



Final Report

The Impact of Girls Inc. on Academic and Behavioral Outcomes

“For the first time in history, we can state with certainty that our next generation of leaders will be a generation of women leaders—particularly women leaders of color, many of whom will start out at a socioeconomic disadvantage” (Hull, 2020). Women now make up the majority of the workforce, with most new hires being women of color.¹ A record number of women are serving in Congress, and the number of female CEOs continues to increase. This means that girls need to have the skills and support to be ready to seek more leadership roles. Girls Inc. works with girls throughout the United States and Canada, inspiring them to lead healthy lives, succeed academically, and advocate for themselves and others.

What We Found

In a rigorous comparison study of Girls Inc. girls and their peers who do not participate in Girls Inc. programming, we found:

- Overall, Girls Inc. girls reported more positive attitudes and behaviors than the comparison group of girls across the majority of self-reported survey outcomes measuring knowledge, skills, and attitudes in three outcome areas: Healthy Living (Strong), Academic Engagement and Success (Smart), and Life Skills or Character Development (Bold).
- Girls Inc. girls had consistently higher mathematics achievement test scores than the comparison group of girls, but the two groups had comparable English language arts (ELA) test scores.
- Girls Inc. girls in Year 1 of the study (2017–18) had higher school-day attendance rates than the comparison group of girls.
- Girls Inc. girls in Year 1 were suspended at lower rates than girls in the comparison group.

Girls Inc.

Girls Inc. provides comprehensive, research-based programs and activities for girls at sites across the United States. The mission of Girls Inc. is to inspire all girls to be “strong, smart, and bold” (Girls Inc., n.d.).

Girls Inc. and the American Institutes for Research (AIR) partnered on a 2-year evaluation to understand the relationship between a high-quality Girls Inc. Experience and academic, behavioral, and “Strong, Smart, and Bold” outcomes for girls and young women. As part of the evaluation, we compared Girls Inc. participants and the comparison group of girls on Strong, Smart, and Bold, and school-related outcomes for two different years (2017–18, 2018–19), totaling more than 3,000 girls.

¹ https://www.washingtonpost.com/business/economy/for-the-first-time-ever-most-new-working-age-hires-in-the-us-are-people-of-color/2019/09/09/8edc48a2-bd10-11e9-b873-63ace636af08_story.html

What We Did

AIR explored the relationship between participating in Girls Inc. programming and girls' survey responses, and school-related outcomes. This study addressed two research questions:

1. To what extent does Girls Inc. programming influence its target outcomes (Strong, Smart, and Bold indicators) among Girls Inc. girls compared with the comparison group of girls?
2. To what extent does Girls Inc. programming influence academic outcomes and behaviors among Girls Inc. girls compared with the comparison group of girls?

We addressed these research questions by working with four Girls Inc. affiliates and the school districts in which they are located to understand program impacts on (1) outcomes measured by the Strong, Smart, and Bold Outcomes Survey (SSBOS), which is Girls Inc.'s annual survey that girls are invited to complete, and (2) outcomes measured by school-related data (which included ELA and mathematics achievement, school-day attendance, and suspension rates).

For both SSBOS data and school-related data, we ran regression models to examine differences in outcomes between Girls Inc. girls and the comparison group of girls. We also examined whether differences in outcomes between these two groups varied depending on certain characteristics, including age group (which relates to survey type), race and ethnicity, enrollment in a special education program, English learner (EL) status, free or reduced-price lunch status, and amount of time spent in Girls Inc. programming (dosage).²

The study was conducted over a two-year period, with separate samples included in 2017–18 and in 2018–19. The replication allows us to examine the consistency of the findings across the two samples for which all analyses were conducted separately.

Three Outcome Areas

- Healthy Living (Strong)
- Academic Engagement and Success (Smart)
- Life Skills or Character Development (Bold)

Matching Analyses

We conducted matching analyses to select comparison girls who were similar to those participating in Girls Inc. programming, based on the prior year's achievement scores, school-day attendance, demographic characteristics, and school-level characteristics.

This kind of matching ensures that we compare girls who are as similar as possible across observable characteristics (that is, characteristics we can measure). This approach allows us to be more certain that any positive results are due to Girls Inc. programming, rather than other factors.

² Using data from the Girls Inc. national tracking database (TraxSolutions) for girls in Year 1, we defined three categories of dosage: (1) 17 hours or less of programming, (2) 18 to 66 hours of programming, and (3) 67 hours or more of programming. We defined categories using Year 1 dosage data to ensure consistent cutoffs across the two years.

Who Was Included in the Study

This study relied on two different samples of girls: one for SSBOS outcomes and one for school-related outcomes (Exhibit 1).³

Exhibit 1. SSBOS and School-Related Sample Size by Year and Group

Sample for	Year 1 (2017–18)		Year 2 (2018–19)	
	Girls Inc. Girls	Comparison Group of Girls	Girls Inc. Girls	Comparison Group of Girls
SSBOS outcomes	1,027	444	1,328	398
School-related outcomes	670	670	1,701	1,701

Findings for Strong, Smart, and Bold Outcomes

Girls Inc. girls reported more positive attitudes and behaviors than the comparison group of girls across the majority of outcomes on the Strong, Smart, and Bold Outcomes Survey (SSBOS).

Overall, girls (regardless of whether they attended Girls Inc. or not) reported positive attitudes and behaviors of themselves and little engagement in risky behaviors. As shown in Exhibits 2–4, Girls Inc. participation was widely associated with more positive SSBOS outcomes compared with the comparison group of girls, indicating that Girls Inc. girls were more likely to report these positive attitudes and behaviors than their peers in the comparison group. Out of 27 possible SSBOS outcomes, 19 were in the positive direction for girls in Year 1, and 23 were in the positive direction for girls in Year 2. In Year 1, six of the 27 outcomes showed no difference, and two showed results where the comparison group outpaced Girls Inc. girls. In Year 2, three of the 27 showed no difference, and one showed a result where the comparison group outpaced Girls Inc. girls. More specifically, we found the following:

Strong (six outcomes)

Of the six possible strong outcomes, Girls Inc. girls in Years 1 and 2 reported more positive attitudes and behaviors than the comparison group of girls on two and four outcomes, respectively. All findings for both years were in the positive direction, with Girls Inc. girls outperforming their peers in these areas (see Exhibit 2).



Girls Inc. girls reported that they were more engaged in *physical activities* and participated more in *sports teams* than the comparison group of girls.



³ A power analysis indicated that we have a sufficient statistical “power” to detect differences between Girls Inc. girls and similar girls, if a difference exists.

Exhibit 2. Strong Outcomes Results by Year

SSBOS Outcomes	Year 1	Year 2
Strong		
Unhealthy eating	ns	+
Physical activity †	+	+
Sports team participation †	+	+
It is important to be pretty. †	ns	ns
I am happy with how my body looks. †	ns	ns
I want to look like the girls and women I see on TV. †	ns	+

Notes. ns is not significant at the .05 level.

+ denotes a statistically significant relationship in the expected (or positive) direction.

†These constructs are individual items.

Smart (14 outcomes)

Girls Inc. girls in Years 1 and 2 reported more positive attitudes and behaviors than the comparison group of girls for 13 out of 14 and 14 out of 14 outcomes, respectively, with Girls Inc. girls outperforming their peers in these areas (see Exhibit 3).



Girls Inc. girls reported that they were more *excited about science*, were more *engaged in school*, and *could handle harder reading* than the comparison group of girls.



Exhibit 3. Smart Outcomes Results by Year

SSBOS Outcomes	Year 1	Year 2
Smart		
School engagement ^a	+	+
Reading is fun. †	ns	+
Math is fun. †	+	+
Science is fun. †	+	+
I could handle harder reading. † ^a	+	+
I could handle harder math. † ^a	+	+
I could handle harder science. † ^a	+	+
I want to understand science. † ^a	+	+
I enjoy playing games that teach me about science. † ^a	+	+
I get excited about science. † ^a	+	+
I would like to have a computer or science job in the future. † ^a	+	+
I like to see how things are made. † ^a	+	+
I am curious to learn more about science, computers, or technology. † ^a	+	+
Postsecondary readiness ^a	+	+

Notes. ns is not significant at the .05 level.

+ denotes a statistically significant relationship in the expected (or positive) direction.

†These constructs are individual items.

^aThese constructs are only for the teen survey.

Bold (seven outcomes)

Of the seven Bold outcomes measured, Girls Inc. girls in Years 1 and 2 reported more positive attitudes and behaviors than the comparison group of girls for four and five outcomes, respectively, and reported negative differences for two and one outcomes, respectively. Self-regulation was the only SSBOS outcome in which the comparison group of girls outperformed Girls Inc. girls in both Years 1 and 2 (see Exhibit 4).



Girls Inc. girls reported greater *leadership* and *positive relationships with adults* compared with the comparison group of girls



Exhibit 4. Bold Outcomes Results by Year

SSBOS Outcomes	Year 1	Year 2
Bold		
Diligence and perseverance ^a	–	ns
Self-regulation	–	–
Leadership	+	+
Positive relationship with adults ^a	+	+
Stand up for fairness and beliefs ^a	+	+
Civic efficacy ^a	+	+
Social responsibility ^a	ns	+

Notes. ns is not significant at the .05 level.

+ denotes a statistically significant relationship in the expected (or positive) direction.

– denotes a statistically significant relationship in the unexpected (or negative) direction.

^aThese constructs are only for the teen survey.

The Girls Inc. findings on the Strong, Smart, and Bold Outcomes Survey are consistent with research on afterschool programs that shows participants in high-quality programs have improved self-confidence and self-esteem as well as more positive feelings toward school, a higher motivation to learn, and increased academic aspirations (Durlak & Weissberg, 2007; Vandell, Reisner, & Pierce, 2007; Huang, Leon, La Torre, & Mostafavi, 2008; Kane, 2004; Naftzger, Vinson, Manzeske, & Gibbs, 2011; Westwood Research & Statistical Services, 2017). For example, in an evaluation of Citizen Schools in Boston, students reported that they had positive relationships with adults and felt more confident speaking in public due to program participation (Fabiano, Pearson, & Williams, 2005). This is important because social and emotional skills, mindsets, and competencies are associated with academic performance (Farrington et al., 2012).

The Girls Inc. findings on the Strong (Healthy Living) outcomes also align with findings from other studies where afterschool programs play an important role in encouraging physical activity and smart eating habits, linking participation in afterschool programs with positive health outcomes, including reduced obesity (Mahoney, Lord, & Carryl, 2005). In a randomized controlled trial of another girl-focused afterschool program, participating girls reported more knowledge about nutrition and were less likely to report dissatisfaction with their body than the control group of girls, which is important because girls who have concerns about their body are more likely to have lower self-esteem later in life (Bohnert & Ward, 2013; Ohring, Graber, & Brooks-Gunn, 2002).

Girls Inc. girls consistently reported more positive attitudes and behaviors for most of the SSBOS outcomes than the comparison group of girls, regardless of how many hours of programming they participated in.

Regardless of the amount of Girls Inc. programming received, we found positive differences for the majority of SSBOS outcomes for both years of girls studied, meaning that the hours of programming they participated in did not make a difference.⁴

This could indicate that other factors (such as the quality of programming) are more important than girls receiving a *certain amount* of programming. Other afterschool studies have reported the importance of program quality, consistent implementation of the program model, and attendance in afterschool and summer programs as difference makers in outcomes for youth (Naftzger, 2014; Neild, Wilson, & McClanahan, 2019), but we did not study quality of programming as part of this evaluation.

Teen Girls Inc. participants consistently reported more positive attitudes and behaviors than the comparison group of teen girls in the SSBOS.

When accounting for differences in age groups (youth: ages 9–12 and teens: ages 13–18), we found that Girls Inc. programming may be especially important for teen girls. Out of 27 outcomes, we found 18 positive differences between teen Girls Inc. girls and the comparison group of teen girls for Year 1, and 23 positive differences for Year 2. Out of 17 outcomes,⁵ we did not find any differences between youth Girls Inc. girls and the comparison group of youth girls for Year 1, and found only one positive difference for Year 2. It is important to note that our inability to find differences for youth Girls Inc. girls could either be because those differences do not exist or because we did not have enough youth girls in the sample.

⁴ Among Girls Inc. girls who received 17 hours or less of programming in Years 1 and 2, we found positive differences for 21 and 11 outcomes, and 1 negative difference for one outcome, respectively. Among Girls Inc. girls who received 18 to 66 hours of programming in Years 1 and 2, we found positive differences for 17 and 20 outcomes, and negative differences for two and for one outcome, respectively. Among Girls Inc. girls who received 67 hours or more of programming in Years 1 and 2, we found positive differences for 14 and 20 outcomes, and negative differences for one outcome (only in Year 1).

⁵ Ten of the SSBOS outcomes were on the teen survey only; thus, youth only had 17 outcomes.

Findings for School-Related Outcomes

Exhibit 5 briefly summarizes our school-related outcomes for each year.

Exhibit 5. Summary of Findings for School-Related Outcomes by Year

Outcome	Year 1	Year 2
Mathematics achievement	+	+
English language arts achievement	ns	ns
School-day attendance	+	ns
Suspensions	+	ns ^a

Note: ns is not significant at the .05 level.
 + denotes a statistically significant positive relationship.
^a In Year 2, information was only available for one district.

Girls Inc. girls had consistently higher mathematics achievement test scores than the comparison group of girls, but the two groups had comparable ELA test scores.

Girls Inc. girls in Years 1 and 2 had mathematics test scores that were higher than the comparison group of girls in each year. More specifically, Girls Inc. girls had test scores that were .1 and .05 standard deviations higher than the comparison group of girls in Years 1 and 2, respectively. For both Year 1 and Year 2, there were no differences in ELA achievement test scores between Girls Inc. girls and the comparison group of girls.

Outcome	English language arts and mathematics achievement
Metric	Standard deviation units ⁶
Interpretation	Positive values indicate that Girls Inc. girls performed better than the comparison group of girls. Negative values indicate that Girls Inc. girls performed more poorly than the comparison group of girls.

The gains in standardized math scores for Girls Inc. girls are consistent with the literature (Afterschool Alliance, 2017; McCombs, Whitaker, & Yoo, 2017), including a recent meta-analysis of more than 60 afterschool programs (Neild et al., 2019) that found a small effect on math achievement and a study of an afterschool program serving 3,000 ethnically diverse elementary and middle school students from low-income families. In that study, youth experienced gains of up to 12 percentage points in mathematics test scores compared with peers who were routinely unsupervised during afterschool hours (Vandell et al., 2007).

⁶ To ensure that scores from different mathematics and ELA assessments (across the schools in four states) used the same scale, we standardized achievement scores by grade, subject, and year. The standard deviation is a measure of variation around the mean, with larger values indicating greater variation and smaller values (closer to zero) indicating less variation.

The inconsistent findings for ELA achievement test scores differ from evaluations of other afterschool programs, which have found small, positive effects on this measure (Lauer et al., 2006). For example, AIR examined the impact of 21st Century Community Learning Centers (21st CCLC) programs in five states and found that program participation was associated with higher state assessment scores in both ELA and mathematics (AIR, 2015). In this study, however, we could not take into account the type of programming that Girls Inc. girls attended (that is, we did not analyze impacts on ELA test scores only for girls participating in literacy programs, nor did we analyze impacts on mathematics test scores only for girls participating in science, technology, engineering, and mathematics [STEM] programs), which could explain the differing outcomes.

Girls Inc. girls had slightly higher school-day attendance rates than the comparison group of girls.

Overall, school-day attendance rates were high for both Girls Inc. girls and the comparison group of girls in Years 1 and 2 (average attendance rates for each district were between 93% and 97%). Only Girls Inc. girls in Year 1 had significantly higher attendance rates than the comparison group of girls; we did not find significant differences in attendance rates for Year 2.

On average, Girls Inc. girls in Year 1 attended one and a half more days of school than the comparison group of girls, while Girls Inc. girls in Year 2 attended school three-quarters of a day more than the comparison group of girls.

Outcome	School-day attendance
Metric	Rate difference ⁷
Interpretation	Positive values indicate an increase in school-day attendance rates among Girls Inc. girls compared with the comparison group of girls. Negative values indicate a decrease in school-day attendance rates.

This is somewhat consistent with the literature. For example, a study of After School Matters (ASM) found that students who attended ASM missed two fewer days of school than their peers (George, Cusick, Wasserman, & Gladden, 2007), and a recent meta-analysis found that afterschool programs had a small-to-moderate effect on attendance (Neild et al., 2019). However, larger impacts on attendance have been found in other studies of afterschool programs (Jenson et al., 2018; Neild et al., 2019; Vinson, Marchand, Sparr, & Moroney, 2013). For example, youth attending 21st CCLC programs in Texas saw a 14–15% decrease in absenteeism, and similar results were reported in the Texas State Education Agency’s 2009 evaluation of its 21st CCLC program (Afterschool Alliance, 2015; Burgette et al., 2009; Naftzger et al., 2013).

⁷ Results for school-day attendance are presented in the rate-difference metric but also may be converted into the number of additional days attended by multiplying the estimate by 180 (that is, the number of days that a girl is expected to attend school in a given school year).

Girls Inc. girls in Year 1 were suspended at lower rates than the comparison group of girls.

For both years, Girls Inc. girls and the comparison group of girls were rarely suspended. In Year 1 (based on data from three districts), the suspension rate was 79% lower among Girls Inc. girls compared with the comparison group of girls.

For Year 2, we could only analyze suspensions for one district, which consisted of 1,124 girls, or about one-third of the overall sample.⁸ This may have limited our ability to detect suspension’s effects in Year 2.

Outcome	Suspensions
Metric	Percentage difference
Interpretation	Positive values for suspensions indicate an increase in the percentage of suspensions among Girls Inc. girls compared with the comparison group of girls. Negative values indicate a decrease in the percentage of suspensions.

This finding is consistent with the literature, which shows that afterschool program participants have fewer disciplinary referrals and are less likely to be suspended (Jones & Polonsky, 2009; Huang, Wang, & the National Center for Research on Evaluation, Standards and Student Testing [CRESST] Team, 2012; Vinson et al., 2013; Jenson et al., 2018). For example, an evaluation of the Citizen Schools program in Boston showed that former Grade 8 participants were suspended at lower rates in Grade 9 compared with the comparison group of students (Arcaira, Vile, & Reisner, 2010), and suspension rates for California youth participating in afterschool programs in 12 communities dropped by a third (Philliber Research Associates, 2000).

Achievement scores and attendance and suspension rates generally did not differ for girls with various amounts of programming.

In both years, achievement scores and attendance and suspension rates did not differ based on the number of hours of programming that girls attended, meaning the amount of programming did not make a difference. The only exception was for Girls Inc. girls in Year 1 who attended more than 67 hours of programming—these girls had lower suspension rates than the comparison group of girls. No other differences were detected for girls in either year.

⁸ In Year 2, Districts A and B could not provide us with data, and, in District C, zero Girls Inc. girls or similar girls received suspensions in 2018–19.

School-related outcomes by demographic characteristics were generally inconsistent from Year 1 to Year 2.

We examined findings separately for the following groups of girls. Factors examined were:

- English learners
- Girls receiving special education services
- Girls receiving free or reduced-price lunch
- Youth and teens
- Black, Hispanic, and White girls

We detected some differences between groups of Girls Inc. girls and the comparison group of girls in Year 1; however, these findings were not consistent for Year 2. Due to the inconsistency of these findings across years, we are unable to determine if school-related outcomes truly differed for the examined groups.

More specifically, in Year 1, we detected some differences between Girls Inc. girls and the comparison group of girls who were receiving special education services, were eligible for free or reduced-price lunch, and were White and Black. For example, Black girls participating in Girls Inc. had higher school-day attendance rates than the comparison group of Black girls in Year 1, but this finding did not hold true in Year 2. It is important to note that our inability to find differences for these different groups of girls could either be because those differences do not exist or because we did not have enough girls in the various groups to find differences.

Implications

The results of this study have several implications for programming that Girls Inc. might consider going forward, including outcomes to celebrate and opportunities for continuous improvement which are described below.



It is encouraging that we found that Girls Inc. girls in both years are reporting more positive attitudes and behaviors than the comparison group of girls in the SSBOS domains. The significant outcomes that we found for both years of girls touch on a myriad of topics, including civic efficacy, leadership, standing up for fairness and beliefs, school engagement, postsecondary readiness, sports team participation, and frequency of engaging in physical activity. Girls Inc. programming strives to develop the whole girl, and the consistency of the SSBOS findings for two years of girls align with this goal.

	<p>Girls Inc. could further explore why Girls Inc. girls in both years reported less self-regulation (for example, “When I get angry or frustrated, I lose my temper”) on the SSBOS than the comparison group of girls.</p>
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	<p><i>The consistent effects on mathematics test scores in Years 1 and 2 are exciting</i>, both because Girls Inc. has numerous program offerings that emphasize STEM, and because women and minorities are underrepresented in the STEM field (National Science Foundation & National Center for Science and Engineering Statistics, 2019).</p>
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	<p>Girls Inc. should continue to discuss current ELA-related programming and how to further bolster the implementation and quality of these programs.</p>
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	<p><i>Girls who attended any amount of Girls Inc. programming typically experienced benefits relative to the comparison group of girls.</i> This means that there are not benefits only for girls who attended a certain number of hours, but benefits for all girls.</p>
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	<p>It may be useful to explore why girls who attended more hours of programming did not experience greater benefits. To do this, Girls Inc. should continue to encourage affiliates to collect attendance information at the program level (and other relevant information), so that further analyses can be conducted to understand how types of programming and the frequency of attendance relate to girls’ outcomes.</p> <p>It also may be useful to collect additional program quality data, such as requiring staff to self-evaluate their own sessions and tracking which staff members teach specific programs.</p>
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Limitations

The results presented in this brief have several limitations. First, the findings may not represent the attitudes and behaviors of all Girls Inc. girls at the selected Girls Inc. affiliates or the comparison group of girls.⁹

Second, many girls may self-select into the program (that is, the decision to enroll in Girls Inc. is made by the girls and/or their parents). Therefore, it is possible that girls who attend Girls Inc. already have more positive attitudes and behaviors relating to SSBOS outcomes than those who do not attend.

Third, we were unable to account for the types of programming (whether it was Strong, Smart, or Bold programming) or the specific programs that girls attended across the study sites. The types of programming offered also may help to explain variations in outcomes across the four districts.

⁹ Girls needed to return a parental consent form and provide their own assent to complete the survey.

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