

**Girlstart After School:
Analysis of Program Impact on Participants' Academic Achievement**
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Girlstart, an Austin, TX-based science, technology, engineering, and math (STEM) education nonprofit, has been offering its Girlstart After School program to girls in high-need schools in Central Texas since its founding in 1997. Since 2010, Girlstart has expanded this program significantly to reach more girls in more schools. Girlstart has also modified the scope and content of this program to better respond to the needs of our partner school communities. In this report, Girlstart compares Girlstart After School participants' academic performance to data from non-participants across two school districts, with the goal of understanding and articulating our program's impact on participants' academic achievement.

About Girlstart After School

Girlstart is a weekly afterschool program in which clubs of 20+ girls meet for an hour of informal instruction in a variety of STEM topics. Each club is led by a member of Girlstart's STEM CREW—"Creative, Resourceful, Empowered Women"—college students in STEM or education majors who receive classroom experience and training in STEM teaching while they work as Girlstart program leaders. Each week, at each partner school, girls engage in hands-on problem-solving challenges, balanced with time for discussing and recording their findings, as well as a discussion of STEM careers related to each activity. Girlstart After School currently reaches more than 1,000 girls through 45 weekly programs in 12 Texas districts. We purposefully seek partnership with schools that serve a high proportion of economically disadvantaged students, non-white students, and/or students classified as "at-risk" by the Texas Education Agency.

All Girlstart After School curriculum is aligned to the TEKS (Texas Essential Knowledge & Skills; Texas's learning standards) as well as to Next Generation Science Standards. Girlstart also works closely with our partner schools to time Girlstart After School lessons so that they supplement instruction received during the school day.

Girlstart retains a Campus Coordinator at each partner school, a teacher or staff member whose task is to recruit girls to participate in the program. Although each Campus Coordinator conducts recruitment based on his or her understanding of the needs of the school and students, Campus Coordinators receive general guidelines from Girlstart: because Girlstart After School is not a tutoring program, girls who are performing far below basic levels for their grade are not ideal candidates; nor is Girlstart After School a program *only* for high-performing girls or girls who already express a strong interest or aptitude in STEM. Many Girlstart participants are girls who need additional help in STEM subjects and/or a supportive environment in the afterschool space. Girlstart's program model is based on the belief that because all girls are underserved in STEM, *all* girls can benefit from an engaging and challenging STEM afterschool program. One of the goals of Girlstart After School is to keep these promising students, particularly those who lack STEM learning resources outside of school, engaged in STEM learning, so that they may continue to do well in math and science and enter advanced math and science tracks in middle school.

In 2012-13, Girlstart After School reached a total of 875 girls. 60% of these participants were Latina, 20% were white, 9% were African-American, 5% were Asian-American, and 5% identified as multiethnic. 68% of 2012-13 participants were considered economically disadvantaged (they received free or reduced-price lunch at school), and 33% were considered Limited English Proficient. 55% of 2012-13 participants, if they attend college, will be of the first generation of their family to do so. Girlstart After School participants are girls in the 4th through 8th grades, with a heavy concentration in 4th and 5th grades. Participant demographics from 2011-12 and prior school years are very similar to 2012-13.

Girlstart After School Internal Evaluation

Girlstart's internal evaluation design for Girlstart After School is informed by work done by SEDL (formerly the Southwestern Educational Development Laboratory) in 2011 and 2012. Girlstart uses a system of surveys, designed by SEDL, to assess girls' skills, knowledge, interest, and confidence in STEM throughout their time in Girlstart After School. These surveys also provide an opportunity for girls to self-report their attitudes toward Girlstart and toward STEM in general. Girlstart program leaders administer these surveys to girls at the beginning and end of each semester.

Using this robust internal evaluation process, Girlstart After School achieves consistently positive outcomes. Outcomes from the 2012-13 end-of-year evaluation include:

- 95% of participants demonstrated that they understood the scientific method and the engineering design process.
- 92% realized after participating that they use science outside of school.
- 84% of participants knew what 'STEM' stands for (compared to 44% on the pre-survey)
- 89% reported that they 'want to try more science activities.'
- 84% reported that they wanted to take further STEM classes in middle or high school.
- 82% reported that after participating in Girlstart, STEM careers seem more interesting.
- 95% indicate at least a moderate interest in entering a STEM career.
- 97% of participants report intent to attend college (even though 55% would be first-generation college students).

Expanding our Understanding of the Impact of Girlstart After School

Girlstart is pleased with the outcomes of our internal program evaluation; our primary goal is to inspire girls' curiosity and interest in STEM as well as their confidence in STEM pursuits. Nevertheless, we are also committed to providing services that address the most immediate and pressing needs of our partner schools and the students in our programs. We understand that for the majority of our partner schools, increasing students' passing rates in state-mandated tests is a very important goal, and one that demands significant time and resources to address. If Girlstart After School programs can help schools achieve higher passing rates, in addition to inspiring girls to continue STEM studies, then our programs are achieving a significant impact for participants and partner school communities. For this reason, we have partnered with Austin ISD and Georgetown ISD in Central Texas to collect and analyze data related to program participants' performance on state-mandated math and science tests, as well as their persistence in STEM subjects after they leave Girlstart After School.

Girlstart's goal is to understand the short- and long-term impact of participation in Girlstart After School. In this study, our primary focus is the 5th grade STAAR test in math and science. STAAR, the State of Texas Assessments of Academic Readiness, replaced the prior TAKS (Texas Assessment of Knowledge and Skills) test in the 2011-12 school year, and is mandatory for all students at public schools in the state of Texas. The 5th grade exam is important to individual students because a) it is the first time that students are tested in science (they take science tests again in 8th grade and high school), and b) students' scores on their fifth grade tests play a crucial role in determining whether the students will take advanced or pre-AP math and science classes in middle school. High 5th grade scores can exempt students from pre-AP placement tests, while low scores can discourage students from attempting to test in to these courses. 5th grade is also an optimal time to assess the impact of Girlstart After School, as participants may have been attending the program since they first began fourth grade.

Although we include data on both tests in this analysis, the 5th grade science STAAR provides a stronger point of comparison for students' skills and knowledge than the math STAAR. This is because while students may take the math exam up to three times—and are given mandatory tutoring and remediation over several months—if they do not pass, students are only allowed one chance to take the science exam. Thus science STAAR passing rates more closely reflect students' baseline abilities.

Girlstart's primary questions for this analysis are:

1. Does Girlstart help girls perform better on standardized math and science tests?

- Does program impact vary depending on the school's circumstance (i.e. higher-need urban schools will see more improvement)?
2. Do Girlstart girls choose advanced STEM classes & STEM electives at higher rates than non-participant peers after leaving the program?
- Do Girlstart participants attain higher grades in these subjects?

Analysis Methods & Results

Girlstart partnered with Austin ISD and Georgetown ISD, our two partner districts with the most Girlstart After School programs, for this study. In 2012-13, Girlstart had 11 After School programs in Austin ISD, and 8 programs in Georgetown ISD. One program from Austin ISD (our 6th grade Residency program at the Ann Richards School for Young Women Leaders) was not considered in this study, because our Residency-format programs are shorter-term interventions focused on computer science. Only three Georgetown ISD programs are included in this analysis (our 4th-5th grade programs at McCoy, Mitchell, and Williams Elementary schools), while five programs are excluded: Girlstart's two middle school programs in Georgetown, which we have since suspended, two 4th-5th grade programs at Pickett and Cooper Elementary schools, both of which we first implemented in spring of 2013, and our program for 3rd graders at Mitchell Elementary, which was a one-year pilot. We anticipate that our programs at Pickett and Cooper will be included in future analyses, as those programs follow our standard Girlstart After School model. For purposes of the current analysis, however, Girlstart determined that a single semester of intervention at these two schools was not sufficient to have a significant impact on participants' academic achievement.

Austin ISD Participants and Comparison Group: 5th Grade STAAR Math & Science

Girlstart partnered with Austin ISD to procure test scores for 222 2012-13 Girlstart After School participants and 160 2011-12 Girlstart After School participants. Austin ISD provided Girlstart with data on a comparison group of non-participant AISD girls, matched on grade level, ethnicity, socioeconomic status (free/reduced price lunch status), and Limited English Proficiency status. Where it was possible, AISD also chose comparison group girls who attended Girlstart partner schools; however, some partner school cohort sizes were too small to do this and also maintain anonymity. Where it was necessary to add girls from non-partner schools, Austin ISD chose girls from schools demographically similar to Girlstart's partner schools.

Girlstart compared passing rates of Girlstart participants with non-participants from the comparison group chosen by AISD. We compared these groups' passing rates in both subjects (math and science) across two years (2011-12 and 2012-13). We removed from this analysis any instances where study participants took the M (modified, for special education students) version of the STAAR test, which is scored on a different scale, but kept scores of girls who took the S (standard) or L (linguistically accommodated) versions. The L version of the test is given to ELL (English Language Learner) students, but is scored on the same scale as the S version. We also compared averages of the participants scale scores vs. the comparison group's scale scores.

Because some of our comparison group students did not attend Girlstart partner schools, Girlstart wished to take a deeper look at overall standardized test passing rates at our partner schools. We used data from all AISD partner schools' Texas Education Agency school report cards (known as AEIS/ Academic Excellence Indicator System up to 2011-12 and TAPR/ Texas Academic Performance Reports for 2012-13 and going forward). This information includes the percentage of students who passed ("Met Standard") the 5th grade science & math STAAR exams, as well as the number of students in the fifth grade at each school and the number that were absent during testing. Girlstart used this data to calculate the overall percentage of students at all our Austin ISD partner schools during the two years covered by this study. This percentage includes all students at each school, including Girlstart participants, non-participant girls, and non-participant boys. Percentages of students at each school who passed the STAAR with Commended Performance scores ("Level III Advanced") are available for the science STAAR, but not the math STAAR. This is because school report cards report this percentage for each subject as a combined view of all grade levels tested in that subject; only 5th grade students take the science test, but 3rd, 4th, and 5th grade students all take the math exam. Average scale scores

for our partner schools are not available. Appendix 1 contains demographic information and passing rates for each partner school.

Table 1. Austin ISD: 5th Grade Math STAAR.

	AISD Girlstart Girls	Non-Girlstart Girls	AISD Partner Schools
5th Grade Math STAAR 2012			
Test Takers #	90	95	661
Average Scale Score	1589	1554	<i>No data available</i>
Met Standard (Scale Score ≥ 1489) #	73	75	510
Met Standard %	81%	79%	77%
Commended Performance (Scale Score ≥ 1710) #	15	14	<i>No data available</i>
Commended Performance %	17%	15%	
5th Grade Math STAAR 2013			
Test Takers #	79	69	822
Average Scale Score	1607	1527	<i>No data available</i>
Met Standard (Scale Score ≥ 1489) #	70	39	572
Met Standard %	89%	57%	70%
Commended Performance (Scale Score ≥ 1710) #	14	7	<i>No data available</i>
Commended Performance %	18%	10%	

Table 1 shows that in spring 2012, 81% of AISD Girlstart After School participants passed (“Met Standard”) the math STAAR, while 79% of comparison group members passed, and only 77% of students at AISD partner schools passed. In 2013, 89% of Girlstart participants passed, compared to only 57% of comparison group members and 70% of all students at our AISD partner schools.

Table 2. Austin ISD: 5th Grade Science STAAR.

	AISD Girlstart Girls	Non-Girlstart Girls	AISD Partner Schools
5th Grade Science STAAR 2012			
Test Takers #	91	96	661
Average Scale Score	3692	3503	<i>No data available</i>
Met Standard (Scale Score ≥ 3500) #	61	51	394
Met Standard %	67%	53%	60%
Commended Performance (Scale Score ≥ 4402) #	4	2	29
Commended Performance %	4%	2%	4%
5th Grade Science STAAR 2013			
Test Takers #	80	69	822
Average Scale Score	3703	3456	<i>No data available</i>
Met Standard (Scale Score ≥ 3500) #	61	28	528
Met Standard %	76%	41%	64%
Commended Performance (Scale Score ≥ 4402) #	4	2	35
Commended Performance %	5%	3%	4%

As shown in Table 2, when given the science STAAR in 2012, 67% of Girlstart participants passed, compared to 53% of comparison group members and 60% of students overall at our AISD partner schools. In spring 2013, 76% of Girlstart participants passed, while only 41% of comparison group members and 64% of all students at our partner schools passed the same test.

Table 3. Austin ISD: 5th Grade Math & Science STAAR Two-Year Combined Totals.

	AISD Girlstart Girls	Non-Girlstart Girls	AISD Partner Schools
5th Grade Math STAAR 2-Year Total			
Test Takers #	169	164	1483
Met Standard (Scale Score ≥ 1489) #	143	114	582
Met Standard %	85%	70%	73%
Commended Performance (Scale Score ≥ 1710) #	29	21	<i>No data available</i>
Commended Performance %	17%	13%	
5th Grade Science STAAR 2-Year Total			
Test Takers #	171	165	1483
Met Standard (Scale Score ≥ 3500) #	122	79	922
Met Standard %	71%	48%	62%
Commended Performance (Scale Score ≥ 4402) #	8	4	64
Commended Performance %	5%	3%	4%

Table 3 combines math and science STAAR scores across both years for our three Austin ISD groups (Girlstart participants, non-participant members of our comparison group, and all students at our partner schools). Over these two years, 71% of Girlstart participants passed the 5th grade science STAAR, while only 48% of comparison group members and 62% of all students passed. In math, 85% of Girlstart participants passed, compared to 70% of comparison group members and 73% of all students at our AISD partner schools.

Georgetown ISD Participants and Comparison Group

For this study, Girlstart also partnered with Georgetown ISD, a partner district serving girls in the city of Georgetown, 30 miles to the north of Austin. Although we do consider our Georgetown ISD partner schools to serve high-need student populations, they serve proportionately fewer economically disadvantaged, non-white, and at-risk students than our AISD partner schools. Georgetown ISD, because it is not an urban school system, also faces different challenges than AISD, which often out of necessity acts a provider of basic social services—such as medical and dental scans, etc.—for its students. Georgetown ISD, while still serving a high-need population, is able to focus more of its resources on addressing students’ academic, rather than basic, needs. For these reasons, we consider Georgetown ISD a good candidate for comparison to AISD in addressing the question of whether Girlstart After School programs have more impact in urban schools and districts.

Girlstart obtained test score data for Girlstart participants at three of our Georgetown partner schools. This data includes 2011-12 5th grade science STAAR scores for 29 Girlstart participants, 2012-13 5th grade math STAAR scores for 45 participants, and 2012-13 5th grade science STAAR scores for 59 participants. As with our AISD participants, we removed any scores of girls who took M version tests, but kept those that took the S and L versions.

Because Georgetown ISD did not provide a comparison group of non-participant girls matched on demographic indicators, Girlstart used the same method of comparing overall passing rates at our partner schools as we used to find overall passing rates at our AISD schools (AEIS and TAPR school report card data on the number of students taking each test and passing rates for each school). As with our analysis of passing rates at AISD partner schools, this passing percentage includes all students at each school, including Girlstart participants, non-participant girls, and non-participant boys. Appendix 2 contains demographic information and passing rates for each of our Georgetown ISD partner schools.

Table 4. Georgetown ISD: 5th Grade Math STAAR.

	GISD Girlstart Girls	GISD Partner Schools
5th Grade Math STAAR 2012		
Test Takers #	<i>No data available</i>	379
Average Scale Score		<i>No data available</i>
Met Standard (Scale Score ≥ 1489) #		314
Met Standard %		83%
Commended Performance (Scale Score ≥ 1710) #		<i>No data available</i>
Commended Performance %		
5th Grade Math STAAR 2013		
Test Takers #	45	386
Average Scale Score	1636	<i>No data available</i>
Met Standard (Scale Score ≥ 1489) #	39	298
Met Standard %	87%	77%
Commended Performance (Scale Score ≥ 1710) #	13	<i>No data available</i>
Commended Performance %	29%	

As shown in Table 4, in 2013, 87% of Girlstart After School participants at our Georgetown ISD partner schools passed the 5th grade math STAAR, compared to 77% of students overall at our GISD partner schools. Additionally, 13 girls (29%) earned Commended Performance-level scores.

Table 5. Georgetown ISD: 5th Grade Science STAAR.

	GISD Girlstart Girls	GISD Partner Schools
5th Grade Science STAAR 2012		
Test Takers #	29	379
Average Scale Score	4162	<i>No data available</i>
Met Standard (Scale Score ≥ 3500) #	26	305
Met Standard %	90%	81%
Commended Performance (Scale Score ≥ 4402) #	10	67
Commended Performance %	34%	18%
5th Grade Science STAAR 2013		
Test Takers #	59	386
Average Scale Score	3939	<i>No data available</i>
Met Standard (Scale Score ≥ 3500) #	39	281
Met Standard %	78%	73%
Commended Performance (Scale Score ≥ 4402) #	11	53
Commended Performance %	19%	14%

Table 5 shows that 90% of Girlstart participants in GISD passed the science STAAR in 2012, and in 2013, 78% of Girlstart participants passed. Of all students at our GISD partner schools, 81% passed in 2012 and only 73% passed in 2013. In both years, Girlstart participants achieved Commended Performance scores at significantly higher rates than the general school populations.

Table 6. Georgetown ISD: 5th Grade Science STAAR Two-Year Combined Totals.

	GISD Girlstart Girls	GISD Partner Schools
5th Grade Science STAAR 2-Year Total		
Test Takers #	88	765
Met Standard (Scale Score ≥ 3500) #	72	586
Met Standard %	82%	77%
Commended Performance (Scale Score ≥ 4402) #	21	120
Commended Performance %	24%	16%

The two-year math total was left out of Table 6 because Girlstart only has one year worth of Math STAAR data from our Georgetown participants and partner schools. Over this two-year period, 82% of all Girlstart participants passed the 5th grade science STAAR, while 77% of all students at our GISD partner schools passed. In Georgetown ISD, 5% more Girlstart participants passed the STAAR Science test (over two years), and 10% more Girlstart participants passed the 2013 STAAR Math test (over one year) than the overall passing rates for our GISD partner schools.

Austin ISD and Georgetown ISD Girlstart Participant Comparison

Girlstart hypothesized that our higher-need urban schools would see more improvement in test passing rates among program participants. To assess this, we compared passing rates between our Austin ISD participants and Georgetown ISD participants.

Table 7. Austin ISD & Georgetown ISD: 5th Grade Math STAAR Comparison.

	AISD Girlstart Girls	GISD Girlstart Girls
	% passing (% increase from overall at partner schools)	% passing (% increase from overall at partner schools)
5th Grade Math STAAR 2012		
Average Scale Score	1589	<i>No data available</i>
Met Standard %	81% (+ 4%)	
Commended Performance %	17%	
5th Grade Math STAAR 2013		
Average Scale Score	1607	1636
Met Standard %	89% (+ 19%)	87% (+ 10%)
Commended Performance %	18%	29%

Table 8. Austin ISD & Georgetown ISD: 5th Grade Science STAAR Comparison.

	AISD Girlstart Girls	GISD Girlstart Girls
	% passing (% increase from overall at partner schools)	% passing (% increase from overall at partner schools)
5th Grade Science STAAR 2012		
Average Scale Score	3692	4162
Met Standard %	67% (+ 7%)	90% (+9%)
Commended Performance %	4% (no change)	34% (+ 16%)
5th Grade Science STAAR 2013		
Average Scale Score	3503	3939
Met Standard %	76% (+12%)	78% (+5%)
Commended Performance %	5% (+ 1%)	19% (+5%)

Tables 7 and 8 show that, although the greatest increases in passing rates were achieved at our higher-need Austin ISD partner schools, rate increases in Georgetown ISD were not insignificant, and in some cases, were greater than in AISD.

Where data is available, it also shows that Girlstart After School participants achieved Commended Performance scores at higher rates than their comparison group peers and their school averages. Although this is the case for each year, and in both districts, the percentage of girls passing the STAAR with Commended Performance-level scores is significantly higher in Georgetown ISD. This suggests that, while in our highest-need urban schools and districts, Girlstart After School helps girls reach basic passing levels in math and science, in our non-urban partner schools, Girlstart After School is helping girls build their skills beyond the basic level. In most of our partner districts, girls who earn Commended Performance scores in 5th grade can register for advanced or pre-AP math and science courses in middle school without having to test into those courses. Girlstart is strengthening the pipeline of girls who are ready for these advanced STEM classes.

The comparison of Austin ISD Girlstart participants with Georgetown ISD participants indicates that even in schools and districts that are less high-need, Girlstart After School program participation has a significant impact on girls' exam performance. We believe that this is due in part to our efforts in aligning program curriculum to the TEKS, with the goal of supplementing in-school instruction, especially in science subject matter.

Girlstart Participants After Girlstart: Secondary Course Registration & Grades

As part of this study, Girlstart also wished to assess the long-term impacts of participation in Girlstart After School on girls' academic progress and educational choices. To do so, we obtained course registration information and grades for 151 Girlstart After School participants from 2011-12 and 2010-11 who have gone on to middle school in AISD (6th grade and higher, 151 girls). AISD also provided Girlstart with course registration and grade data for 155 non-participants matched on key demographic indicators (using the same criteria described above). We broke the course registrations down into Basic Math & Science (courses that all students are required to take), Advanced Math & Science, Remedial

Math & Science, and STEM Electives (Table 9). Girlstart compared the number of course registrations in each category as well as average grades of participants and comparison group members. A separate analysis of the same breaks down course selection and average grades by year in the categories of Math, Science, CTE (Computer & Technology Elective) and Miscellaneous (other STEM-related courses), and compares students' average grades in each category. The data in the tables below contains registration & course grade information for 151 Girlstart participants and 155 non-Girlstart comparison group members.

Table 9. Austin ISD Secondary Course Registration & Grade Averages by Course Type.

Subject	AISD Girlstart Girls			Non-Girlstart Girls			Girlstart/ Non-Girlstart % Difference in Course Grades	
	# Students Registering	Semester 1 Grade Average	Semester 2 Grade Average	# Students Registering	Semester 1 Grade Average	Semester 2 Grade Average	% Difference Semester 1	% Difference Semester 2
Advanced & Pre-AP Math & Science	239	86.8	84.9	155	86.9	85.6	- 0.12	- 0.82
Basic Math & Science	199	84.4	82.6	270	82.4	81.6	+ 2.38	+ 1.20
Remedial Math & Science	0			4	76.8	74.0		
STEM Electives	110	89.8	88.2	113	87.7	87.7	+ 2.41	+ 0.54

This analysis of the same data shows that girls who participated in Girlstart After School during elementary school registered for advanced and pre-AP math and science courses at a significantly higher rate than non-Girlstart girls from our matched comparison group. While non-Girlstart girls registered for an average of 1.00 advanced or pre-AP math or science course across the three years included in this data (2010-11, 2011-12, and 2012-13), Girlstart participants registered at a rate of 1.58 advanced courses per girl. While Girlstart participants' grade averages in advanced and pre-AP courses are very slightly lower than those of their non-participant peers, Girlstart girls in basic math and science classes and STEM electives earned higher average course grades than non-participants. Additionally, this data suggests that girls who participate in Girlstart After School are less likely to be remanded to remedial math and science courses.

Table 10. Austin ISD Secondary Course Registration & Grade Averages by Year.

Subject	AISD Girlstart Girls			Non-Girlstart Girls			Girlstart/ Non-Girlstart % Difference in Course Grades	
	Students #	Semester 1 Grade Average	Semester 2 Grade Average	Students #	Semester 1 Grade Average	Semester 2 Grade Average	% Difference Semester 1	% Difference Semester 2
2010-11								
Science	11	85.9	85.8	10	81.5	79.3	+ 5.41	+ 8.22
Math	11	86.3	85.4	10	81.8	80.3	+ 5.47	+ 6.31
Computer Science/ Technology	3	93.0	86.0	1	96.0	82.0	- 3.12	+ 4.88
2011-12								
Science	52	86.8	84.8	56	85.4	84.1	+ 1.62	+ 0.84
Math	52	88.3	87.1	56	84.8	84.3	+ 4.04	+ 3.31
Computer Science/ Technology	12	91.5	82.1	12	92.0	90.1	- 0.54	- 8.96
Other STEM Electives	7	87.9	86.0	8	84.1	84.1	+ 4.44	+ 2.23
2012-13								
Science	136	84.5	82.3	134	83.3	82.6	+ 1.41	- 0.30
Math	136	85.4	83.4	133	84.1	83.1	+ 1.56	+ 0.28
Computer Science/ Technology	36	90.5	90.7	38	87.6	88.4	+3.34	+ 2.57
Other STEM Electives	17	88.5	88.5	10	88.4	86.6	+ 0.18	+ 2.23

Table 10 shows the average grade in STEM subjects for previous Girlstart participants and non-participant members of our comparison group once they reached middle school (6th, 7th, & 8th grade). Over this three-year period, girls who participated in Girlstart when they were in elementary school (4th & 5th grade) earned higher scores than non-participants across most STEM subjects when they reached middle school age.

Summary and Conclusions

The Girlstart After School participant test score data analyzed in this study clearly shows that each year, in both math and science, in both partner districts, Girlstart girls are passing the STAAR test at higher rates than their non-participant peers. In Austin ISD, 15% more Girlstart participants than non-participants in our matched comparison group passed the STAAR Math test, and 23% more Girlstart participants passed the STAAR Science test over the two-year period of this study. AISD Girlstart participants are also passing at higher rates than the overall averages for our partner schools in that district. Girlstart participants in both districts are also achieving Commended Performance-level scores at higher rates than their peers. Passing these tests, and especially receiving Commended status, is crucial for girls, because doing so sets them on a track for success in STEM as they enter secondary school.

Girlstart's secondary course registration analysis shows that Girlstart After School participation can be a significant factor in encouraging girls to pursue advanced math and science classes once they reach middle school. The rate at which Girlstart alumnae are enrolling in advanced and pre-AP math and science—1.58 advanced courses per girl, compared to 1.00 advanced courses per non-participant girl—is strong evidence that Girlstart programs are achieving their goals of building not just girls' skills and knowledge, but also their interest, confidence, and sense of self-efficacy in STEM subjects. Given that middle school is typically the time period when many girls disengage from STEM learning, the fact that Girlstart girls are opting in to advanced math and science at a significantly higher rate lets us know that our programs are working.

Anecdotal evidence from our Campus Coordinators also supports the findings reported here. One Campus Coordinator, a science teacher in Georgetown ISD, reports that in an effort to prepare students for the science STAAR, she taught a lesson in solutions and solubility. However, because many of her students are ELL students (English Language Learners), she specifically used only the word "solutions" in her teaching, and left out the word "solubility." Some of her students then participated in a Girlstart After School lesson where they learned about solubility. Of all her students, only the girls who attended Girlstart answered a certain STAAR question—which used the word "solubility"—correctly. This is a direct outcome of Girlstart's efforts to align our curriculum to TEKS learning standards while still providing content that is engaging and relevant to girls. By helping build girls' skills and knowledge in STEM, Girlstart After School is also helping our partner schools address one of their biggest challenges: increasing their students' ability to pass state-mandated tests.

Girlstart is gratified that our work is having a demonstrable effect on participants' academic performance. We aim to continue providing this programming to high-need girls across Texas, and to continue our expansion of this program to new partner schools and communities. As we do so, we will use the outcomes of this analysis to inform our program content and implementation. Girlstart will also expand this study in the coming years: as more program participants age into middle and high school, and as we receive additional data from partner schools and districts, we aim to collect and report additional findings on participants' academic progress, course selection, high school graduation rates, and college enrollment.

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Appendix 1. Austin ISD Partner School Demographic Information & STAAR Passing Rates.

Partner School	Demographics (2012-13)				5 th Grade Math STAAR 2012			5 th Grade Science STAAR 2012			5 th Grade Math STAAR 2013			5 th Grade Science STAAR 2013		
	% Econ. Disadvant.	% Non-white	% At-risk	# Test Takers	# Met Standard	# Test Takers	# Met Standard	# Test Takers	# Met Standard	# Comm. Perf.	# Test Takers	# Met Standard	# Comm. Perf.	# Test Takers	# Met Standard	# Comm. Perf.
Cook Elementary	97.1%	96.4%	77.8%	132	103	132	67	132	4	122	79	5	122	57	5	
McBee Elementary	98.8%	98.4%	85.0%	116	75	116	61	116	9	98	78	3	98	76	3	
Ortega Elementary	97.1%	99.1%	66.2%	38	33	38	27	38	3	40	35	2	40	36	2	
Palm Elementary	87.2%	96.5%	60.6%	83	70	83	41	83	0	73	62	3	73	46	3	
Pleasant Hill Elementary	91.3%	95.5%	67.7%	81	59	81	58	81	4	65	46	7	65	46	7	
Woodridge Elementary	97.3%	98.0%	85.6%	137	118	137	81	137	4	127	84	4	127	77	4	
Wooten Elementary	94.0%	95.2%	80.4%	74	52	74	59	74	5	74	48	5	74	57	5	
Govalle Elementary	96.3%	97.9%	63.5%	<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			
Pecan Springs Elementary	97.1%	99.2%	65.0%	<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			
Rodriguez Elementary	96.5%	98.6%	70.5%	<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			<i>Not a partner school in 2011-12</i>			
Total Students All Schools				661	510	661	394	661	29	822	572	35	822	528	35	

Appendix 2. Georgetown ISD Partner School Demographic Information & STAAR Passing Rates.

Partner School	Demographics (2012-13)			5 th Grade Math STAAR 2012			5 th Grade Science STAAR 2012			5 th Grade Math STAAR 2013			5 th Grade Science STAAR 2013		
	% Econ. Disadvantaged	% Non-white	% At-risk	# Test Takers	# Met Standard	# Comm. Perf.	# Test Takers	# Met Standard	# Comm. Perf.	# Test Takers	# Met Standard	# Comm. Perf.	# Test Takers	# Met Standard	# Comm. Perf.
Mitchell Elementary	66.3%	64.8%	58.8%	121	102	22	121	97	22	91	65	13	91	62	13
Williams Elementary	68.9%	69.2%	50.0%	115	101	18	115	95	18	130	109	22	130	92	22
McCoy Elementary	32.9%	31.5%	28.7%	143	111	27	143	113	27	165	124	18	165	127	18
Total Students All Schools				379	314	67	379	305	67	386	298	53	386	281	53