2014, expanded in the 2016–2017 school year and again in the 2017–2018 school year, and has about 13,000 school leaders. School leaders recruited to the ASLP have agreed to participate in online surveys several times per year and receive incentives for completing surveys. The ASLP can produce national estimates. Survey data files conducted with the ASLP are weighted to state and national school leader characteristics to account for differences in sampling and response to ensure that they are representative of the target population. All ASLP surveys are conducted online and in English.

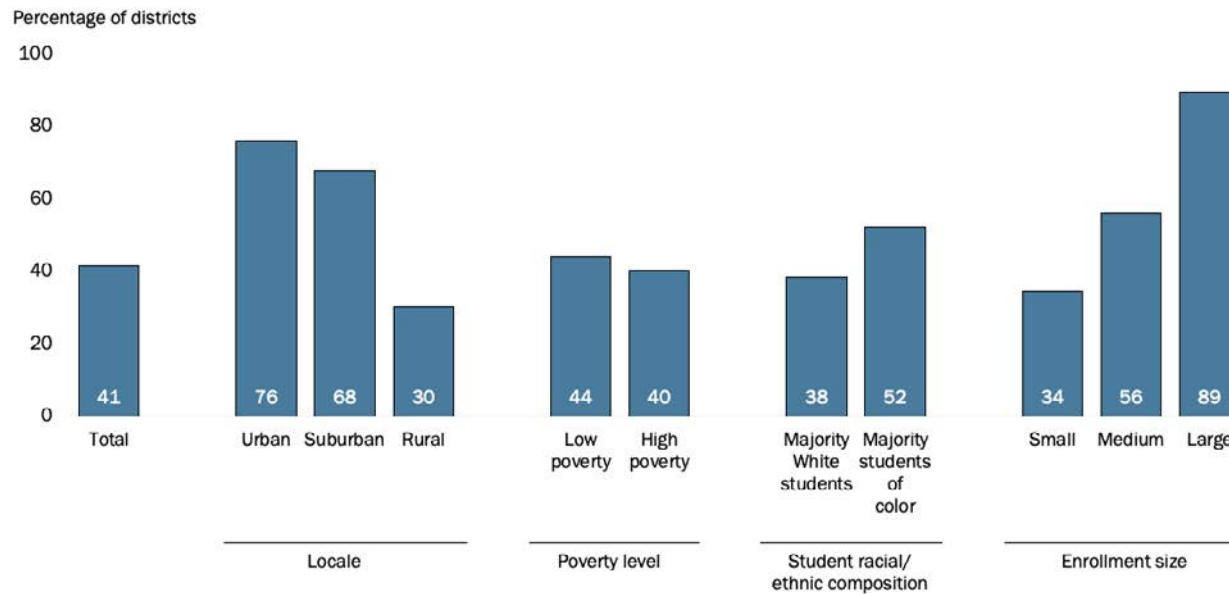
² The ASDP is a research partnership between the RAND Corporation and the Center on Reinventing Public Education. The panel also collaborates with several other education organizations—including the Council of the Great City Schools, Kitamba, and The School Superintendents Association—to help ensure that we produce actionable results. For more information, visit the ASDP website at www.americanschooldistrictpanel.org. The ASLP and ASDP are part of the American Educator Panels (AEP). More information about the AEP is available at www.rand.org/aep.

³ In this report, we describe only those differences among school subgroups that are statistically significant at the 5-percent level. We do not report separate results for charter management organizations because of their small number of completed surveys.

Across the Country, Less Than One-Half of Districts Partner with an External Afterschool Provider. But, Three-Quarters or More of Urban Districts and of Large Districts Do.

As shown in Figure 1, most leaders of medium- and large-sized, urban and suburban districts reported partnering with external providers of afterschool programming.

Figure 1. Percentage of District Leaders Responding That One or More of Their Schools Offered Afterschool Programs Provided by an External Partner in the 2022–2023 School Year

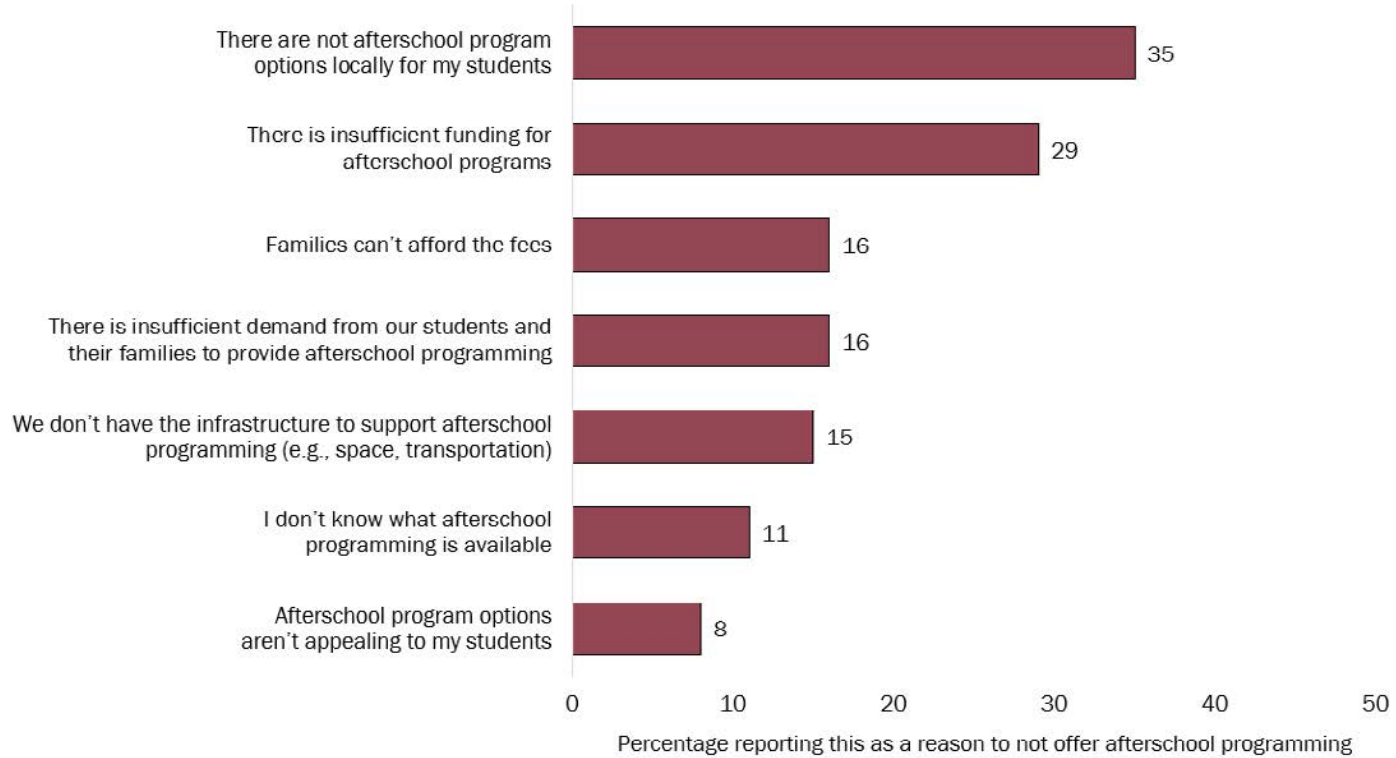


NOTE: This figure depicts response data from the district leader survey question: “Does one or more of your schools offer afterschool programs provided by an external partner in this current 2022–2023 school year?” ($n = 187$). All respondents saw this question.

Those Who Do Not Partner with Outside Afterschool Providers Pointed to a Lack of Local Options and Insufficient Funding

Of those who did not partner with an afterschool provider, just more than one-third of principals responded that there were not options available locally (Figure 2). District leaders of small, rural districts and principals of small, rural schools were most likely to report an insufficient supply. For example, 46 percent of rural district leaders reported a lack of local partner options, compared with 3 percent of suburban district leaders. District leaders of suburban districts were also less likely to report partnering for afterschool provision; in open-ended responses several noted that they provided all their afterschool programming in-house.

Figure 2. Percentage of Principals Responding Why They Did Not Have Partners Offering One or More Afterschool Programs in the 2022–2023 School Year

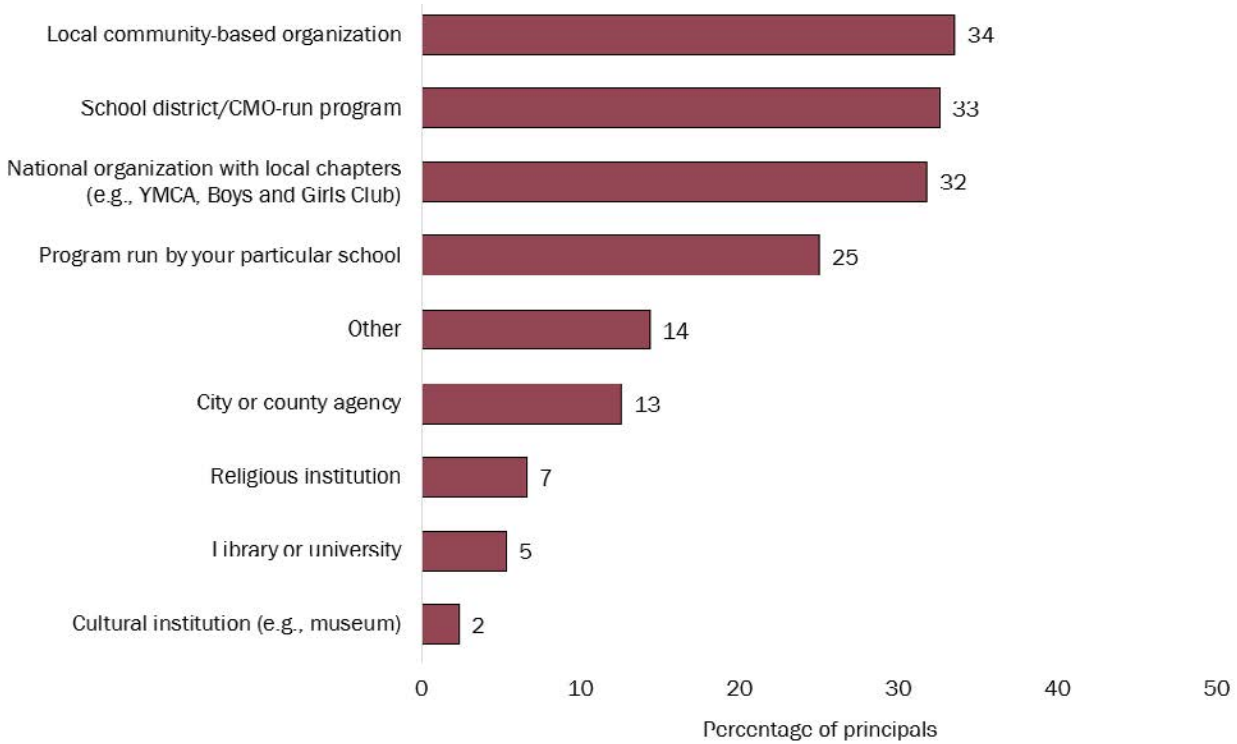


NOTE: This figure depicts response data from the principal survey question: “Why don’t you have partners offering one or more afterschool programs in this 2022–2023 school year?” ($n = 364$). Respondents who indicated that external partners did not offer one or more afterschool programs in the 2022–2023 school year saw this question. The survey question included five response options selected by 5 percent or fewer of respondents and an “Other” option that have been omitted from this figure. Bars sum to greater than 100 percent because respondents could select all response options that applied to them.

When Partnering, Schools Are Most Likely to Partner with a Local Community-Based Organization or a National Organization with a Local Presence

We asked principals to tell us the type of external organization with whom they partnered (see Figure 3). Apart from offering their own programs (through their schools or the districts), principals were most likely to be partnering with local community-based organizations and national organizations with a local chapter (e.g., a Boys and Girls Club). Rural schools were less likely to partner with community-based organizations. Principals were also most likely to partner with local community-based organizations and national organizations for STEM programming. Urban principals were most likely to report partnering with a community-based organization to offer STEM afterschool programming, and rural principals were least likely to do so, which harkens back to rural principals reporting that there are fewer afterschool providers in their locales. Of the 989 principals who were partnering with at least one outside afterschool partner, on average, each was partnering with two.

Figure 3. Percentage of Principals Who Indicated That Their School Partnered with Various Types of Organizations to Run an Afterschool Program in the 2022–2023 School Year

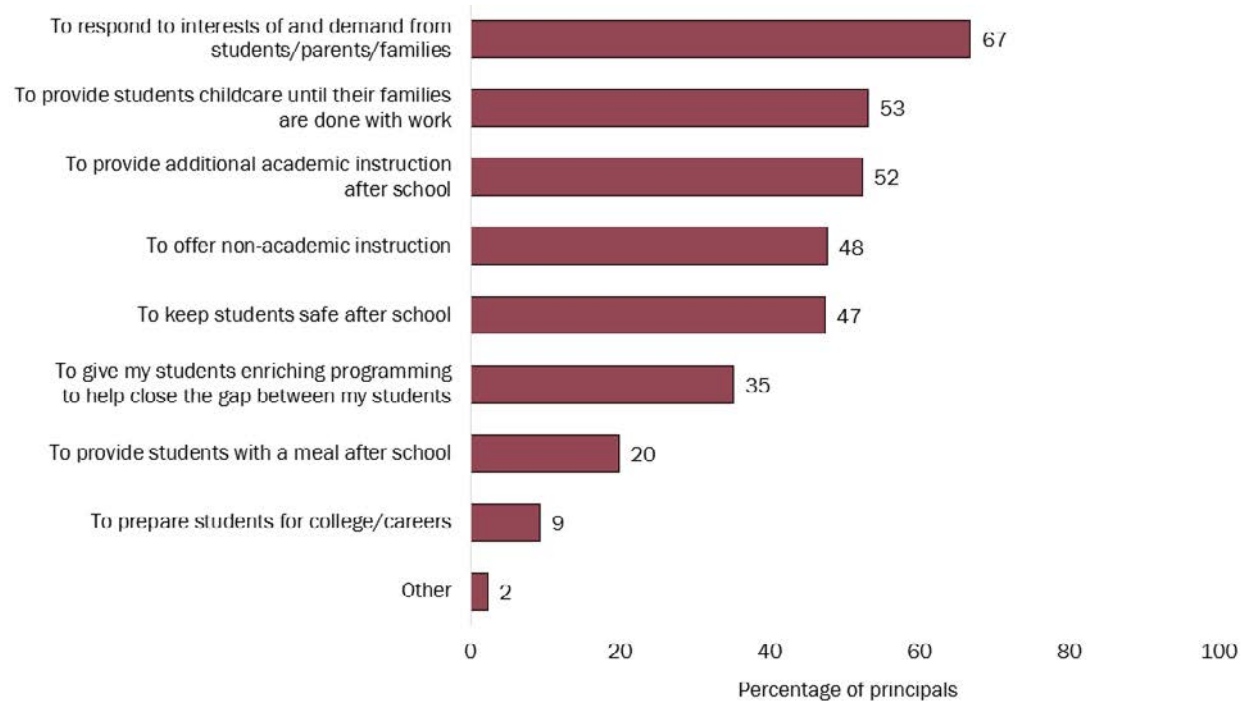


NOTE: This figure depicts response data from the principal survey question: “Which organizations run the afterschool programs that you help to coordinate and/or fund in this 2022–2023 school year?” (*n* = 994). Respondents who indicated that their schools have external partners who offer afterschool programs saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them. CMO = charter management organization.

Schools Offered Afterschool Programming to Respond to Parent and Student Interests

According to the principal survey, the top three reasons for providing afterschool programming were to respond to interests of and demand from students, parents, and families; to provide child care until families are done with work; and to provide additional academic instruction after school (Figure 4). Urban principals were most likely to report that they were responding to students’ and families’ interests and demands. Rural principals were most likely, and suburban principals least likely, to report offering afterschool programs that provide additional academic instruction.

Figure 4. Percentage of Principals Who Indicated Various Reasons to Coordinate with or Fund Afterschool Programming in the 2022–2023 School Year



NOTE: This figure depicts response data from the principal survey question: “For what reasons has your school coordinated with or funded afterschool programming in 2022–2023 school year?” ($n = 943$). Respondents who indicated that their schools have external partners who offer afterschool programs saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them.

Principals Reported that 20 Percent to 25 Percent of Students Participated in Afterschool Programs

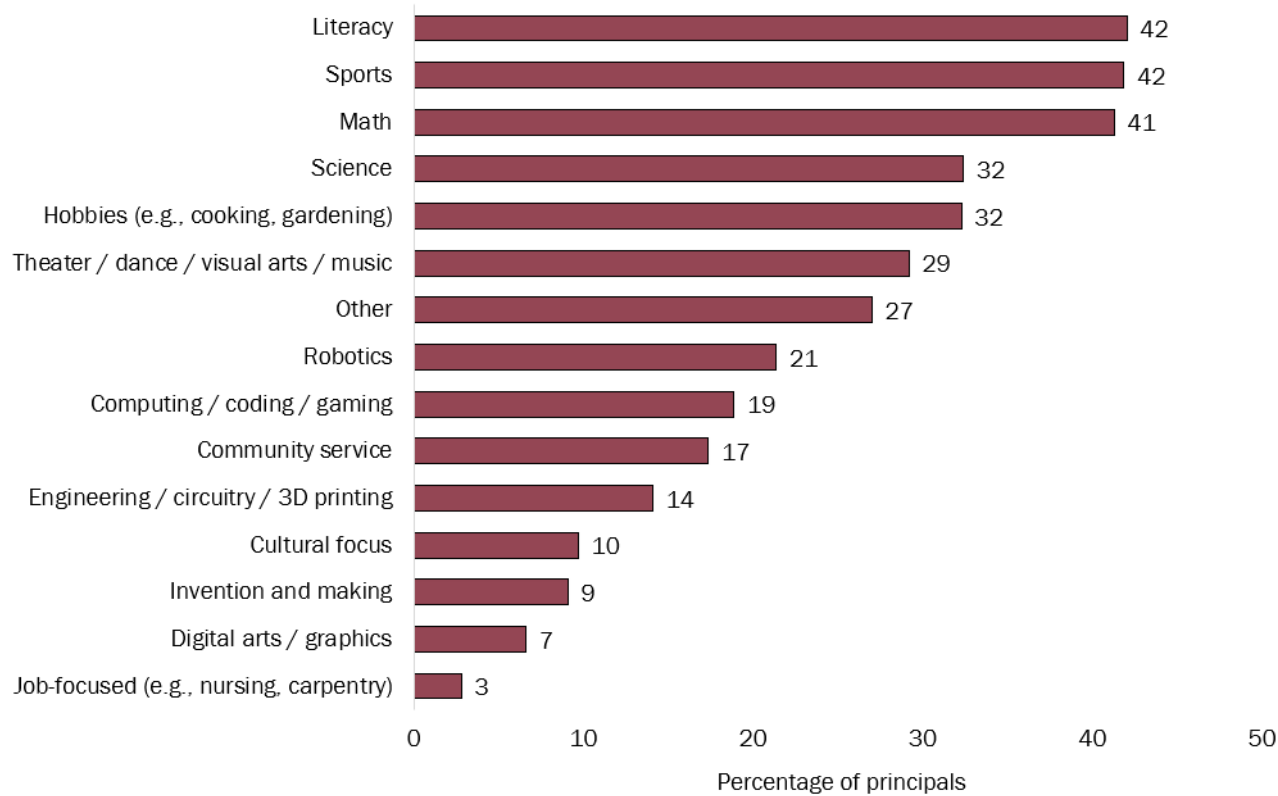
According to the principals, 20 percent to 25 percent of their students participated in their afterschool offerings in the 2022–2023 school year ($n = 925$). This estimate is close to that of the Afterschool Alliance’s 2020 estimate of 18 percent, based on their national survey of parents or guardians of K–5 children. Our number might be higher because we excluded principals who only provided afterschool programming in-house; also the Afterschool Alliance survey included children attending private schools. Principals of urban schools and those with a majority of students of color reported that 25 percent of students participated; principals with majority White students reported that 20 percent participated. Almost all principals (91 percent) responded that the programming was offered at their school (e.g., as opposed to a library or museum).

The Top Three Types of Afterschool Programs Offered Were Literacy, Sports, and Math

We asked principals to tell us what types of afterschool programs they offered to their students (Figure 5). Literacy, sports, and math topped the list. Principals of rural and of high-poverty schools were more likely to offer math and literacy programs. Because high-poverty schools tend to perform at lower levels than low-poverty schools on standardized assessments, high-poverty schools might be responding by offering additional academics after school.

Urban schools, by contrast, were more likely to offer sports programs and theater, dance, visual arts, and music programs. Rural principals were least likely to report offering these arts programs. We hypothesize this is because there are fewer performing arts organizations in rural than in urban areas, limiting this kind of partnership with rural schools.

Figure 5. Percentage of Principals Whose Schools Offered Various Types of Afterschool Programming Through Their Partners in the 2022–2023 School Year



NOTE: This figure depicts response data from the principal survey question: “What types of programming do these partners provide?” ($n = 980$). Respondents who indicated that their schools have external partners who offer afterschool programs saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them.

Most Who Offered Afterschool Programming Offered STEM

Principals indicated strong support for STEM afterschool programming. When asked what they would like to improve about their afterschool programs, their number one answer was more STEM programming (44 percent) ($n = 918$). Most (65 percent) principals

who partnered with an external provider to offer afterschool programming offered a STEM option.⁴ If they did not, that is mainly because they did not have partners who provided such programming (as reported by 61 percent of the respondents). As one said, STEM is “not part of the YMCA.”

The Most Frequently Offered STEM Afterschool Programs Were in Science, Math, and Robotics

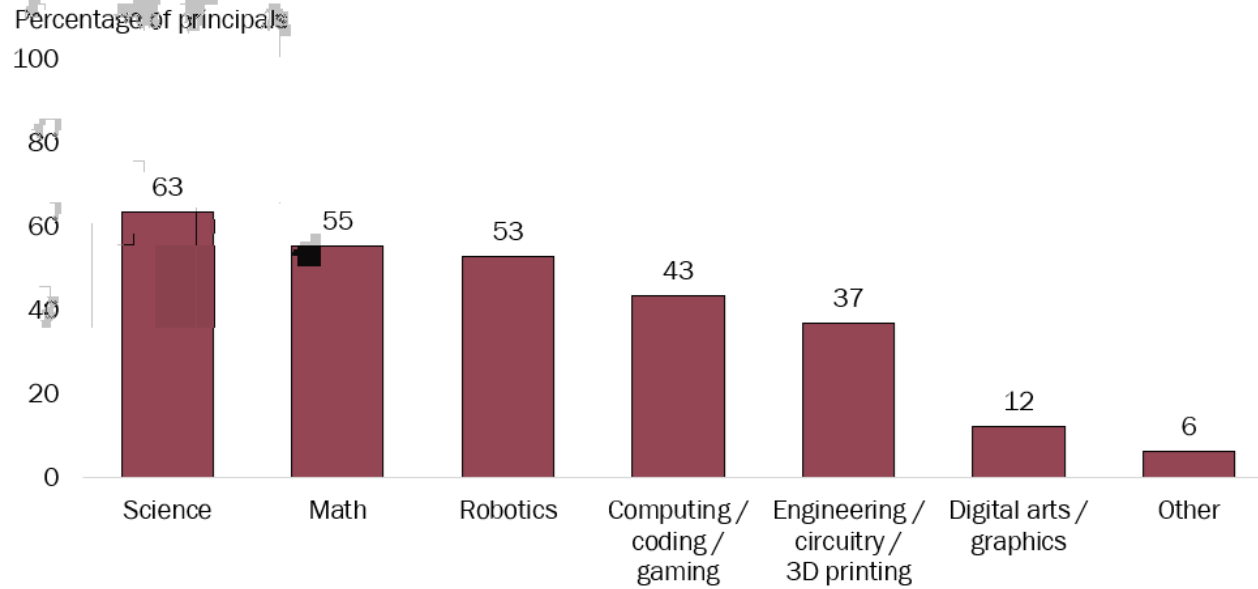
Looking just at the STEM programming offered, principals reported that the top three topics were science, math, and robotics (see Figure 6). Multiple interviewees referenced robotics and/or Lego programs as some of the best STEM programming offered because of high student interest and engagement. An interviewed principal who did not offer robotics commented, “[I would like to add] robotics with a competition component, and students programming a robot to complete a task.”

Of those offering STEM programming, principals reported that 14 percent of their students participated in STEM ($n = 573$) (recall that about 20 percent to 25 percent of students participated in any kind of afterschool programming on average). Suburban principals reported fewer students (11 percent) participating. The majority of principals (from 61 percent to 63 percent) reported that students in grades 3 to 5 were participating in their STEM afterschool programs. Less than one-half of principals reported that students in prekindergarten to grade 2 or grades 6 to 8 were participating.

Although we did not ask principals in our interviews about how or why they selected programming for specific grade levels, a few mentioned district directives to offer afterschool programming for grades 3 to 5 and that there were fewer options available for lower-grade levels. For example, one principal said, “The coding [programs] that are available do not seem like a fit for younger grades [K–3].” Middle school principals referenced students’ competing priorities, such as sports and drama clubs. Some mentioned that parents directed their older children into these other afterschool options: “Parent buy-in is a challenge; [explaining] why [STEM programming] is important compared [with] sports or drama clubs and getting kids engaged, motivated, and enrolled in the STEM programs [can be challenging].”

⁴ The survey question asked whether external partners provided STEM programming; it is likely that more than 65 percent of principals offering afterschool programming included a STEM option if we were to consider district- and school-provided programming.

Figure 6. Percentage of Principals Whose Schools Offered Various Types of STEM Programming Through Their Partners in the 2022–2023 School Year



NOTE: This figure depicts response data from the principal survey question: “What types of STEM programming do these partners provide?” ($n = 571$). Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their partners provide STEM programming saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them.

Although principals reported on the survey that science, math, and robotics were most commonly offered by their schools, district leaders selected coding, and gaming as the most important options to offer (see Figure 7). According to the principal survey, suburban principals’ schools were more likely to offer computing, coding, and gaming than rural and urban schools combined.

Figure 7. Percentage of District Leaders Responding that Various STEM Subjects Were Among the Three Most Important Options to Offer During Afterschool Programming in the 2022–2023 School Year

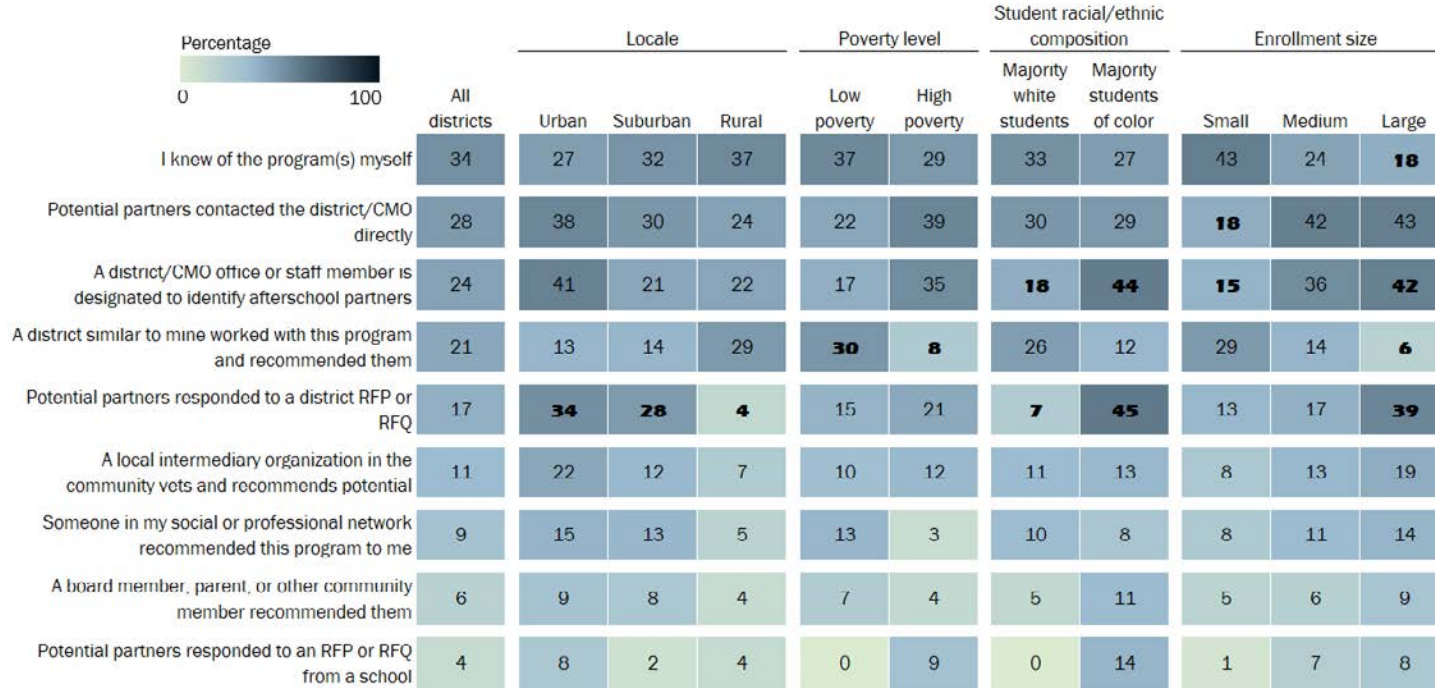


NOTE: This figure depicts response data from the district leader survey question: “Which are the three most important STEM subjects to offer during afterschool programming?” ($n = 189$). All respondents saw this question. Numbers in bold indicate that the subgroup percentage of district leaders who selected a STEM subject among the top three most important options to offer during afterschool program is statistically significantly different ($p < 0.05$) from the remaining district leaders not in that subgroup who said the same.

Districts Learned of External Partners in a Few Different Ways

Most principals (51 percent) reported that they learned about potential afterschool partners from a district staff member. As depicted in Figure 8, district leaders reported learning of external partners in several ways. One-third knew the program from past experiences. This reason was most likely to be the case for small districts. For almost another one-third, the partner had reached out to the district. In one-quarter of the districts, there is a person who is designated to identify afterschool partners. Large districts are the most likely to have such a position. For 20 percent, another district had recommended the partner. More than one-third of large, urban districts issued a request for proposal (RFP) for potential partners. When it comes to actually *selecting* the external partner, about one-half of principals reported that they made this decision themselves and one-half reported that someone in the district made this decision.

Figure 8. Percentage of District Leaders Responding that They Learned about External Partners Who Offer Afterschool Programs in Various Ways in the 2022–2023 School Year

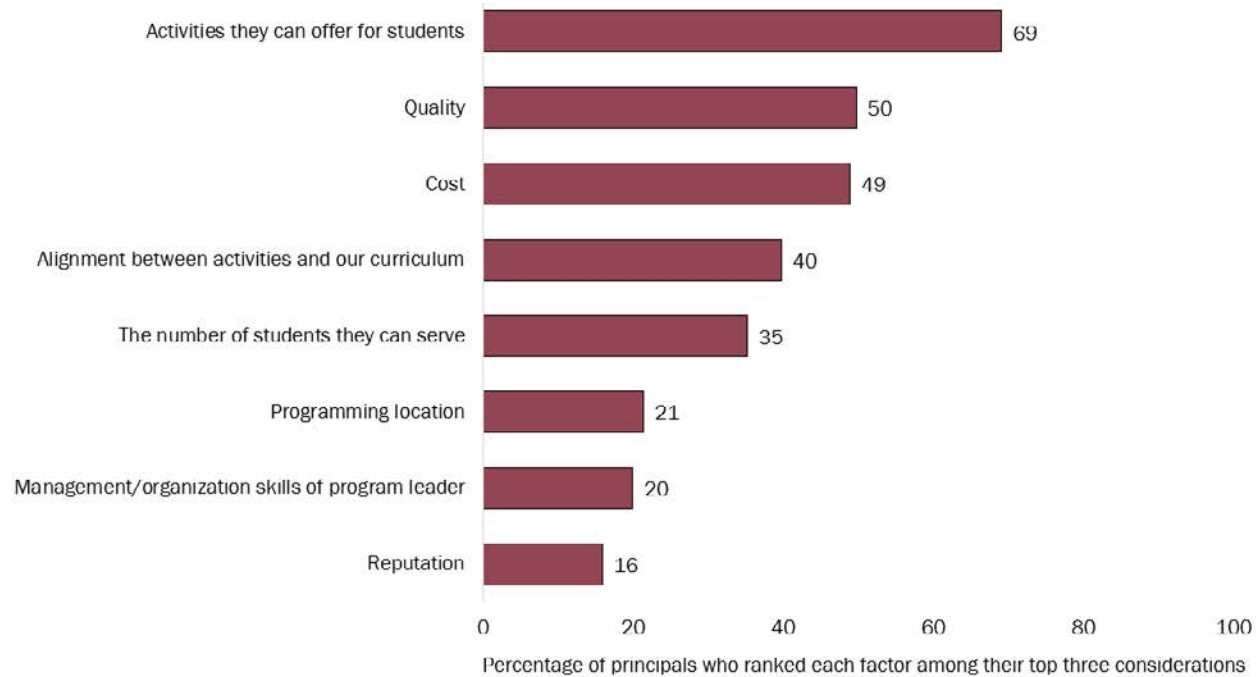


NOTE: This figure depicts response data from the district leader survey question: “How did you learn about these external partners who offer afterschool programs?” ($n = 112$). Respondents whose schools offer afterschool programs provided by an external partner saw this question. The survey question also included an “Other” option, which was selected by 22 percent of respondents and has been omitted from this figure. Numbers in bold indicate that the subgroup percentage of district leaders who said they learned about external partners from a specific source is statistically significantly different ($p < 0.05$) from the remaining district leaders not in that subgroup who said the same. RFQ = request for quote.

Student Interest in the Activity Is the Most Important Factor in Entering into a Partnership and in Renewing a Contract

We asked principals with STEM programs about the factors that they considered about the partner and program before partnering with them (see Figure 9). We asked them to rank order their considerations. Principals reported that the most important factor was the activities they could offer to students. In interviews, more than one-third of principals reported that student or caregiver input drove selection of program topics, whether through formal surveys, principal knowledge of student interests, or direct selection by students and families. As one principal explained, “Parent interest drives this [selection] a lot; tricky because it doesn’t always bring in [topics] I want but have to be responsive to parents because they sign the kids up.” Principals also reported that the quality and the cost of the program were important factors.

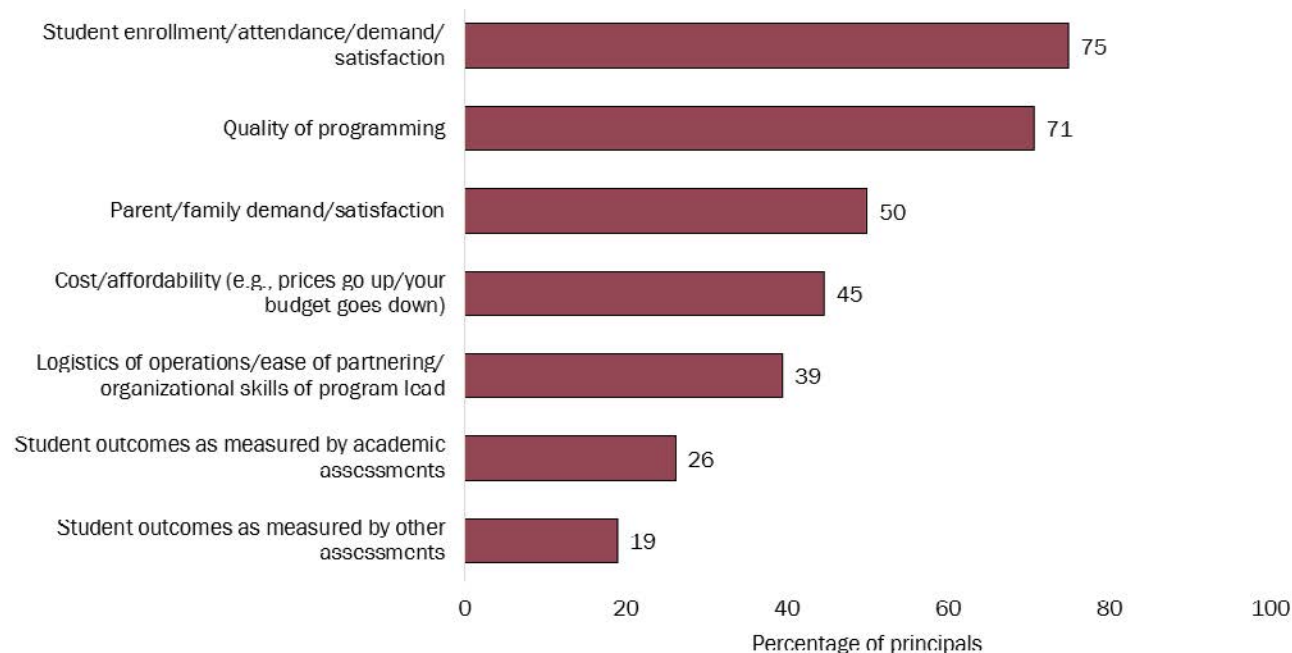
Figure 9. Percentage of Principals Responding that They Considered Various Factors Before Entering into an Afterschool STEM Program Partnership in the 2022–2023 School Year



NOTE: This figure depicts response data from the principal survey question: “What factors did you consider before entering into your afterschool STEM program partnerships?” This question asked respondents to rank eight factors from 1 (meaning “most important”) to 8 (meaning “least important”). The figure presents the percentage of respondents who ranked each factor as 1, 2, or 3. The number of respondents ranges from 543 (for programming location) to 557 (for activities they can offer students) because the number of respondents who provided a ranking varied across factors. Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their partners provide STEM programming saw this question.

When asked what they consider in renewing a contract with a STEM afterschool provider, principals were most likely to report student enrollment/attendance/demand/satisfaction and quality of programming (Figure 10). District leaders reported the same factors.

Figure 10. Percentage of Principals Responding that These Factors Influenced Their Decision to Renew a Memorandum of Understanding or Contract with an Afterschool STEM Program Provider in the 2022–2023 School Year



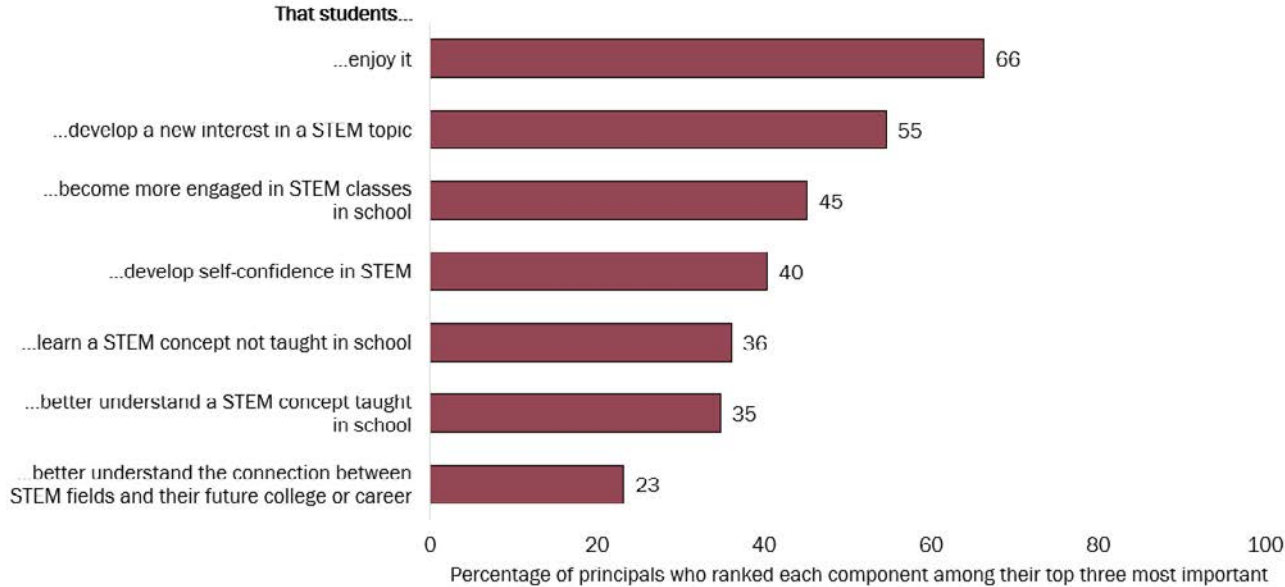
NOTE: This figure depicts response data from the principal survey question: “When the MOU or contract period is up, which factors influence your decision to renew it with your afterschool STEM program providers?” ($n = 555$). Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their partners provide STEM programming saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them. MOU = memorandum of understanding.

In interviews, principals also cited student interest as reasons they renew a contract, noting the importance of positive feedback from students, parents, and/or teachers. One principal explained, “[We renew when] interest is high, and we have positive feedback from families and students.”

When asked on the survey about the most important components of a STEM afterschool programs, most principals reported student enjoyment as number one (see Figure 11). Sixty-six percent of principals selected “that students enjoy it,” compared with 35 percent of principals who selected “that students better understand a STEM concept taught in school.”

When asked in interviews about the most important components of a successful STEM afterschool program, principals repeated variations of the importance of student interest: “[There is] engagement. Staying afterschool is more time for the kids [being here] and it needs to be exciting,” and “Students need to be interested to enroll and fill the program.”

Figure 11. Percentage of Principals Selecting Various Components as Among Their Top Three Most Important in a Successful STEM Afterschool Program in the 2022–2023 School Year



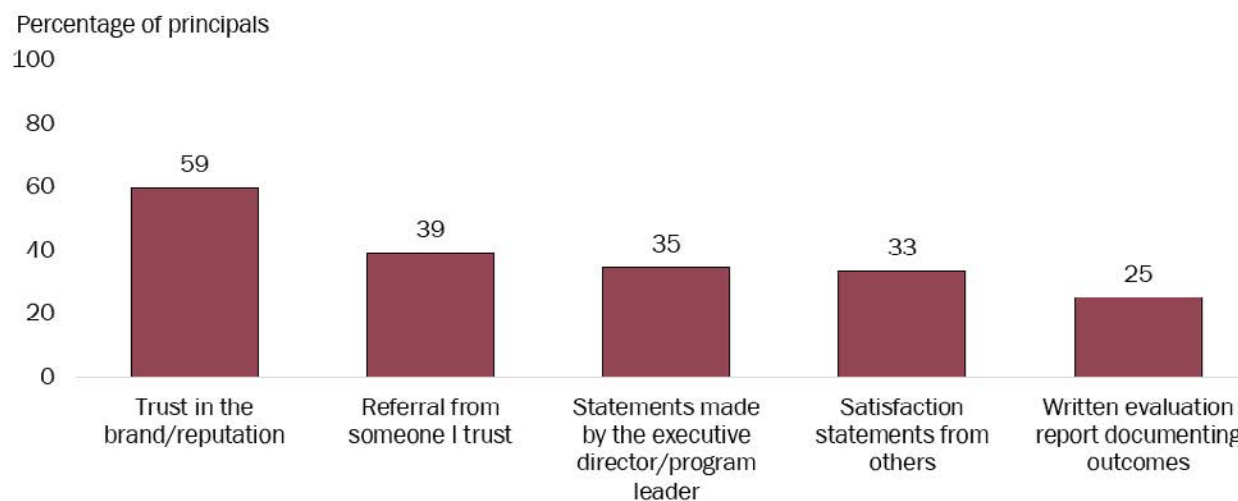
NOTE: This figure depicts response data from the principal survey question: “Please rank order from most to least important the following components of an effective afterschool STEM program.” Respondents were provided a stem beginning “That students . . .” and then received a list of seven components corresponding to the options shown in this figure. Respondents were asked to rank each component from 1 (meaning “most important”) to 7 (meaning “least important”). The figure presents the percentage of respondents who ranked each component as 1, 2, or 3. The number of respondents was 553. Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their partners provide STEM programming saw this question.

In recounting their best STEM partnership experiences, more than one-half of our interviewees referenced features that supported positive experiences for students, such as use of engaging, hands-on activities, and content of interest to students (e.g., robotics, Lego bricks). Interviewees described a successful STEM program as one in which “the kids don’t see it as work but see it as interesting and fun.” They also said, “Students are talking about it during the school day.”

Principals Discern the Quality of a Potential Partner by the Extent to Which They Trust the Organization or its Reputation

We asked principals on the survey how they determined whether a potential partner would offer a program of sufficient quality for their students (see Figure 12). Although, as noted in Figure 9, principals were least likely to select “reputation” as an important factor when entering into a partnership, when asked how they determined the quality of a potential partner, most principals reported doing so by their trust in the reputation of the organization.

Figure 12. Percentage of Principals Responding That These Factors Helped Them Determine Whether the Level of Quality a Potential Partner Provides Was Sufficient for Their Students in the 2022–2023 School Year

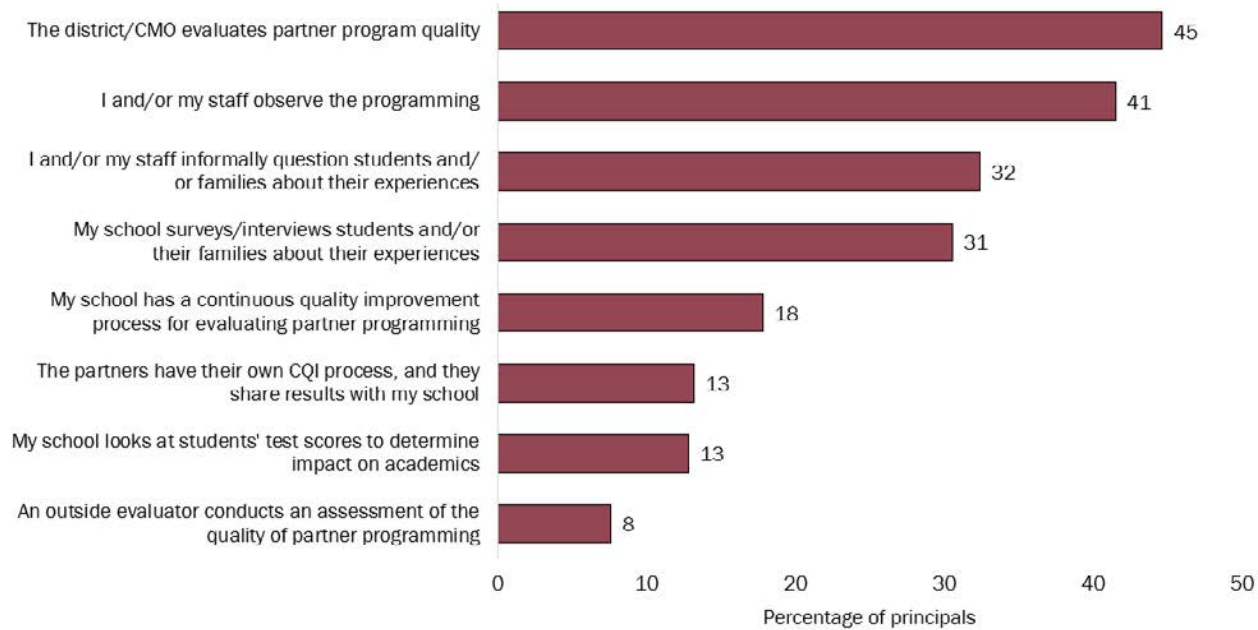


NOTE: This figure depicts response data from the principal survey question: “How do you determine if the level of quality a potential partner provides is sufficient for your students?” ($n = 932$). Respondents who indicated that their schools have external partners who offer afterschool programs saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them.

Almost one-half of the principals we interviewed echoed this, with 14 referencing the program's reputation when assessing a program's quality prior to forming a partnership. "[We consider] the experience of those using the program. I talk with schools that work with it, consider the reputation of the company, is it affordable, how's it running and what are teachers saying about it?" Review of program materials, lessons, or goals was the second most referenced way principals assessed quality before a partnership, though many spoke about review of materials in conjunction with considering the program's reputation. One principal commented, "[We consider] the program's rapport in the community, word of mouth from other schools, the materials and resources, and [the program's] capacity to serve."

When asked how principals monitor the quality of their afterschool programming in general, there was no answer selected by a majority of respondents (see Figure 13). Principals were most likely to report that the district monitored quality and that principals and/or their teams observed programming.

Figure 13. Percentage of Principals Reporting How They Monitored the Level of Quality Programming a Partner Provided for Their Students in the 2022–2023 School Year



NOTE: This figure depicts response data from the principal survey question: “How do you monitor the level of quality programming a partner provides for your students?” (*n* = 921). Respondents who indicated that their schools have external partners who offer afterschool programs saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them. CQI = continuous quality improvement.

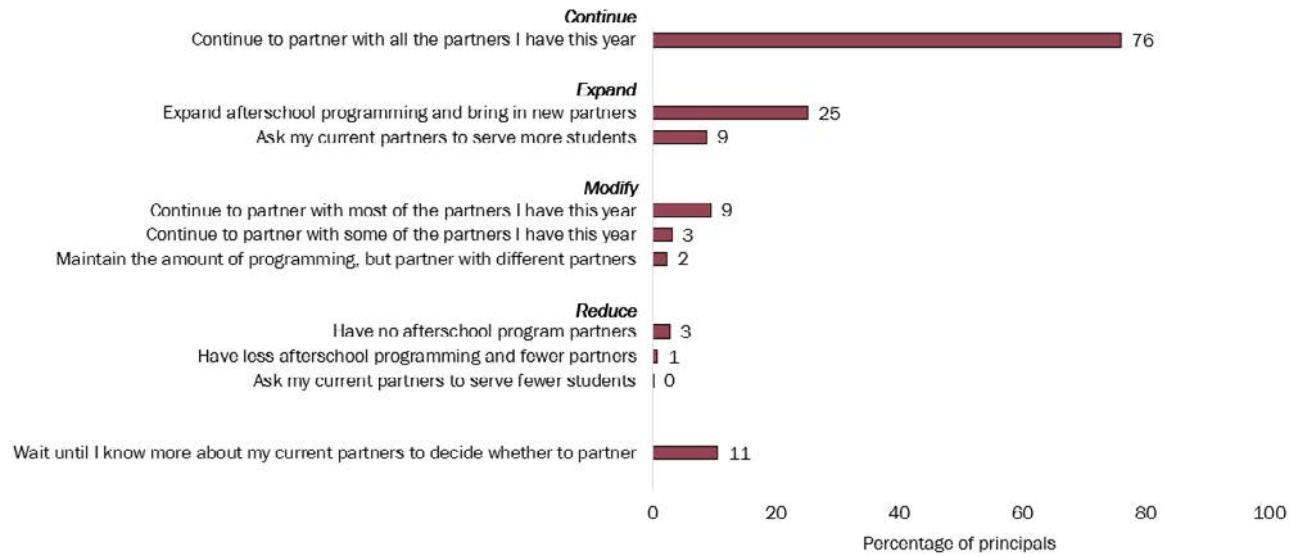
Most principals we interviewed described informal, unstructured activities to monitor program quality, such as informal observations by school administration; casual check-ins with families, students, and/or teachers; or through spontaneous feedback received from families and/or teachers. One principal explained, “Teachers give feedback if something is good or off, and sometimes I observe, but nothing formal.” Another referenced limited capacity to monitor, “[We have] no formal monitoring of quality; there is no capacity of staff to monitor quality or handle issues that come up in afterschool.”

Most Schools Enter into One-Year Contracts with Partners and Most Plan to Maintain These Partnerships in the Following School Year

Most surveyed principals (74 percent) reported that they enter into partner contracts for one school year ($n = 923$). When asked about their plans for the next year, the majority (76 percent) responded that they plan to stay with the same partners they had in place (see Figure 14). Eighty-four percent of principals who are working with national organizations plan to continue these partnerships in the next year. Suburban principals were most likely to say that they were planning on bringing on new partners in the next year; rural principals were least likely.

Interviewees noted some reasons why they maintain existing partnerships. Some rural locations have limited programming options in addition to space constraints and few students. These factors can limit the number and types of programs that schools can offer. Principals seek programs that are of interest to students and reliable—therefore, if an existing partner draws in students, is reliable, and can offer the program in the available space, schools tend to renew the contract. One principal explained, “If surveys are positive and the [program] company and staff are dependable and reliable, usually we’ll renew.”

Figure 14. Percentage of Principals Reporting These Afterschool Programming Partnership Plans for the Next School Year (2023–2024)

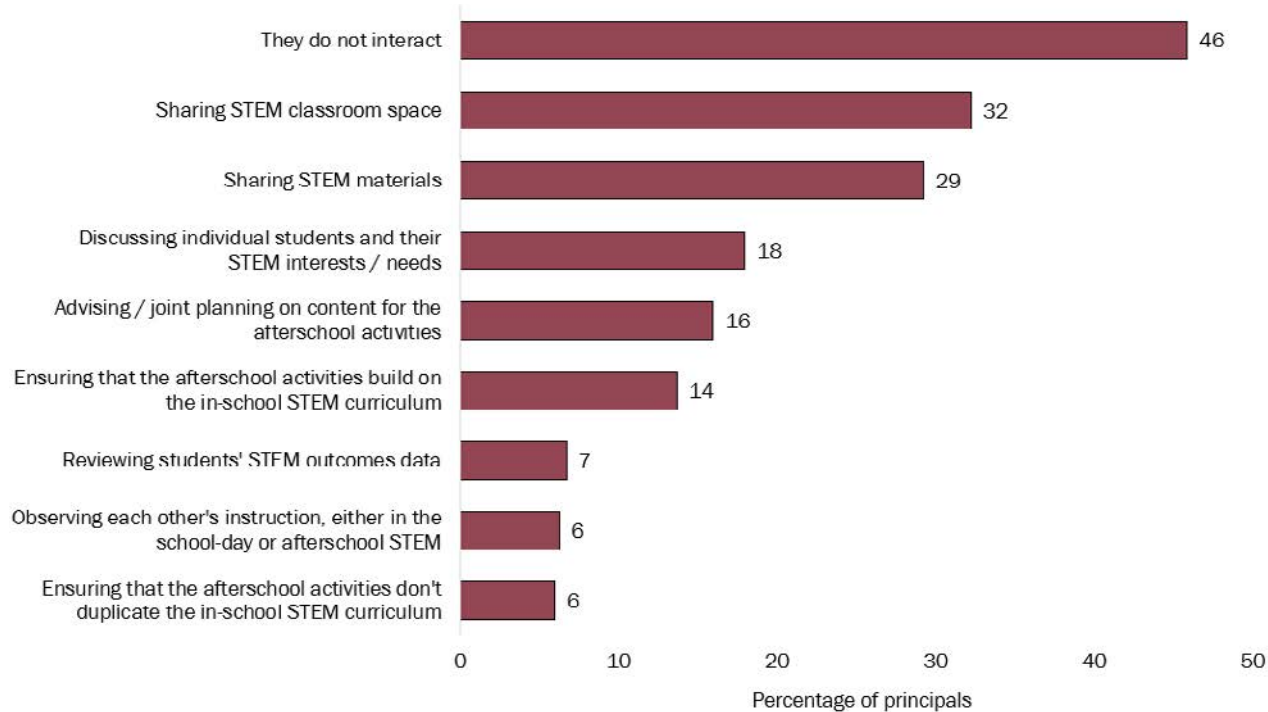


NOTE: This figure depicts response data from the principal survey question: “What are your afterschool programming partnership plans for next year (SY 2023-2024)?” ($n = 922$). Respondents who indicated that their schools have external partners who offer afterschool programs saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them. SY = school year.

Principals Are Most Likely to Be the Liaison to the Afterschool Program

Principals tend to oversee afterschool programs and when STEM teachers are involved, it is most likely to share classroom space. When asked who is the liaison with the external partners during programming, principals most commonly answered, “I am” (46 percent of respondents). We asked principals whether STEM teachers interacted with STEM afterschool providers. For almost one-half of the cases, they do not (see Figure 15). They are least likely to interact in a low-poverty school, with 54 percent reporting no interaction. About one-third, however, did report that the afterschool provider and STEM teacher(s) shared space and/or materials.

Figure 15. Percentage of Principals Reporting Various Ways STEM Teachers Interacted with the Afterschool Program Staff in the 2022–2023 School Year

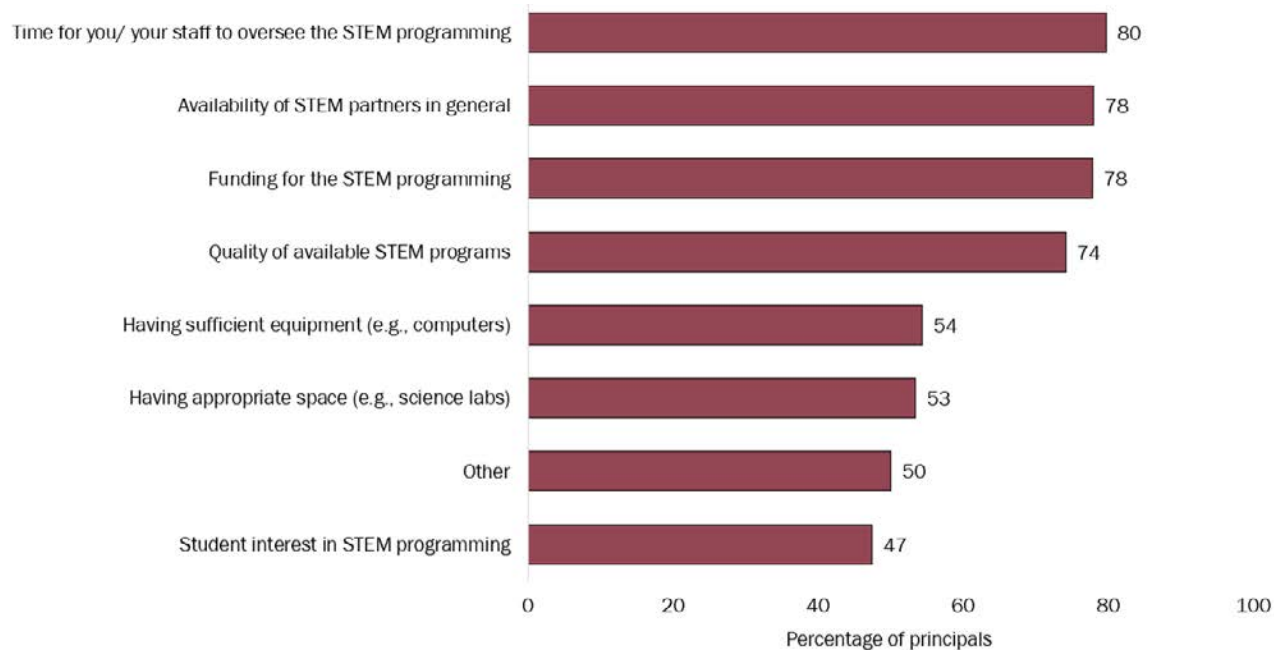


NOTE: This figure depicts response data from the principal survey question: “In what ways do your STEM teachers interact, if at all, with the afterschool program staff?” ($n = 562$). Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their partners provide STEM programming saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them.

Principals Reported Four Main Challenges of Offering STEM Afterschool Programming

On the survey, we asked principals about the components that they found challenging about offering STEM afterschool programs (see Figure 16). They found a lot of aspects challenging. The only challenge not selected by most respondents was student interest in STEM programming. The top four challenges were time to oversee the afterschool program, the availability of STEM partners, funding for the STEM programming, and the quality of available STEM partners.

Figure 16. Percentage of Principals Reporting Various Components of Offering Afterschool STEM at Their School as “Somewhat” or “Very” Challenging in the 2022–2023 School Year



NOTE: This figure depicts response data from the principal survey question: “To what extent are the following components of offering afterschool STEM at your school challenging?” This question asked respondents to rank each component as “not a challenge,” “somewhat challenging,” or “very challenging.” The figure presents the percentage of respondents who ranked each component as “somewhat challenging” or “very challenging.” The number of respondents was 553 for all components but “Other,” for which the number of respondents was 58. Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their partners provide STEM programming saw this question.

Our interviews provided further insights into these responses. Two principals implied limited time to oversee a program when describing desired characteristics of an afterschool partner. As one commented, “[The partner program needs to be] low maintenance for school administration.” Principals also frequently cited factors related to professionalism of the partner (e.g., communication, reliability, strong management) as reasons they renew a contract. One principal explained, “Did staff come in prepared, set up, and ready for students to arrive?” Another commented, “Organization and communication [from the partner] are huge. [Afterschool program] vendors have a lot of turnover, and it’s challenging to have new site coordinators; it burns time and is a disruption for kids.” The majority of interviewees referenced challenges related to staffing, including quality and availability. Some principals described

that, although afterschool vendors may staff STEM instructors with content expertise, these instructors might not be experienced in engaging elementary students: “Classroom management is huge. This is hard with programs bringing in staff [who might have] expertise with the topic, but no skills or strategies for working with elementary students and engaging kids.”

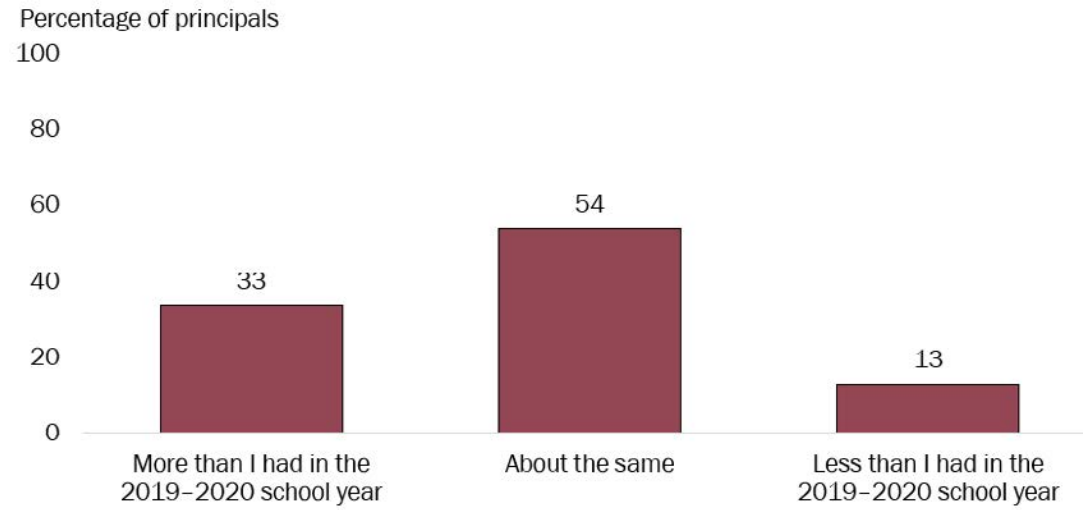
When asked in an open-ended survey question what they would improve about their STEM programs, most wanted STEM programming available to more students. Principals described wanting to include more students and to offer a greater variety of STEM topics. Some specified that more funding would increase the number of programs and make programming more accessible to paying families. Many also described wanting higher-quality instructors who had both content expertise and classroom management skills.

Principals Reported That Funding for Afterschool Programming Is Challenging and Only One-Third Reported Having More Funding Than They Did Prior to the Pandemic

As depicted in Figure 16, 78 percent of surveyed principals reported that finding funding for STEM afterschool programs was challenging. Of those spending money on afterschool programming, on average, principals reported that they were spending about \$24,000 a year ($n = 459$). Urban school principals reported spending more than rural or suburban schools. Larger school principals reported spending more than smaller schools.

A majority of principals reported that they had about the same amount of funding for afterschool programming in 2022–2023 than they had prior to the pandemic (see Figure 17). Only 33 percent of principals reported having more funding for afterschool programming than in the 2019–2020 school year. This is surprising, given that this survey was fielded during a time when there was more federal funding for afterschool programs than was the case prior to the COVID-19 pandemic.

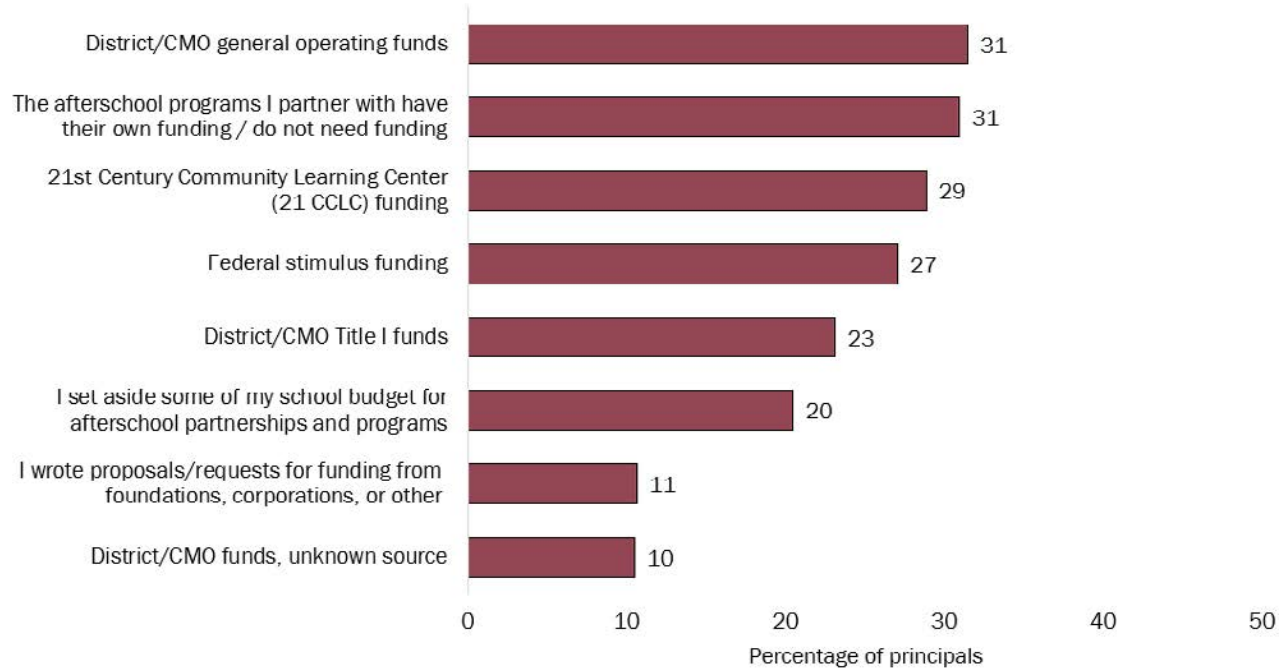
Figure 17. Percentage of Principals Reporting That Their Afterschool Funding Amount for the 2022–2023 School Year Was More, Less, or About the Same as They Had in the 2019–2020 School Year Leading Up to the Pandemic



NOTE: This figure depicts response data from the principal survey question: “Is this funding amount [i.e., the amount the respondent reported as allocated for their afterschool partnerships for the 2022–2023 school year] more, less, or about the same as you had in the 2019–2020 school year leading up to the pandemic?” ($n = 459$). Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their schools allocated funds for afterschool partnerships saw this question.

When asked about the source of funding for afterschool programming, there was not one response selected by a majority of principals (see Figure 18). Principals reported that general operating funds from the district and federal grant funds (e.g., 21st Century Community Learning Center and Elementary and Secondary School Emergency Relief [ESSER] funding) were common sources. Just under one-third of principals responded that their afterschool partners had their own funding. Suburban school principals were more likely to report using federal pandemic stimulus dollars to pay for afterschool programming.

Figure 18. Percentage of Principals Who Reported Various Sources of Funds for Afterschool Programming in the 2022–2023 School Year

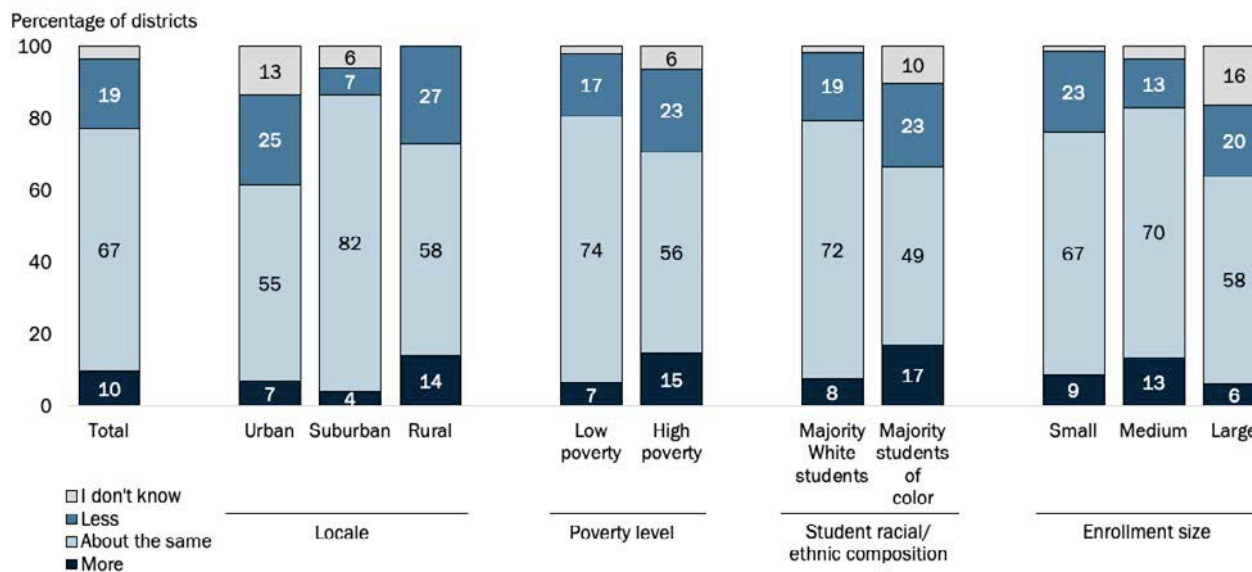


NOTE: This figure depicts response data from the principal survey question: “What sources of funds do you use for afterschool programming?” ($n = 459$). Respondents who indicated that their schools have external partners who offer afterschool programs and who indicated that their schools allocated funds for afterschool partnerships saw this question. Bars sum to greater than 100 percent because respondents could select all response options that applied to them.

Most District Leaders Expect to Allocate the Same Amount of Funding to Afterschool Providers After the COVID-19 Stimulus Funds Expire

As shown in Figure 19, most of the surveyed district leaders (67 percent) expected to spend the same amount on afterschool programming after the ESSER stimulus funds expire in September 2024. About one-fifth (19 percent) expected to spend less. Suburban districts leaders were most likely to expect to spend the same amount (82 percent). Urban and rural districts were most likely to expect to spend less (25 percent and 27 percent).

Figure 19. Percentage of District Leaders Reporting That After COVID-19 Federal Stimulus Funds Expire, They Expect to Allocate More, Less, or About the Same Amount of Funds for Afterschool Programming as They Did in the 2022–2023 School Year



NOTE: This figure depicts response data from the district leader survey question: “After COVID-19 federal stimulus funds expire, do you expect to allocate more, less, or about the same amount of funds for afterschool programming as you do in the current 2022–2023 school year?” ($n = 110$). Respondents whose schools offer afterschool programs provided by an external partner saw this question.

Implications and Recommendations

According to the principal survey, about 14 percent of K–8 students nationally participate in STEM afterschool programming. Although many types of school districts—large, medium, urban, and suburban—partner with outside providers of afterschool programming, more would contract with them if they had more funding and if there were more providers in their area. Principals value offering STEM afterschool programming to their students and want to provide more, not just to extend STEM learning from the school day, but to provide enjoyable opportunities for students to develop new interests and skills.

Although principals reported funding as a top concern, not all principals drew on COVID-19 stimulus funding that they should have had access to. Only about one-third of principals responded in 2022 that they had more funding for afterschool programming

than they did before the COVID-19 pandemic. Although most district leaders plan to spend the same amount on afterschool programming after the federal pandemic stimulus dollars expire, that answer varied by district type. Only 55 percent of urban districts plan to spend the same amount, compared with 82 percent of suburban districts—indicating a likely contraction of afterschool programming in urban districts after 2024 when pandemic stimulus funds expire. As it stands at the time of the writing of this report, suburban principals reported the lowest percentage of students participating in STEM programming afterschool; therefore, reducing spending in urban districts has the potential to reduce participation in STEM afterschool programming in general.

The specific demands and interests of parents and students drive the type of afterschool programming provided, and whether it is continued. Principals consider the most important component of an afterschool STEM program to be that students enjoy it. Of the eight factors we listed on our survey, principals selected student interest in the activity as the most important component in selecting a partner *and* in renewing a contract—more important than either the quality or the cost of the program.

These findings have implications for how STEM afterschool providers and out-of-school time intermediaries might market themselves to schools and districts. Providers and intermediaries might want to reach out to district officials rather than school principals. Districts identify new partners by organizations contacting them, and principals are most likely to learn about partners from their district. District operating funds, 21st Century Community Learning Center, and self-funded partners are common funding sources for afterschool programming, whereas principals setting aside funds from their own schools' budgets to pay for afterschool partners is less common. When communicating with districts, intermediaries might want to highlight new afterschool programs that do not yet have a strong reputation if they can vouch for the quality of those providers.

In terms of STEM programming, math and science are common, robotics is popular, and computing, coding, and gaming are considered increasingly important by district leaders. In general, schools want to partner with providers who offer exciting opportunities for their students and are not expensive (for them or their families). If afterschool providers have their own funding, they should market this aspect to districts.

Providers might want to also market their programs as low maintenance and not needing time from principals or STEM teachers. Principals are the most likely liaison to a program, and their biggest implementation challenge is having the time to oversee it. Because interviewees expressed concerns about classroom management, providers should ensure that all instructors are well trained on behavior management systems used in schools and advertise this as a core strength, including smooth and easy operations overall.

This demand for low-maintenance programming might represent an opportunity for intermediary organizations that provide professional development to afterschool providers. Providers can assure districts and schools that their staff use classroom management procedures typically used in schools if their staff receive such training.

The most valuable marketing information a program can provide to a district is a track record of student enjoyment as evidenced by consistent attendance. For providers just starting out, they might want to consider beginning in a suburb. Suburban principals were most likely to say that they are interested in new afterschool partnerships. Most principals plan to stay with their current partners, but about one-third of suburban schools are looking for new or additional partners. It might be easier to partner with a suburban school and build evidence of student enjoyment and attendance that can then be marketed more broadly.

Finally, funders, whether philanthropic or government, should recognize both the value of quality afterschool programming and the potential for reduced offerings in the 2024–2025 school year, after the COVID-19 pandemic stimulus funding expires. One-quarter of urban districts plan to spend less on afterschool programming at this point, which could disadvantage urban students and their families. And, notably, there is funding still available through September 2024; afterschool providers can contact their state education agencies for more information. And after that point, both public and private investors could provide new funding to continue afterschool programming and spur new programming, ensuring that families without means can participate. Intermediaries and funders might want to focus, in particular, on developing new programming in rural areas to promote equal access for rural students to quality afterschool programming.

Abbreviations

ASDP	American School District Panel
ASLP	American School Leader Panel
CMO	charter management organization
COVID-19	coronavirus disease 2019
ESSER	Elementary and Secondary School Emergency Relief
RFP	request for proposal
STEM	science, technology, engineering, and math

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About This Report

Overdeck Family Foundation asked RAND researchers to investigate school and district leaders' STEM afterschool needs and interests, as well as details on how these leaders go about partnering with STEM afterschool providers. To obtain a national picture of why and how principals and district leaders partner with STEM afterschool providers, we administered a survey to a nationally representative K–8 sample of public school principals in November and December 2022 through the American School Leader Panel (ASLP). Of the 6,040 surveys sent, 994 school leaders were both eligible to complete the survey (meaning that they both offered afterschool programming and partnered with an outside provider for at least one program) and then did so. We included a question on the survey on their willingness to participate in an interview. Of those who were willing, we interviewed 30 school leaders, representing rural, suburban, and urban schools. Our third research task was surveying district leaders. We included questions about afterschool programming on a spring 2023 American School District Panel (ASDP) survey administered to a nationally representative panel of 1,107 districts; 222 district leaders participated.

The ASLP is a nationally representative panel of public K–12 school leaders recruited through probability-based methods from a comprehensive list of U.S. school leaders. The ASLP began in 2014, expanded in 2016–2017 and again in 2017–2018, and currently includes about 13,000 school leaders. School leaders recruited to the ASLP have agreed to participate in online surveys several times per year and receive incentives for completing surveys. The ASLP can produce national estimates. Survey data files conducted with the ASLP are weighted to state and national school leader characteristics to account for differences in sampling and response to ensure they are representative of the target population. All ASLP surveys are conducted online and in English.

The American School District Panel (ASDP) is a research partnership between the RAND Corporation and the Center on Reinventing Public Education. The panel also collaborates with several other education organizations—including the Council of the Great City Schools, Kitamba, and The School Superintendents Association—to help ensure we produce actionable results. For more information, please visit the ASDP website at www.americanschooldistrictpanel.org. These two surveys are part of the American Educator Panels (AEP). More information about the AEP is available at www.rand.org/aep.

RAND Education and Labor

This study was undertaken by RAND Education and Labor, a division of the RAND Corporation that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers,

entrepreneurship, and financial literacy and decisionmaking. This study was sponsored by the Overdeck Family Foundation, which includes among its goal a focus on STEM education outside of the school day. For more information on this and other goals, please visit overdeck.org/about-us/.

More information about RAND can be found at www.rand.org. Questions about this report should be directed to Catherine Augustine at cataug@rand.org, and questions about RAND Education and Labor should be directed to educationandlabor@rand.org.

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