
# National Girls Collaborative Project (NGCP):

***Building the Capacity of STEM Practitioners to Develop a Diverse Workforce***

## Year 5 Evaluation Report

***February 2016***

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# Executive Summary

*"NGCP has increased awareness amongst grassroots organizations. Through its own collaborative efforts, it has propelled policy making and ensured that federal and national attention to promote STEM included a gender equity component as an integral strategy."*

- NGCP Participant Survey Respondent

## Project Background and Evaluation Methodology

This report presents summative evaluation results from a five-year grant funded by the National Science Foundation (NSF) called the *"National Girls Collaborative Project: Building the Capacity of STEM Practitioners to Develop a Diverse Workforce"* (NGCP). NGCP aimed to bring together programs and organizations throughout the United States that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM). The goals of this grant were to strengthen the capacity of girl-serving STEM programs to reach and serve underrepresented girls in STEM; increase the effectiveness of Collaboratives by providing professional development focused on sustainability, organizational effectiveness, and shared leadership; and to maximize K-12 school counselors' access to and use of high-quality resources related to girls' interest and engagement in STEM.

The external evaluation of NGCP was conducted by evaluators from Evaluation & Research Associates who moved to Education Development Center (EDC) during Year 4 and then completed the evaluation. The evaluation investigated the effectiveness of the project by focusing on the implementation of the NGCP model, the outcomes of participation, and the impact on girl-serving STEM programs. This final report summarizes evaluation activities and findings from February 1, 2011 to January 31, 2016.

EDC evaluators worked closely with the NGCP National Leadership Team to plan and implement the evaluation. The evaluation utilized mixed-methods, including national-level data such as project metrics, interviews with the National Leadership Team, and surveys and interviews with National Champions Board members; Collaborative-level data such as post-training surveys, reports from Collaborative Leadership Team members, and interviews with a sample of Collaboratives; program-level data such as event and webinar post-surveys, mini-grant reports, and a comprehensive participant survey (administered three times during the five grant years); and youth data collected from a mini-grant post-survey.

*"[NGCP has impacted gender equity] by creating a national, viable network within states and regions of professionals who have learned the art, science, and value of collaboration in order to promote gender equity in STEM."*

– 2013 Annual Survey Respondent

## Significant Findings

- **NGCP's network of individuals, programs and organizations interested in supporting girls' engagement in STEM continued to grow throughout this five-year grant.**
    - There are currently 32 NGCP Collaboratives serving 40 states.
    - There were over 4,000 listings in the NGCP Program Directory (now part of the Connectory)
    - More than 27,500 people are subscribed to the National e-newsletter and Collaborative listservs reached at least 5,000 subscribers with local information and resources.
    - More than five-thousand people attended NGCP events and 1,585 participated in webinars in the past five years.
    - The NGCP website (featuring an online listing of programs as well as resources) receives about 17,000 visitors per month.
    - NGCP is considered a trusted source and is highly involved as a partner with others working in gender equity in STEM. The broad reach of the project via local Collaborative teams and girl-serving STEM organizations makes it an effective partner for many other projects.

- **NGCP is uniquely positioned due to its very large reach to a fairly diverse set of participants and its focus on increasing collaboration around a common goal to increase gender equity in STEM.**
    - NGCP participants were most commonly from informal education, K-12, or higher education (representing the sectors most commonly providing direct programming to girls) but the project also had participants from businesses, professional organizations, and government.
    - Commitment of NGCP participants to gender equity in STEM was high before NGCP and still increased significantly after becoming involved with NGCP. Eighty-four percent of participants noted their current commitment was "Good" or "Excellent" and many commented on feeling inspired and motivated in this work due to being a part of the NGCP community.

- **NGCP effectively helped people connect to each other through activities and increased levels of collaboration.**
    - NGCP participants share a common (and high) interest in collaboration, yet interest still increased significantly from "before NGCP" to current levels.
    - One of the highest impacts of NGCP was in participants' knowledge of STEM programs in their area and knowledge of shared resources in STEM, with those indicating "Good" or Excellent" in these areas increasing about 40% from "before NGCP" to current levels.
    - NGCP participants connected with an average of 26 people through NGCP. At any one event, attendees were likely to meet nine new people and 70% indicated they met somebody with whom they could collaborate.
    - Respondents used the Program Directory to facilitate collaboration; to find resources or activities from other programs and to look for programs in their region. On average, three out of every four Program Directory searches were successful.
    - Seventy percent of event attendees followed-up with somebody they met at the event, most commonly to discuss ideas for collaboration or to share or exchange resources.
    - Respondents had higher levels of collaboration in 2015 compared to past measurements in 2012 and 2013. Collaboration was highest with representatives from K-12 informal education and collaboration levels among same-sectors were higher than across-sectors. Those who participated in NGCP activities, especially Collaborative Leadership Team members, webinar participants, and mini-grant recipients, had higher levels of collaboration than those not participating in those components.
    - The extent NGCP impacted a program's collaboration levels overall varied, with 70% of all respondents indicating at least a "low" impact. Respondents participating in different components of NGCP indicated higher impact. For example, 97% of mini-grantees indicated NGCP increased their collaboration.
    - Mini-grant collaborations were rated highly and a very high percentage (70-80%) continued mini-grant activities and continued to work with mini-grant partners, even a number of years after the mini-grant funding.

- **Higher levels of collaboration had a number of benefits to programs.**
    - The most common benefits of increased collaboration were better serving girls in their program (specified by 82% of respondents) and increasing girls' interest in STEM (78%).
    - Respondents were least likely to identify benefits of increased collaboration as helping them to recruit or retain girls from underrepresented groups (though more than half of respondents' indicated at least a slight impact on their program in these areas).

- Collaborative Leadership Team members and mini-grant recipients were more likely to identify higher benefits of increased collaboration to their programs. More than 90% of mini-grant recipients indicated higher collaboration helped them better serve girls in their program, helped their work be more effective, increased girls' interest in STEM, girls' confidence in STEM, and increased the positivity of girls' attitudes toward STEM.
- Mini-grant projects had an average of 3.5 partners, typically from different sectors. Ninety-four percent of mini-grant report respondents indicated the collaboration with their partners was moderately or very successful. Most mini-grant Leads (at least 69%) indicated the collaboration among partners made the project more effective overall, more effective at engaging girls, and more effective engaging girls from underrepresented groups. The projects benefited from the different areas of expertise of the partners.

- **Most NGCP participants increase their knowledge of exemplary practices to engage girls in STEM, but they are not likely to follow through with their intentions to apply the practices to their work.**
  - Seventy-three percent of webinar participants and 78% of event attendees agreed they learned exemplary practices to engage girls in STEM. Exemplary resources were considered highly relevant and both event attendees and webinar participants indicated they planned to apply them to their work.
  - The Participant survey showed that just one-quarter of over 500 NGCP participants who had accessed exemplary practices via NGCP had used a practice in their work (and 45% planned to in the future).
  - Higher participation in NGCP increased the likelihood of applying exemplary practices (for example, 40% of those who had participated in a webinar applied a practice).
  - Mini-grant projects had high use of exemplary practices, especially hands-on activities (in 85% of projects), relevant content, and opportunities to connect with role models or mentors.

- **The exemplary practices disseminated by NGCP were considered highly effective.**
  - Ninety-five percent of respondents using an exemplary practice indicated it led to a positive outcome in their program.
  - The use of exemplary practices most commonly benefited programs by helping them better serve girls (indicated by 84% of respondents) and increasing girls 'interest in STEM (79% of respondents). Other girl-related benefits (increasing the positivity of girls' attitudes and increasing girls' confidence) were also very common benefits, with all 11 items on the list benefiting at least 60% of respondents.

- Ninety-two percent of mini-grant participants agreed that the exemplary practices helped engage girls in STEM.

- **NGCP helped programs more effectively engage girls in STEM as part of the general improvements and benefits to programs from increased collaboration and exemplary practices.**
  - Mini-grant recipients considered their projects to be highly successful at engaging girls in STEM. At least 98% indicated that the girls participating were moderately or a great deal more aware of the nature of work in STEM, more confident in their ability to be successful in STEM, and more likely to pursue STEM learning opportunities.
  - Girls experienced high impact from their involvement in mini-grant projects, with significant pre-post increases on all items in scales of attitude, confidence and interest in STEM.
  - NGCP participants indicated they were engaging a greater number of girls in STEM, and doing so more effectively due to NGCP. Levels of agreement were higher depending on respondents' participation in NGCP, pointing to the effectiveness of the project in leading to these outcomes.

- **Areas of consideration are presented in the report to help further the impact of NGCP.** Suggestions include the following:
  - **Provide more support to help participants apply exemplary practices to their work.** Event and webinar attendees were likely to agree that they learned exemplary practices to engage girls in STEM and that they planned to apply what they learned to their work. However, according to Participant Survey findings, actual levels of implementation are low and more detailed examples or additional follow-up support could be useful.
  - **Continue to offer resources related to engaging girls from underrepresented groups in STEM.** Overall, the means related to participants' knowledge and use of practices to help engage girls from underrepresented groups in STEM were not as high as in other areas. Events and webinar participants were not as likely to agree they learned practices to engage underrepresented girls (52% of event attendees and 75% of webinar participants agreed) Many mini-grant projects have examples of effective collaborations that involved girls from underrepresented groups in high-quality STEM opportunities.
  - **Consider how to help those connecting through NGCP collaborate at higher levels.** NGCP has been very effective at creating awareness of what programs and resources are available and building a network and connecting people to each other, to other programs and organizations and shared resources. This is a step towards higher levels of collaboration and a pooling of resources towards "the tipping point" in gender equity in

STEM. For example, mini-grants have proven to be effective at increasing collaboration, but there may be other strategies that are not dependent on funding.

## Summary

NGCP has a unique position as a convening organization bringing together a diversity of individuals, programs, and organizations interested in engaging girls in STEM to connect and collaborate. NGCP has a strong reputation as a key partner and is a preeminent resource and advocate for gender equity in STEM.

At the close of the year of the five-year Extension Services grant, a summative analysis of the evaluation data show that NGCP was highly effective in a number of areas: NGCP has increased participants' knowledge of existing programs and resources, increased interest in collaboration as well as knowledge of how to collaborate effectively. NGCP has affected knowledge of exemplary practices related to serving girls and girls from underrepresented groups in STEM. In each of these areas, there was significant levels of change between ratings "before NGCP" and "current" levels.

The increase in collaboration and dissemination of exemplary practices affected programs by helping them better serve girls in STEM. NGCP participants were more effectively increasing girls' interest, attitudes and confidence in STEM. In addition, NGCP participants indicated their programs were more effective, had more STEM content as a result of NGCP and that they felt less organizational isolation. At least six out of ten respondents noted benefits to their programs in these areas, with greater impacts on respondents with higher levels of participation in NGCP.

In summary, NGCP has led to improvements in programs serving girls in STEM by increasing collaboration and supporting the use of exemplary practices. The resulting outcomes to programs should, eventually, attract and retain more girls in STEM educational and career pathways.

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# Introduction

*"[NGCP has contributed to gender equity in STEM] by creating a strong national network of people committed to this issue and by providing a range of different opportunities for them to share ideas, challenges and best practices."*

- 2013 Participant Survey

The National Girls Collaborative Project (NGCP), funded by the National Science Foundation (NSF) Research on Gender in Science and Engineering (GSE) program in 2006, received an additional five years of funding from the NSF in 2011 to continue the implementation of the NGCP model and to integrate new activities and goals. NGCP brought together programs and organizations throughout the United States that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).

NGCP aimed to maximize access to shared resources for organizations interested in expanding girls' participation in STEM; strengthen the capacity of programs by sharing exemplary practice research and products; and use the leverage of a network to create the tipping point for gender equity in STEM. During this grant, the project aimed to expand its reach and impact by focusing on the following goals:

1. Strengthen the capacity of girl-serving STEM programs to effectively reach and serve underrepresented girls in STEM by sharing promising practice research and program models, outcomes, and products.
2. Increase the effectiveness of Collaboratives by providing professional development focused on sustainability, organizational effectiveness, and shared leadership to more effectively deliver services to girl-serving STEM organizations.
3. Maximize K-12 school counselors' access to and use of relevant, high-quality resources that increase awareness of barriers to girls' interest and engagement in STEM.

Education Development Center (EDC), formerly Evaluation & Research Associates, conducted the external evaluation of the NGCP. Many aspects of the evaluation remained consistent throughout the project, though other aspects and instruments evolved based on findings and changing areas of interest. For example, during Year 4, evaluators worked with the NGCP National Leadership Team to edit evaluation questions and the administration timeline of various instruments to focus resources on questions of interest that had not yet been well-addressed.

An overview of the evaluation activities conducted during the project are listed below and a more detailed methodology with participation metrics and response rates can be found in Appendix A. Updates on evaluation findings were provided to the National Leadership Team on an ongoing basis throughout the project. This final report is based on evaluation data gathered during the five-year grant.

**Overview of NGCP Evaluation Activities**

| Activity | Description |
|---|---|
| **Surveys** | • Participant surveys administered to Program Directory program representatives, webinar registrants and e-newsletter recipients (Years 1, 2, and 4)<br>• NGCP in-person event post-survey administered to event attendees<br>• Webinar post-survey administered to webinar participants<br>• Mini-grant report administered to recipients after they completed mini-grant project activities<br>• Collaborative Leadership Team Reports and surveys to active leads and team members (Six administrations between Feb 2012 and Jan 2015)<br>• Site visit survey for initial Collaborative Leadership Team information session participants<br>• Collaboration Institute Post-survey administered to institute participants<br>• Meeting post-surveys administered to National Champions Board members<br>• Collaborative Champions Board Member check-in survey (January 2013) |
| **Interviews** | • Interviews with National Leadership Team members<br>• Interviews with National Champions Board members<br>• Interviews with case study Collaborative Leads and three team members |
| **Observations** | • Participation/attendance at Collaboration Institutes, Collaborative Support Conference calls, and National Leadership Team meetings<br>• Event observations |
| **Project Metrics** | • Statistics on the use of electronic resources such as the Program Directory, website, e-newsletter, and social media sites |
| **Reports and Presentations** | • Bi-monthly formative reports for National Leadership Team with data summaries of Collaborative events and activities (Years 1-3)<br>• Project evaluation information presented at National Leadership Team meetings, in Collaborative support calls, and Champions Board meetings<br>• Summaries of participant surveys administered in Years 2, 3 and 5<br>• Other reports in collaboration with the National Leadership Team such as Evaluation Highlights; Mini-grant Highlights; and an infographic on How NGCP Increases Collaboration.<br>• Annual reports summarizing evaluation activities and data for National Leadership Team and NSF (Years 1-4)<br>• Final report summarizing Years 1-5 evaluation activities and data for National Leadership Team and NSF |

## Evaluation Questions

The NGCP evaluation activities aimed to answer the following overarching questions about the implementation and impact of NGCP. Detailed sub-questions for each overarching question are listed in Appendix A. The evaluation questions were updated in collaboration with the project team during the fall of 2014. The updated questions were used to guide the remainder of the Year 4 and Year 5 evaluation activities.

1. *How is NGCP being implemented?*
2. *How effective and sustainable is the work of NGCP Collaborative Leadership Teams?*
3. *To what extent and how does NGCP impact collaboration between those supporting the involvement of girls in STEM?*
4. *To what extent do programs serving K-12 girls participating in NGCP have increased access to and use of exemplary practices related to serving girls in STEM?*
5. *How does NGCP impact the girls served by the programs participating in the project?*

Data collected throughout the project were summarized and shared with project leadership on an on-going basis to inform their program implementation decision-making.

# Findings

*"NGCP's collaborative nature has allowed the organization to open doors in many avenues including out of school time, nonprofits, industry, higher ed, K-12, etc. Due to their collaborative spirit, they have been able to communicate to a large audience about the importance of gender equity in STEM both on a regional and national platform."*

- 2013 Annual Survey Respondent

NGCP evaluation data collected since the start of the grant in 2011 until January 31, 2016 (described in Appendix A) are presented here in response to the guiding evaluation questions.

**Key findings are marked with a star icon.**

# 1. How is NGCP being implemented?

## 1a) Who is participating in NGCP? What is the reach of the project and what types of programs and organizations are represented in the Program Directory, at events, and at webinars?

### Overall Participation

Metrics regarding the participation in NGCP activities and use of resources show the reach of the project in engaging individuals and programs or organizations from diverse sectors through its online resources and in-person events.

**There are currently 32 regional Collaboratives serving NGCP 40 states across the U.S.** More than 300 Collaborative Leadership Team members[1] helped organize local NGCP activities. At the beginning of this grant in 2011, there were 23 active Collaboratives. A total of 17 Collaboratives were trained at one of four Collaboration Institutes, including the nine new Collaboratives plus training of new Leads at sites that experienced a transition in leadership and/or convening organization.

**Table 1. NGCP added Collaboratives and reached more states each year.**

| NGCP Collaboratives | End of Year 1[2] | End of Year 2 | End of Year 3 | End of Year 4 | End of Year 5 |
|---|---|---|---|---|---|
| Number of states served by an NGCP Collaborative | 36 | 35 | 38 | 39 | **40** |
| Number of NGCP Collaboratives | 27 | 28 | 28 | 31 | **32** |
| Number of new Collaboratives trained at a Collaboration Institute | 4 | 7 | 0 | 4 | **2** |

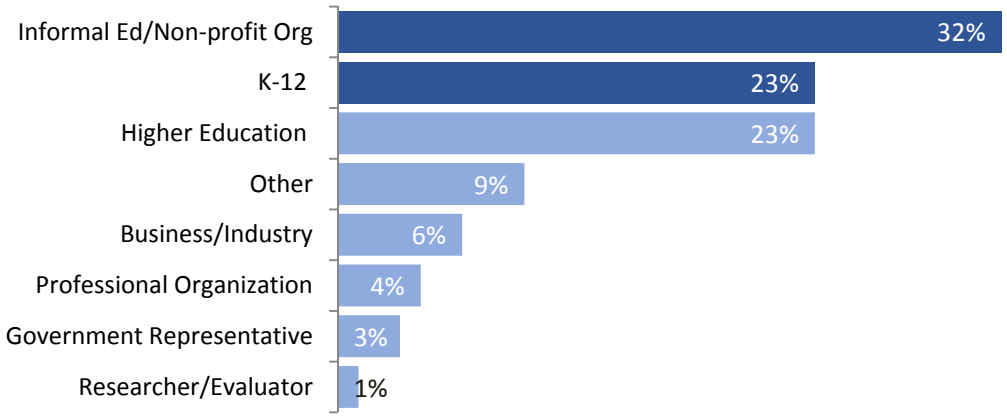
**A variety of sectors were represented in the responses to the 2015 Participant Survey, most commonly from informal education, K-12 teacher/staff, or higher education faculty.** Respondents were much less likely to be K-12 counselors, researchers/evaluators, or government representatives.

[1] *As of February 2015, there were 325 Collaborative Leadership Team members at active Collaboratives and about 800 subscribers to a listserv for Collaborative Leadership Team members (including inactive Collaboratives and National Leadership Team members)*

[2] *February 2012*

**Figure 1. NGCP participants most commonly represented informal education, higher education faculty or K-12 teacher/staff.**

*Percentage of 2015 Participant Survey respondents by sector. n=1277*




In each youth-serving STEM program, on average:

- **63%** of participants were **female**.
- **43%** of participants were from **underrepresented ethnic groups**
- **7%** of participants had a **disability**

Participant Survey respondents were very likely to serve K-12 youth in their work (77% of respondents). Most programs had a strong STEM focus, with 56% of respondents indicating that almost all of their program's activities were STEM-related. About a quarter of programs served girls only and another quarter had about an equal percentage of male and female participants.

**Collaborative Reach**

**On average, each Collaborative Leadership Team member responding to the most recent team report communicated with about 200 people about NGCP, and together reached an estimated total of almost 22,000 people.** During one year-long period**,** Collaborative Leadership Team members promoted NGCP at 383 events and gave 467 small or large group presentations.

Collaborative Leadership Team members felt successful at involving a diversity of sectors in their activities, with 88% indicating their Collaborative was moderately or very successful. Seventy-eight percent felt moderately or very successful at engaging programs that mainly serve girls from underrepresented groups in STEM.

**WHY GET INVOLVED IN NGCP?**

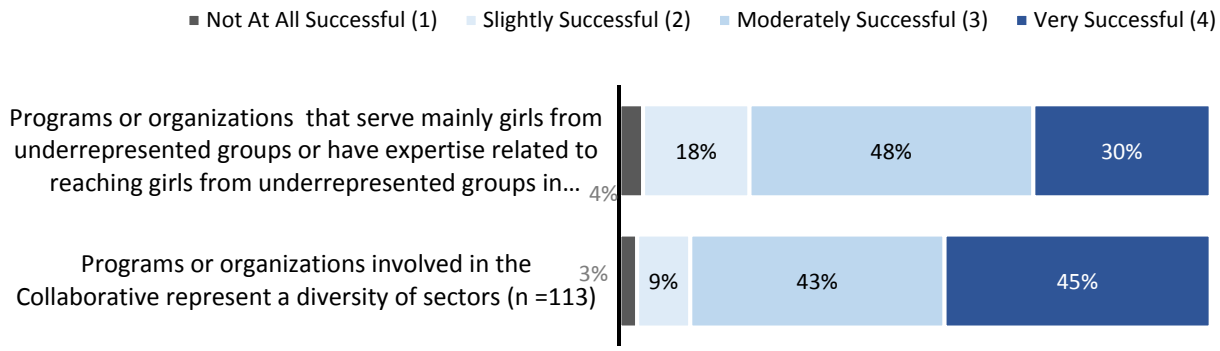
Collaborative Leadership Team members thought the opportunities for networking and collaboration, as well as the resources available, inspired people to participate in the Collaborative.

*"The Collaborative helps us have a way to find out about each other and to work with each other. There is a natural inclination to be part of team, to collaborate. We each have a similar mission."*

*"I think they find the opportunity to connect to be most valuable, to meet new people and be included to help get people involved. They are looking for different things, some of them looking for resources, financial or other resources, looking for those types of things…there is purpose for being there so it's easy to make those connections."*

**Figure 2. A diversity of programs are involved in Collaboratives.**

*Collaborative Leadership Team Report in January 2015*




***"Virtual" Participation in NGCP***

**Program Directory**

As of February 2016, there were 4,284 girl-serving STEM programs listed in the NGCP Program Directory, including approximately 600 new programs added during the past year. Since February 2012, the number of girls served by programs in the Program Directory has grown 158%: from just over 5 million girls to almost 14 million girls (and over to 24 million total youth). Additionally, there are now over 35,000 staff members affiliated with the programs in the directory who stand to benefit from NGCP professional development resources.

**Table 2. The number of programs in the Program Directory increased the most during Year 5.**

| | End of Year 1[3] | End of Year 2 | End of Year 3 | End of Year 4 | End of Year 5[4] |
|---|---|---|---|---|---|
| Active programs in the NGCP Program Directory | 2,377 | 2,889 | 3,279 | 3,674 | **4,284** |
| Number of new programs in the NGCP Program Directory | N/A | 512 | 390 | 395 | **610** |
| Number of staff associated with NGCP Program Directory listings | 21,1941 | 25,198 | 29,031 | 31,140 | **35,601** |
| Number of girls served by programs in the NGCP Program Directory | 5,377,281 | 7,046,122 | 8,215,605 | 8,842,749 | **13,906,068** |
| Total number of youth (girls and boys) served by programs in the NGCP Program Directory | 8,463,975 | 11,412,921 | 12,953,409 | 13,876,058 | **24,441,033** |
| Number and percentage of programs in the NGCP Program Directory serving youth with disabilities | 843 (36%) | 1,220 (42%) | 1,633 (50%) | 1,988 (54%) | **2,015 (47%)** |

**Webinars**

A total of 28 webinars were offered during this grant period and attended by a total of 1,513 people. Webinar post-survey respondents represented 43 different U.S. states. NGCP webinars continued to attract new participants to NGCP as well as those already participating in the project through the webinars or other components. Of all webinar participants, at the time of their participation, 25% had attended an NGCP event, 42% had accessed the website and 49% were subscribed to the NGCP e-newsletter. On average 57% of webinar participants had no previous experience with NGCP.

**Table 3. There were at least four webinars during each year of the grant, and a total of 29.**

| | Year 1[5] | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|---|---|---|---|---|---|---|
| Number of Webinars | 4 | 9 | 4 | 6 | 5 | **28** |
| Total number of attendees | 194 | 522 | 230 | 284 | 283 | **1,513** |

Webinar attendees were most commonly from informal education/community-based organizations (19%), "Other" sectors, and higher education faculty/staff (15%). Those selecting "Other" included librarians, parents, and retirees. NGCP webinars were also archived as a no-cost resource on the NGCP website for users to view at their convenience.

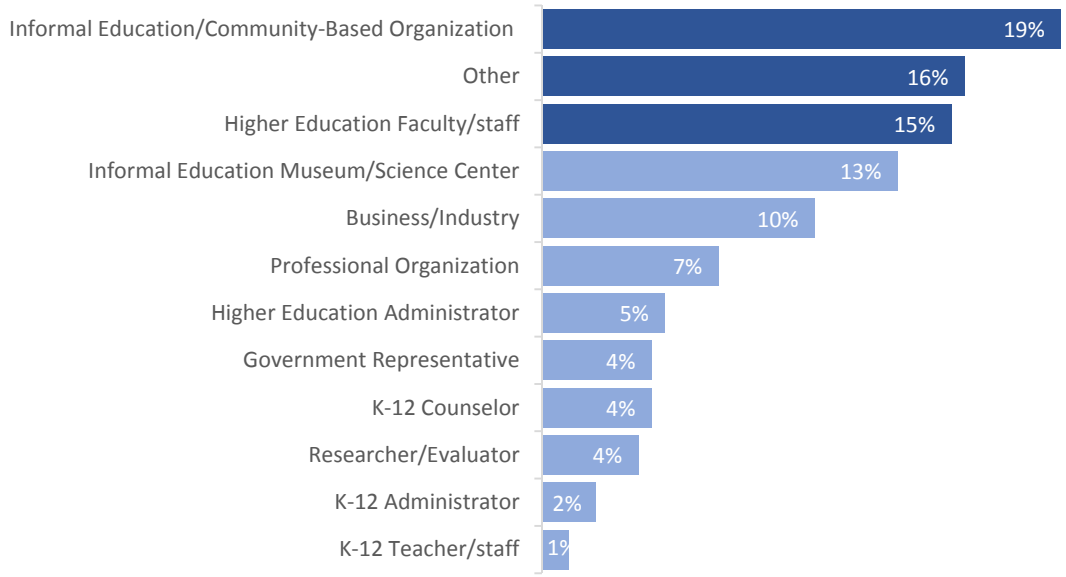
[3] *Project years are through February 1, with Year 1 ending February 2012*

[4] *Numbers from the "Connectory" (merged in February 2015)*

[5] *End dates for these data were February, to line up with the due date of the Annual Reports to NSF.*

**Figure 3. NGCP webinar attendees most commonly represented informal education, "other" sectors and higher education.**

*Perecentage of webinar attendees by sector (n=196)*




**NGCP E-newsletters, NGCP website and Social Media**

The NGCP monthly e-newsletter currently has over 27,000 subscribers. The NGCP website had between 17,000 and 25,000 sessions per month. In a year-long period, the Program Directory homepage had over 70,000 unique visitors.

**Participation in NGCP's social media campaign continued to increase, with about 1,800 new followers during the last year.**

Eighty-six percent of Collaborative Leads reporting (24 out of 28) indicated that their Collaborative distributed an e-newsletter, e -mail or listserv message, or printed flyer to the girl-serving STEM community in their Collaborative. The number of recipients ranged from 100 to 5,885, with a mean of over 1,000 recipients. The Collaborative e-mail lists reach a total of 19,110 individual supporters in STEM as reported on the most recent Collaborative Leadership Team Report in January 2015.

**Table 4. NGCP has a strong online presence that reaches a large audience.**

| NGCP E-Newsletter | End of Year 1 | End of Year 2 | End of Year 3 | End of Year 4 | End of Year 5 |
|---|---|---|---|---|---|
| Number of subscribers to the NGCP e-newsletter | 17,050 | 23,571 | 26,945 | 24,223 | 27,597 |
| Average open rate of NGCP e-newsletters | 19% | 20% | 18% | 18% | 16% |
| **NGCP Website** | | | | | |
| Number of sessions to the NGCP website per month | 6,535 | 8,480 | 8,962 | 13,465 | 21,417 |

| Social Media | | | | | |
|---|---|---|---|---|---|
| Number of "Likes" to the NGCP Facebook page | 138 | N/A | 1,377 | 2,308 | **3,373** |
| Number of followers on Twitter | 238 | 1,088 | 2,898 | 5,338 | **7,091** |

***"In-person" Participation in NGCP***

**Collaborative Events**

**A total of 5,351 attendees participated in an in-person Collaborative event during the past five years.** Collaboratives hosted 25 Conferences (Kick-off or Collaboration Conference), with an average of 96 attendees. Professional Development or Collaboration Forums were more common, with a total of 100 forums during the five years. Forums were typically shorter than the day-long conference events, and had an average of 24 attendees. Sixteen Information Meetings were also held.

**Table 5. Over the course of the grant, NGCP offered 141 events with a total of over 5,000 attendees.**

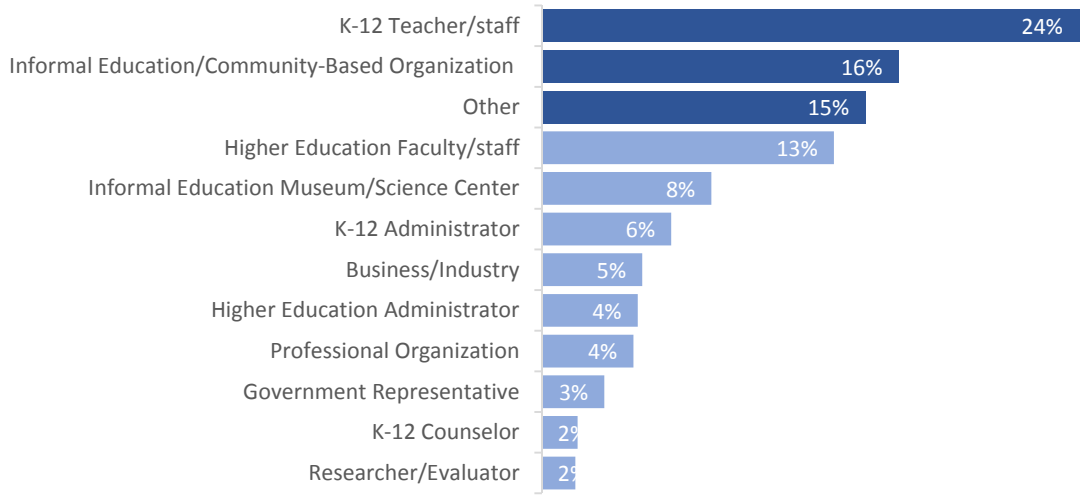
| | Number of Events | Number of Collaboratives | Total Number of Attendees | Average Number of Attendees |
|---|---|---|---|---|
| Information Meeting | 16 | 14 | 539 | 34 |
| Kick-Off Conference | 11 | 12 | 1,294 | 118 |
| Collaboration Forum | 19 | 13 | 501 | 28 |
| Professional Development Forum | 81 | 30 | 1,917 | 24 |
| Collaboration Conference | 14 | 10 | 1,100 | 79 |

The number of events each year varied slightly, with a decline in the number of conferences after the first two years (when more Collaboratives were holding their Kick-off Conferences). The number of forums peaked during Year 3, with 33 forums.

Attendees of events were most commonly K-12 teacher/staff (24%) or from informal education/community-based organizations (16%). Compared with webinars, events were much more likely to reach K-12 teachers/staff and K-12 administrators (just 1% of post-webinar respondents indicated they were teachers), and slightly less likely to engage business/industry and professional organization representatives.

**Figure 4. NGCP in-person event attendees were most commonly K-12 teachers/staff, from informal education or "other" categories.**

*Perecentage of in-person event attendees by sector (n=1,965)*




**1b) How does NGCP affect attention to gender equity in STEM in Collaborative regions and nationally? Is the project viewed as a trusted source and/or a key partner in gender equity in STEM?**

*"Having an opportunity to be introduced to an entire community of people and organizations whose aims are similar to mine. We are all working towards the same cause, and it's great to know that everyone is willing to collaborate and support each other."*

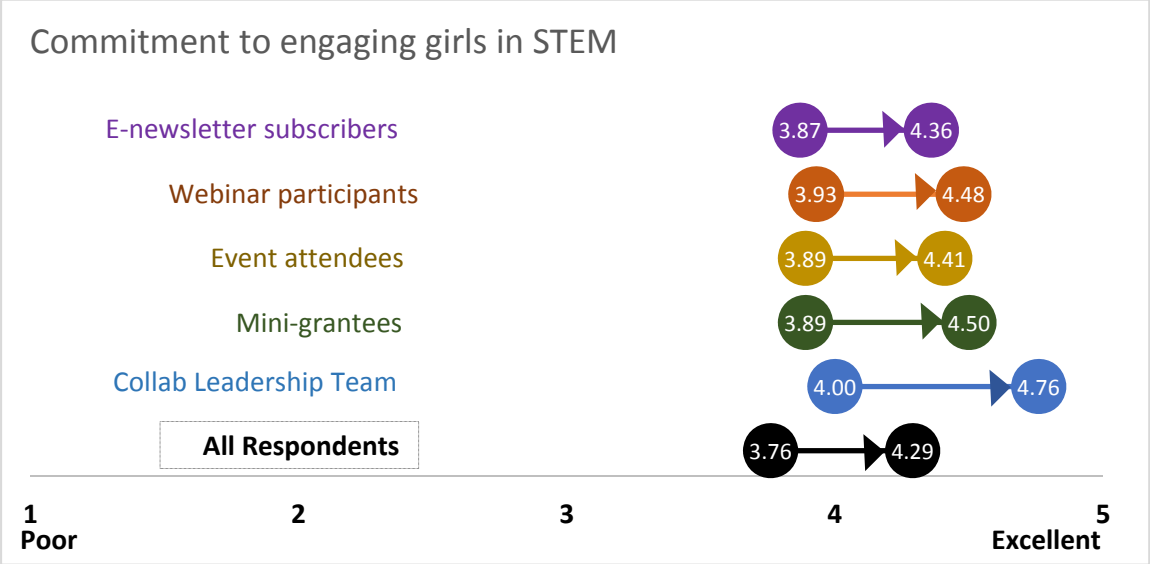
- NGCP Information Session Attendee

**One of the major impacts of NGCP was the large increase in commitment to engaging girls in STEM, despite initially high levels prior to involvement in NGCP.** The highest means among eight items in the 2015 Participant Survey for both "Before NGCP" and "Current" ratings were for the respondents' commitment to engaging girls in STEM, with those selecting "Good" (4) or "Excellent" (5) increasing from 64% to 84%.

The mean increase in respondents' commitment to engaging girls in STEM was significant for all respondents[6] and was higher for those involved in NGCP in different components, especially Collaborative Leadership Team members and mini-grantees. Data also show higher increases of representatives of professional organizations, K-12 teachers, and business. In addition, survey respondents from programs with "Little" or "No STEM" activities in their programs were more likely to increase their commitment to engaging girls in STEM compared with other respondents from programs with more STEM activities.

[6] *Matched pair t-test, p>.001*

**Figure 5. NGCP increased participants' commitment to engaging girls in STEM.**




Past administrations of the Participant Survey have showed similar levels of impact in this area, with **(77%) of respondents in 2013 indicating at least a slight impact of NGCP in their commitment to engaging girls in STEM.**

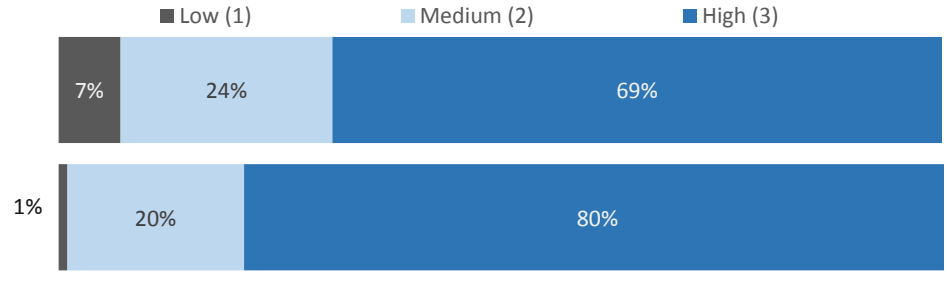
According to participants, NGCP has contributed to progress toward gender equity in STEM by bringing attention and visibility to the issue (mentioned by 23% of respondents)[7]. This occurred at all levels, from local STEM programs and organizations increasing their awareness of gender inequity and how to address it, to state-wide and national attention to the issue. According to respondents, NGCP effectively increased awareness of gender equity by working with others, providing information and resources, being present at regional and national events, promoting the importance of girls' involvement in STEM, and reaching a diverse group in its efforts. One respondent wrote, "*Just the awareness and plethora of resources/education are of tremendous help in forging gender equity in the area of STEM.*"

Participants of NGCP webinars indicated high levels of commitment to engaging girls in STEM prior to the webinar, but still had significant increases in post-webinar ratings, with means increasing from 2.62 to 2.79 on a scale from Low (1) to High (3)[8]. After attending an NGCP webinar, all respondents except for one indicated their commitment to engaging girls in STEM was Medium (2) or High (3). Of the 52 respondents selecting Low (1) or Medium (2) on the "Before" rating, 27 (52%) increased their "After" rating to Medium (2) or High (3).

[7] *Data are from an open-ended question in the 2013 Participant Survey*

[8] *Matched sample t-tests from retrospective pre-scores to post-scores on the webinar post-survey (n=169; p<.001)*

**Figure 6. NGCP webinars increased participants' commitment to engaging girls in STEM.** (n=169)




NGCP has built a community focused on gender equity in STEM, allowing members to coordinate and build momentum for their work related to this goal. The existence of a network allows others a way to join the movement, increases their commitment and directs their efforts. One respondent wrote, *"[NGCP has impacted gender equity] by creating a national, viable network within states and regions of professionals who have learned the art, science, and value of collaboration in order to promote gender equity in STEM."*

To capitalize on this commitment to gender equity in STEM, NGCP provides programs with resources (including funding), collaboration opportunities, and professional development to help practitioners more effectively engage girls in STEM: *"NGCP has made available funding and resources that has created a greater focus on girls getting involved in STEM."*

> *NGCP is known as a resource and doing high quality work in that area (gender equity in STEM). It's become the default partner for us for many of us when we think about girl-related issues to approach for collaboration or for dissemination of information."*
>
> - National Champions Board member

### A Key Partner

**NGCP is considered a trusted source and a key partner in gender equity.** The National Leadership Team creates and maintains strong partnerships with national organizations that support gender equity and STEM. These partner organizations provide resources and materials, curriculum, exemplary practices, connections for outreach and dissemination, and people to serve on Collaborative Leadership Teams. In response to whether NGCP is viewed as a trusted source or key partner, a Champions Board member commented that the project "has no parallels."

During the five-year grant, NGCP formed partnerships with a variety of organizations related to engaging girls in STEM. The NGCP website lists 16 national partners who, according to the NGCP website, may "*provide time, expertise, in-kind, and financial support as a way to support our goals of building the capacity of programs that serve girls in STEM.*" Partners include AccessSTEM, American School Counselor Association, The Smithsonian Latino Virtual Museum, Society of Women Engineers, and SciGirls.

NGCP also identifies over 67 "Friends of NGCP," with common values that support the NGCP vision. The Friends include the Association for Women in Science, Code.org, Engineer your Life, Microsoft, and Girl Scouts of the U.S.A. Other programs and organizations help spread the word about NGCP resources. About 40% of webinar participants found out about a webinar from sources outside of NGCP, such as NASA, STEMConnectory, and other organizations, showing one way that supporting organizations helped NGCP.

Many of the partners worked with NGCP through "network projects," which utilized the extensive NGCP network of girl-serving STEM programs to disseminate resources and practices.

For example, select NGCP Collaboratives participated in a network project with the Techbridge organization and received training and funding to offer professional development on using role models effectively to support girls in STEM.

Collaborative Leads participating in network projects felt the projects raised the profile of the Collaborative, lent credibility, and gave them a positive reputation: *"It really positions us as a resource and provider for good curriculum and content and that we continue to lead to new opportunities… We're the go-to resource for K-12 STEM and for girls in particular."*

According to National Champions Board members, one of the greatest successes of the project is making gender equity in STEM a national priority. A Champions Board member described NGCP as high-profile and well-linked to other partners and efforts. Another said, *"Whenever girls in STEM comes up, and people are looking for an authoritative voice, it's always NGCP that they refer to."*

The National Leadership Team encourages all Collaboratives to be involved with their state STEM network and other STEM organizations. Collaborative partnerships are discussed more in evaluation question 2c, related to sustainability efforts.

**1c) How do National and Collaborative Champions Board members contribute to the success of the project? How are they affected by their participation in NGCP?**

There were about thirty members of the NGCP National Champions Board and 220 Collaborative Champions Board members[3], during Year 5 with an average of nine board members per Collaborative.

> *"The wealth of knowledge and expertise of the Champions Board makes the ability to tap into this rich resource an absolute and critical [factor] to the future success."*
>
> – Champions Board post-survey respondent, 2012

A member described the board as offering input and support to the project at all levels, *"The Champions Board allows us to work from the top-down structure at the policy level and allowing us to support what regional Collaboratives are doing. It creates a set of objectives and standards that everybody can agree to. So while Collaboratives have their own goals, a national board brings together experts from different fields and different backgrounds to support the overall efforts of STEM and give back to those Collaboratives make the job of Collaboratives easier.* ***Like any board, it allows a larger group of people who have distinct interest in this field to provide insight, direction, and support to smaller groups who, on their own, may be challenged in doing so."***

During 2012 interviews, a sample of Champions Board members reported on their activities, including:

- *attending the board meetings*
- *spreading the word about NGCP (such as through conference presentations)*
- *making connections to their constituent groups*
- *promoting the project at meetings with national government offices*
- *advising the project*
- *sharing the perspective on project progress and future stemming from the type of work they do*

Board members noted their specific ideas or plans to promote or support the project in meetings post-surveys. Responses changed over time to reflect the current state of the project. For example, in 2012, board members were more focused on building the network and disseminating promising practices. They wrote that they would cite NGCP in papers and presentations, connect local Collaboratives to their own network, share resources from professional organizations, share information about the project at relevant meetings, advertise NGCP events and resources, and invite other organizations to join NGCP. In 2015, after a meeting that focused on sustainability of NGCP, board members brainstormed actions such as, "*outreach for seed funding," "consider *how* to help NGCP tell its stories more widely," and "Provide feedback on potential supporters as NGCP expands beyond NSF support."*

Board members offered feedback to NGCP during the project, such as asking for a more clear definition of what is expected from board members, more direct contacts with local leadership, opportunities to get more deeply engaged, and highlighting board

members to lend credibility to NGCP and to offer board members an opportunity to share information about themselves and their work. Much of the National Champions Board suggestions were addressed during the grant. For example, the National Leadership Team of NGCP started including a brief introduction to National Champions Board members in the national e-newsletter.

**The involvement of Collaborative Champions Boards varied depending on the Collaborative.** Sixty percent of Leads indicated that their Champions Board helped them disseminate information and resources through their networks[9]. Collaborative Champions Board members were also likely to help by providing input or advice (reported by 58% of Leads), assistance with outreach efforts (50%) or contributed resources related to engaging girls in STEM. Just 27% of Leads reported receiving financial support or in-kind resources from Champions Board members to support the Collaborative. A 2013 survey to Collaborative Champions Board members on their experiences in the project showed examples of how board members contributed and were affected by their experience. **Most members indicated they were "Moderately involved" as a Champions Board member and in the Collaborative's activities (57-59%),** although 29% indicated they were "Not very involved" as a Champions Board member and 40% were "Not very involved" in the Collaborative activities.

> *"As a Champions Board, the core staff should use our unique connections and expertise in our meeting to move the needle on sustainability and funding support as well. This is an awesome project that has made a huge impact on the STEM field relative to outreach and support. I look forward to being involved in focused strategic conversations at future board meetings on how we maintain our momentum and ensure long-term funding for the project."*
>
> – Champions Board member

At the time of the survey, most respondents were new to their role, with more than half joining within the year. **About half of respondents had low ratings of their understanding of their role as a Collaborative Champions Board members:** 48% indicated it was Fair (1) or Satisfactory (2) on a 4-point scale. Ratings of their understanding of the overall purpose of the board were a little higher, with 39% rating it as Fair (1) or Satisfactory (2). Most suggestions for how to improve their experience as a board member were related to more information about their role, more meetings, and more effective communication. These feedback were shared with Collaborative Leadership Team members. In case study sites, Collaborative Leadership Team members mentioned that they intended to do more to get their Champions Boards better organized and involved. They were having trouble identifying the right people to be on the board and to effectively strategize how to leverage the board to help the Collaborative.

**Benefits to Champions Board Members**

National Champions Board members benefited from their participation in NGCP in a number of ways. **They built their own network and became better connected to other board members and partners associated with NGCP, had access to the network of practitioners accessible through NGCP,**

[9] *Data are from the January 2015 Collaborative Leadership Team report.*

**gained more knowledge on the current status of girls in STEM, and gained access to the NGCP resources.**

One board member who worked in higher education talked about the benefit of being involved in a project focused on K-12 to help support the pipeline to STEM careers, *"We recognize the value of the pipeline and that, number one, it takes time. The time to get kids engaged is Kindergarten through second grade…so we [his organization] need the pipeline of those interested in STEM. This is our investment in the pipeline that says, 'a number of years from now, we will benefit from the result of our engagement.'"*

**The 2013 survey results showed benefits Collaborative Champions Board members experienced from their role in NGCP: 66% agreed they were able to apply what they learn from NGCP to their work, 58% agreed they expanded their professional network, and 55% agreed their experience had been rewarding**. Additionally, 66% noted a moderate or large increase in their knowledge of STEM programs or organizations in their area, and 55% had a moderate or large increase in their knowledge of resources related to serving girls in STEM. Collaborative Champions Board members were not as likely to experience large increases in their knowledge of exemplary practices related to serving girls in STEM (18% indicated they had no increase due to being a Collaborative Champions Board member) or strategies for effective collaborations (24% indicated no increase).

### 1d) What types of partnerships and collaborations are funded with mini-grants? What youth are participating in NGCP mini-grants?

*"The [mini-grant] program created a partnership that will grow stronger from here, once expectations are communicated and agreed upon. It will continue to open up resources not otherwise available."*

– Mini-grant Lead

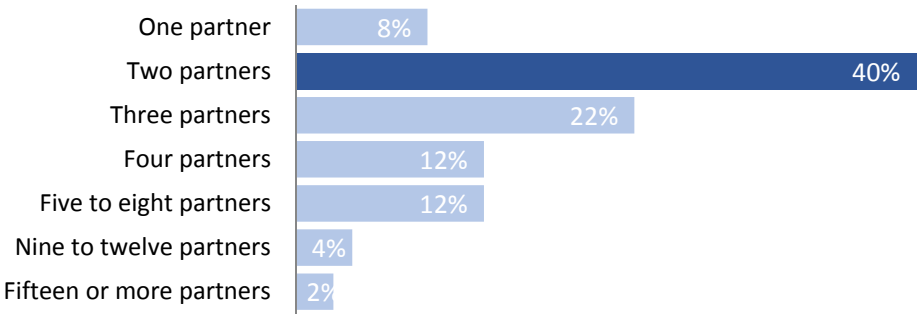
Ninety-five mini-grants were funded by Collaboratives during the five-year grant period and 85 of those submitted a mini-grant evaluation report**.**

**Ninety-four percent of mini-grant report respondents indicated the collaboration with their partners was moderately or very successful.** No respondents selected that they were slightly or not successful.

**Figure 7. Collaborations among mini-grant projects were rated as successful by the partners.**


**Most mini-grant projects were collaborations between two or three different programs or organizations.** On average, mini-grant projects had 3.5 partners, with a maximum response of 20[10].

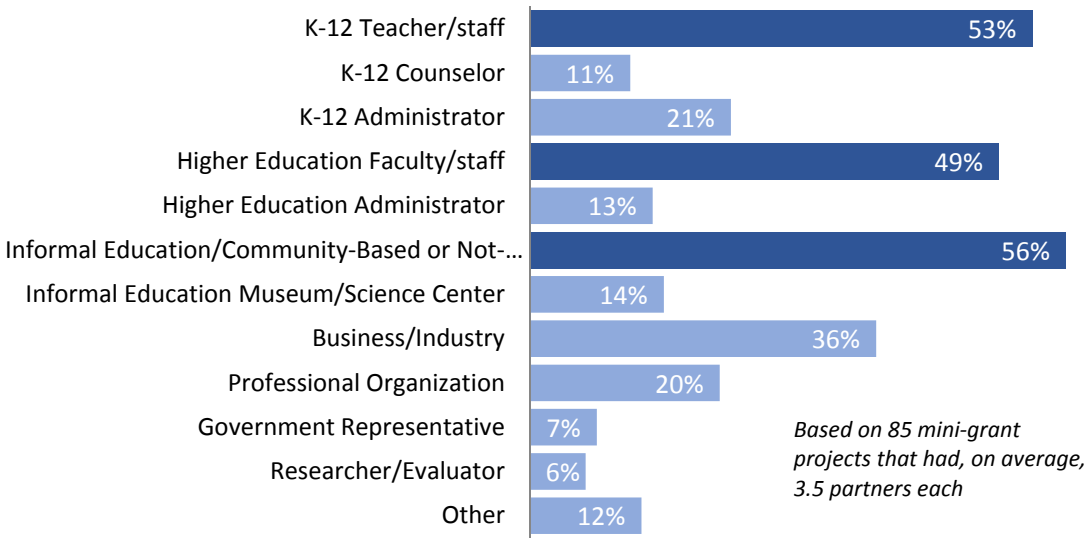
**Figure 8. Mini-grant projects most commonly had two or three partners working together.**




**Many of the mini-grants had partners from multiple sectors, and most commonly included informal education organizations (56% of projects), K-12 teachers/staff (53% of projects) or higher education faculty/staff (49% of projects).** Of the listed sectors, mini-grant projects were least likely to include government representatives or researchers. On average, partners on mini-grant projects represented three sectors.

[10] *Mini-grants are intended to fund partnerships, and though seven respondents indicated there was one program/organization on the project, each of those respondents selected at least two sectors involved in the project.*

**Figure 9. About half of mini-grant projects included partners who where K-12 teachers/staff, higher education faculty/staff or from informal education.**




Almost 70% of partners knew each other previously, but 13 (15%) met through the NGCP Program Directory and nine partners (11%) met at an NGCP event. Others were introduced through a mutual contact, open web search, or another event. About half of mini-grant projects were already collaborating with their partners before receiving mini-grant funding.

Mini-grant project leads most commonly characterized their relationship among mini-grant partners as "Coordination," where partners were sharing information and resources, with some shared decision making. Twenty-five percent of respondents indicated there was "Collaboration" among partners, with members belonging to one system, frequent communication, and consensus on all decisions. The projects with "Collaboration" among partners were likely to have fewer partners (all had fewer than 8, with an average of 2.6 rather than the 2.9 average of all projects) and were slightly more likely to include informal education partners.

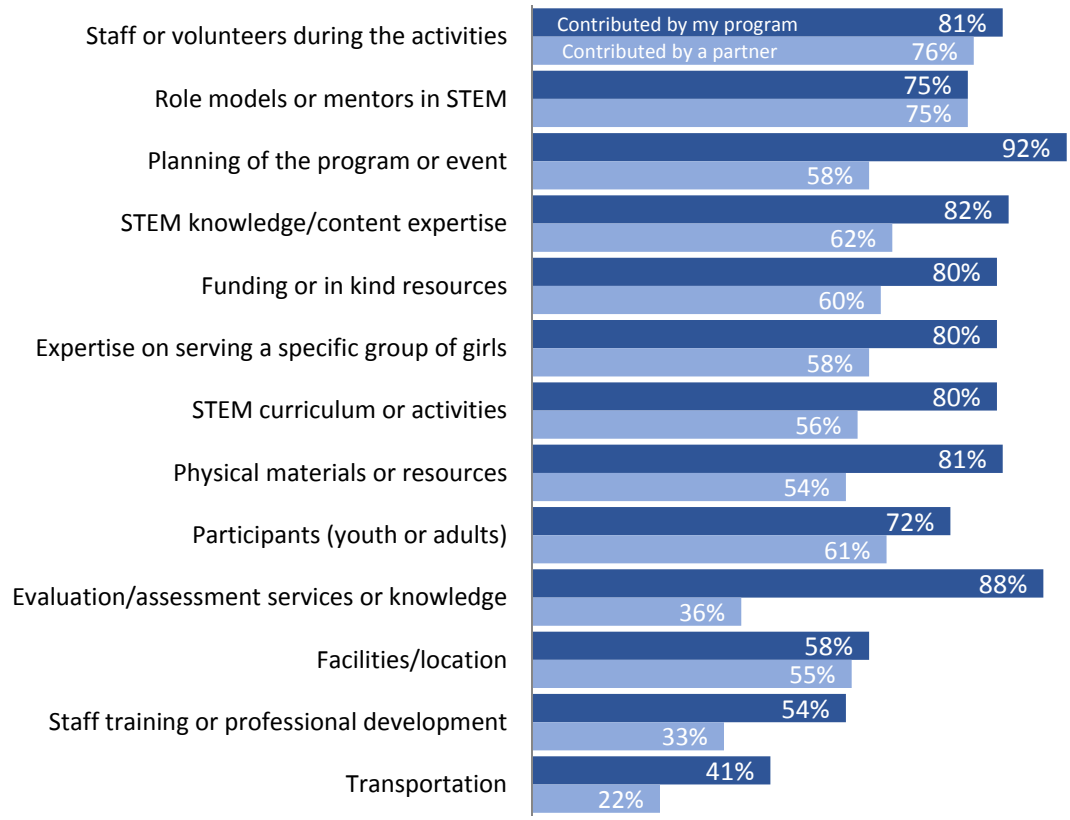
**Table 6. Mini-grant partners most commonly "Coordinated" on their projects.**

| Choice | Number of Respondents | Percentage of Respondents |
|---|---|---|
| Networking: Loosely defined roles: Little communication: All decisions are made independently | 3 | 4% |
| Cooperation: Provide information to each other; Somewhat defined roles; Formal communication; All decisions are made independently | 16 | 19% |
| Coordination: Share information; Share resources; Defined roles; Frequent communication; Some shared decision making | 34 | 40% |
| Coalition: Share ideas; Share resources; Frequent and prioritized communication; All members have a vote in decision making | 10 | 12% |
| Collaboration: Members belong to one system; Frequent communication characterized by mutual trust; Consensus is reached on all decisions | 21 | 25% |

Out of 13 possible roles that could be filled by the respondent or a partner, an average of 9.6 were filled by the respondents' programs and an average of 7.1 were filled by partners. On most items, both the respondent and the partners' programs contributed—especially on staff/volunteers, providing or serving as role models/mentors, and planning the event. The respondents' program (which was the lead of the project) was more likely to be responsible for any one component.

> *"Each partner brought something different to the table, STEM expertise, gender equity knowledge, and of course, kids! This project could not have been done without the collaborative effort of all of its partners."*
>
> – Mini-grant report respondent

**Figure 10. Mini-grant partners shared responsibilities in implementing their projects.**



> *"This collaborative effort helped meld the strengths and eliminate the weaknesses and deficiencies of both organizations. [A girl-serving organization] was able to receive exemplary training, guidance, and support from an experienced [STEM program] staff member who is experienced in the STEM program-delivery field, and could inspire and empower volunteers to carry out more challenging and enriching STEM programs."*
>
> – Mini-grant report respondent

The top strategies contributing to the success of the projects collaboration identified by mini-grant report recipients[11] were having a shared vision or common goals as the partner (64%) and utilizing the different strengths or expertise (53%). As one mini-grant lead noted, *"As each collaborator represents a different industry, we each brought completely different pieces to this effort. While we each provided role models/mentors, [a girl-serving organization] recruited from local industry or their volunteer pool, while the college brought theirs from their faculty ranks. The college faculty brought their expertise from the courses they teach, and the outside role models brought expertise from their industries."* In another example, one partner provided the girls, another provided a technology activity, and another partner provided individual assistance to girls based on educational assessments of their spatial reasoning skills.

One respondent explained the success of mini-grant collaborations simply: *"Leveraging resources allowed expertise to be shared across partners, resulting in greater impact."*

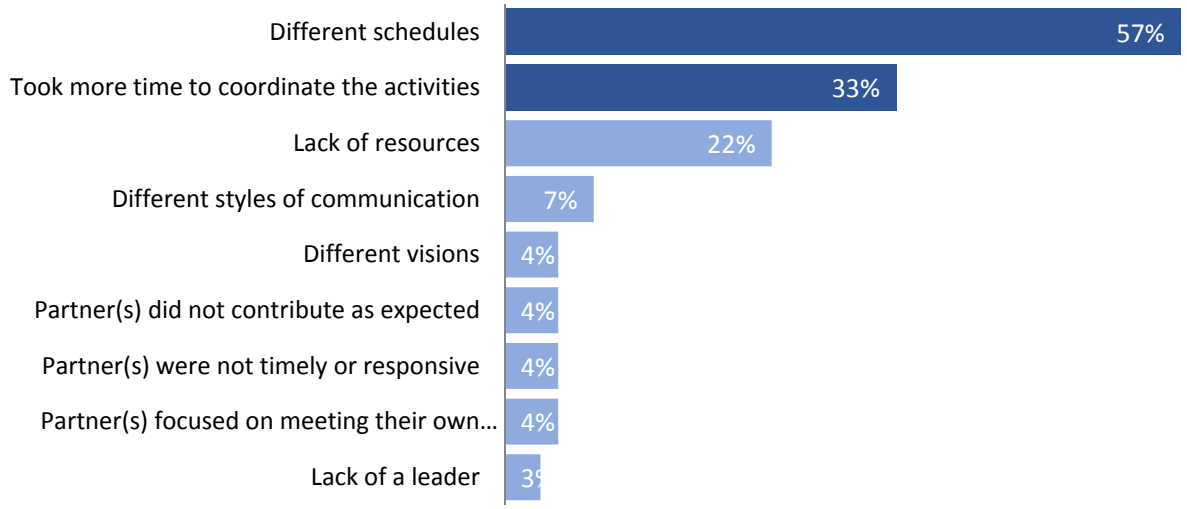
**Figure 11. Shared vision and utilizing the strengths of each partner contributed to mini-grant projects' success.**


Barriers to mini-grant collaborations were most commonly the different schedules of partners (indicated by 57% of respondents as one of the top three barriers or challenges) and the additional time required

[11] *Each respondent could select up to three items from the list of 11 choices.*

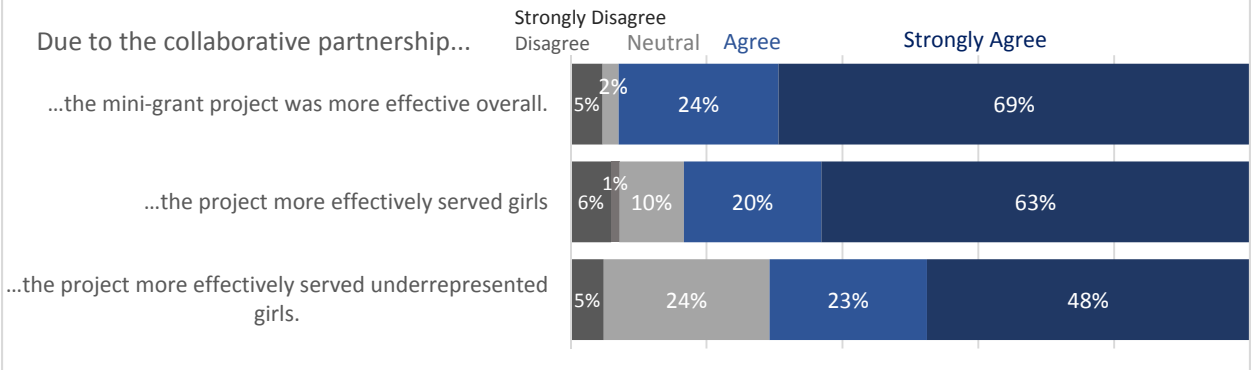
to coordinate activities (33% of respondents). Lack of resources was also a common challenge (22%), while the other six items on the response list were each selected by 7% of respondents or fewer.

**Figure 12. Different schedules and more time to coordinate to coordinate activities were common barriers to mini-grant collaborations.**




**The collaborative aspect of mini-grant projects resulted in a stronger program for engaging girls in STEM:** Mini-grant project leads indicated their project was more effective due to the collaboration among mini-grant partners (93% agreed), they more effectively served girls (83% agreed), and they more effectively served underrepresented girls (71% agreed).

**Figure 13. The partnerships of mini-grant strengthened the projects.**



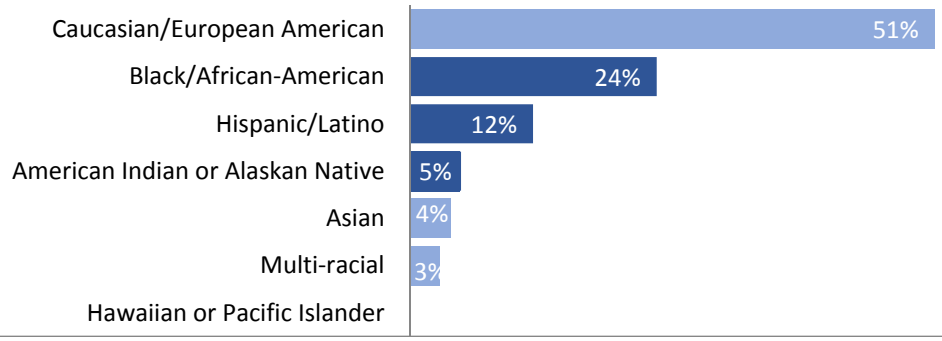

Mini-grant projects completing activities most commonly served only youth (74%, 63 projects). Five percent of projects served only adults and 21% served both youth and adults.

**Mini-grants directly served a total of 4,897 youth participants and indirectly reached another 4,132 youth (through adult participants).**

**Mini-grants directly served 3,150 girls (an average of 39 per project). Thirty-five percent of projects served girls-only.** A total of 1,756 boys were also reached (an average of 22 per project). Mini-grant projects were fairly equally divided between rural (36%), urban (33%), and suburban (31%) locales.

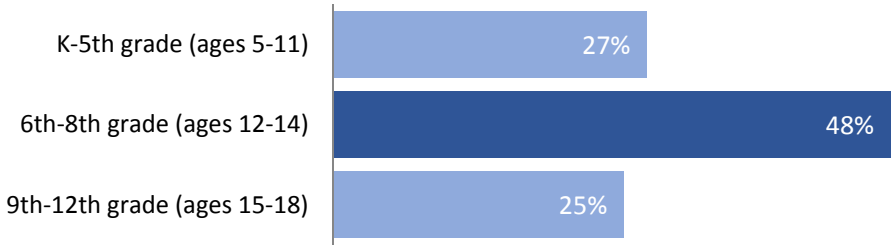
On average, 40% of the youth participating were from underrepresented ethnic groups. The participants served in the projects were mainly Caucasian/European American (51% on average in each project), with a higher percentage of Black/African American participants (24%) compared with Hispanic/Latino participants (12%). Five percent of participants, on average, were American Indian or Alaskan Native. Sixteen projects (19%) did not serve any youth from underrepresented ethnic groups.

**Figure 14. On average, about forty percent of mini-grant project participants were from underrepresented ethnic groups.**




Just under half of the mini-grant participants were in middle school, 25% were in high school, and 27% were in elementary school.

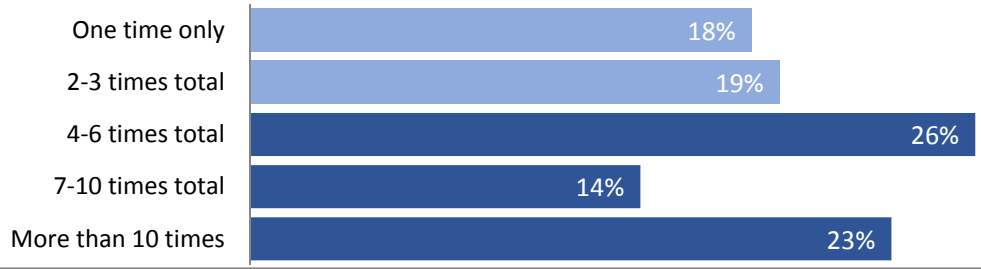
**Figure 15. Mini-grant project participants were most commonly in grades 6-8.**




Thirty-five mini-grant projects (63%) served youth with disabilities, most commonly youth with Attention-Deficit/Hyperactivity Disorders (31 projects), Learning disabilities (20 projects) and Autism-spectrum disorders (15 projects).

Mini-grant project leads noted that their participants were likely to attend almost all of the project sessions (72% of respondents) and remained very engaged (79%) or mostly engaged (21%) throughout activities. The number of times mini-grant projects met with participants was fairly evenly divided across the categories of responses on the survey, with the most common category being four to six meetings (by 26% of projects). Sixty-three percent of projects had at least four program meetings. Fifteen projects (18%) were one-time events. Many were fairly long meetings, with 33% of projects meeting, on average, for between three and six hours and 19% meeting for longer than six hours.

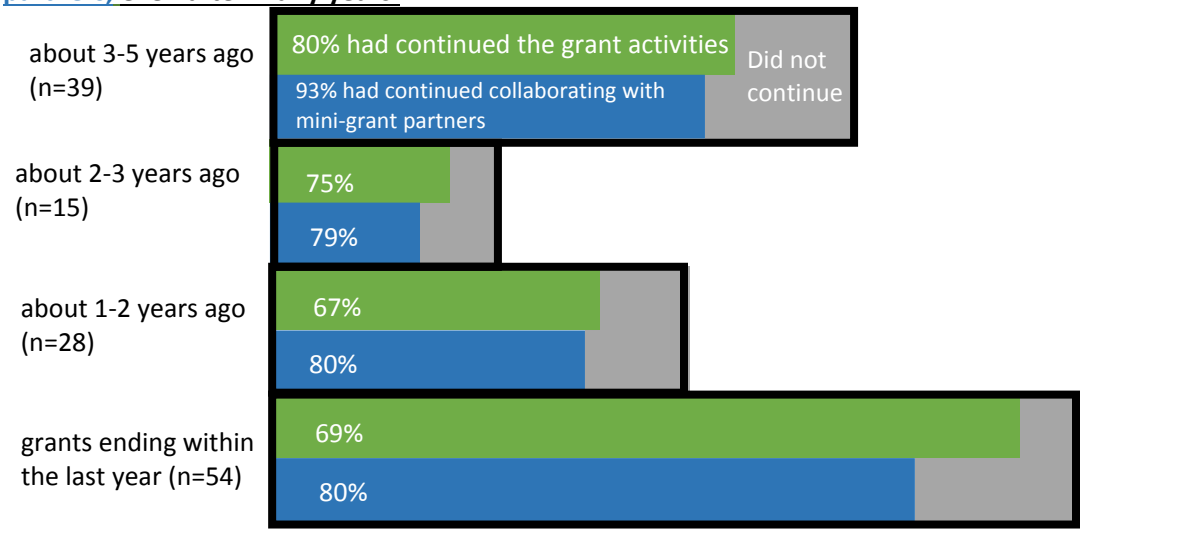
**FIgure 16. Most mini-grant projects met at least four times.**




**Mini-grant recipients were very likely to continue their mini-grant project activities, even three to five years after receiving the funding.** Out of 136 mini-grant recipients who completed the 2015 Participant survey, overall **74%** had continued mini-grant activities[12] and **85%** had continued to work with mini-grant partners. There was only slight variation in these percentages depending on how long ago the project had been funded, with those completing in the last year having the highest percentages (with 80% continuing the project and 93% continuing to work together) and those completing about 3-5 years ago with the lowest percentages (but still with 59% continuing with the activities and 79% still working with partners).

[12] *Soon after the completion of the mini-grant project activities, 80% of respondents to the mini-grant report indicated they planned to continue to work with their partner on the grant activities.*

**Figure 17. Mini-grants were very likely to continue activities and to continue working with partners, even after many years.**




**1e) How and to what extent does NGCP engage K-12 school counselors in the project activities, nationally and through Collaboratives?**

NGCP made efforts to increase involvement of K-12 school counselors in NGCP. The National Leadership Team partnered with the American School Counselor's Association (ASCA) nationally (and made connections between the counselor's associations and the Collaboratives at the state level). The National Leadership Team worked with Collaboratives to help them involve K-12 school counselors in the project through events and the Program Directory. In the latest Collaborative Leadership Team report, half of team members felt their Collaborative had been moderately or very successful at reaching local K-12 school counselors.

NGCP presented a webinar to the American School Counselor's Association in February 2013 that had 74 registrants and 23 attendees. A link to the recording of the session was made available through the ASCA website.[13] After other NGCP webinars, there were only eight K-12 counselors completing the post-survey (about 4% of all respondents). Their responses reflected a positive experience with the webinar, with seven out of the eight counselors agreeing that they content was relevant six agreeing that they planned to apply what they learned. They experienced the most change in pre-post ratings in their awareness of resources related to engaging girls in STEM and their knowledge of effective practices to engage underrepresented girls in STEM.

After attending an NGCP event, K-12 counselors specified how they would use what they learned.

They would disseminate information to others:

- *I will be meeting with teachers in STEM courses to inform and pass on materials and information received at the conference.*
- *I will be able to promote the STEM summer camp I learned about to my students.*

The STEM career information seemed especially useful:

- *I will use it to expose my students to opportunities that they have in STEM careers.*
- *Encouraging more girls to pursue STEM classes and careers*
- *I will also use materials in my career curriculum.*
- *I also plan on developing a mandatory class that examines STEM careers and educational opportunities to get to those careers.*

A few mentioned exemplary practices that they would be implementing:

- *Strategies for communicating with girls about career choices.*
- *Strategies for talking with girls about their abilities and potential, rather than simply labeling as smart*
- *I am going to propose the idea of piloting gender separated math and science classes.*

Respondents specified many ideas for how to integrate more STEM in their schools:

- *I would like to develop a STEM club for elementary through high school girls and meet once a month, if possible.*
- *I plan to try to encourage my district to begin our STEM learning at the elementary school by working with, or using projects of Project Learning Tree. I will also encourage Computer Science exploration using Alice.*

A few would seek collaboration opportunities:

- *[I am] going to collaborate with other professionals in other districts on a STEM program and hopefully apply for the mini-grant.*
- *I networked with some potential guest speakers.*

Thirty-two counselors (about 2% of total post-survey respondents) completed an event post-survey. Compared to other respondents, they were not likely to be as involved in the project prior to the event: five were listed in the Program Directory, six were subscribed to the NGCP e-newsletter, and six had attended a previous

[13] *Since the webinar was not offered through NGCP, the evaluators did not administer the post-survey.*

NGCP event[14]. On almost all items, the ratings of K-12 counselors were very similar to the ratings of all respondents. Counselors had slightly lower ratings of the collaboration and networking opportunities at the event they attended and their mean number of new connections was lower than other respondents (6.9 versus 8.7). However, they were more likely to be leaving with ideas for potential collaborations (with 90% of K-12 counselors agreeing).

Counselors attending events were more likely to agree that the event content was relevant to their work (K-12 counselor mean ratings was 4.52, versus all respondents' ratings of 4.37 on a scale from Strongly Disagree (1) to Strongly Agree (5). Eighty-eight percent of K-12 counselors agreed they planned to apply the information they learned at the event to their work (compared with 83% of all respondents). Examples included disseminating resources, program opportunities and career information, supporting girls to pursue STEM, increasing opportunities to do STEM activities, and seeking collaborative opportunities (see side bar).

According to K-12 counselors, the most valuable aspect of attending an NGCP event was:

- *Networking*
- *Hearing more about STEM, how to promote it, how to think creatively about it.*
- *Getting some great ideas to implement in my school.*
- *Learning about various programs for girls*

K-12 counselors were involved in nine mini-grant projects (11% of all mini-grants). Five served K-12 youth only and the remaining four served both youth and adults. The collaboration among partners were all rated highly, with 89% indicating they were "Very successful." In addition, four mini-grants served K-12 counselors as participants.

In one example of a mini-grant project that had a school counselor as a partner, a counselor promoted the mini-grant activities at their high school (targeting students with disabilities in those efforts) and recruited approximately 20 girls, a third of whom were black/African American and 11% Latina. The mini-grant Lead stated that the project would not have been able to occur without the assistance of their partners in recruiting the youth participants and that counselors' targeted recruitment efforts of underrepresented girls was a strong factor in its success. The girls participating demonstrated high gains, with 89% indicating they would consider the technical career of focus, an increase of 78% from before the project, *"Comments from the girls included praise about the activities, what they learned, and feeling more equipped to make choices about their career paths."*

In another mini-grant project, the counselor provided information about technical careers and collaborated with computer science professionals, "*With collaboration, we were able to have experts in the computer programming field work with the students. Also available was the expertise of counselors*

[14] *K-12 counselors may have completed multiple event post-survey (one for each event they attended).*

**Exemplary Practices for K-12 Counselors**

Any NGCP participant could access the resources the project posted for k-12 counselors.

Thirty-six NGCP Participant Survey respondents applied an exemplary practice from NGCP related to resources for K-12 counselors and all 36 respondents indicated their program experienced positive outcomes as a result.

*on career in high tech areas that are in demand, the outlook, projected openings, income expectations, training available and job environment."*

The mean level of collaboration of all 2015 Participant Survey respondents with K-12 counselors ranked eighth out of nine sectors[15]. Fifty-eight percent of respondents indicated they had "No interaction" with K-12 counselors and just 7% indicated they worked with counselors at one of the two highest levels of Coalition (4) or Collaboration (5). **Out of the nine sectors, respondents were the least likely to indicate they had connected with K-12 counselors through NGCP (selected by 7% of respondents).** There were eight K-12 counselors completing the survey; not a large enough sample to analyze their responses separately.

## 2. How effective and sustainable is the work of NGCP Collaborative Leadership Teams?

### 2a) How and to what extent do Collaborative Team Members have increased knowledge of and demonstrate the ability to create a network, disseminate resources, and encourage collaboration?

*"NGCP's emphasis on collaboration has changed the way I approach my work and the people I work with."*

– Collaborative Leadership Team Member

**Collaborative Leadership Team members were highly impacted by their involvement in NGCP.** Post-training surveys and check-in surveys showed their gains in learning how to help others connect, collaborate and using exemplary practices. Further, Collaborative Leadership Team members responding to the 2015 Participant Survey showed substantial gains in all eight areas measuring the impact of the project on participants, including knowledge of STEM programs and shared resources, knowledge of how to collaborate and interest in collaboration, and knowledge of exemplary practices related to serving girls in STEM.

[15] *Data are from the 2013 Participant Survey. In the 2015 survey, sector categories were collapsed, so respondents rated their connections and collaboration with "K-12"as one broad category.*

**"Before NGCP," Initial Site Visits**

**Post-survey responses after initial meetings with Collaborative Leadership Team members on how attendees expected NGCP to benefit their region show a high level of understanding of the project, even during its first year of the current grant**. One respondent mentioned how increased collaboration would help those in their region help themselves and another mentioned the increased access to resources. They commented that NGCP would benefit their region by:

- *… promoting collaboration between professionals, community resources and the education community by helping us help ourselves.*
- *…increasing underserved populations in STEM; create a collaborative among STEM-serving organizations to better utilize resources, share best practices and provide support; provide research-based strategies and materials.*

Site visit post-survey data showed that, prior to starting their Collaborative, new Leadership Team members felt fairly familiar with programs and organizations involved in STEM in their area (mean = 3.60 on a scale from Poor (1) to Excellent (5)) and knowledgeable about curriculum or other resources related to serving girls in STEM (mean = 3.63).

Ratings were lowest in attendees' knowledge of the programs and organizations in their area mainly serving underrepresented girls in STEM (mean = 3.28). Additionally, although team members felt more positive about their knowledge of practices to recruit and engage underrepresented girls (mean = 3.51), they were not as sure of how to build the capacity of programs to increase diversity in STEM (mean = 3.33).

**Collaboration Institutes**

Data from surveys administered to Collaborative Leadership Team members attending three Collaboration Institutes[16] gave more insight into the preparation and knowledge gains of attendees. A high value of the Institute, according to many attendees, was connecting with other team members from their Collaborative and from other areas across the country that shared their same commitment to gender equity in STEM. Especially in the last few Institutes, attendees considered the opportunity to learn from others the most valuable aspect of the institute. One attendee summarized: "*Meeting other collaborative members with more experience, getting to know the team and thereby feeling more comfortable reaching out for help."*

Collaborative Leadership Team members had high levels of understanding about NGCP after the Institute: they felt most prepared to teach others about the role of collaboration in NGCP and about the goals of the project, and they identified areas of need to help guide follow-up training and support. Lowest ratings were in their preparation to teach others about serving girls with disabilities, engaging a Collaborative Champions Board, and creating an outreach plan to connect programs and individuals to

[16] *Evaluators did not collect or analyze data from the fourth NGCP Collaboration Institute in 2015.*

support girls in STEM. They suggested they needed more information about NGCP's technical resources, more on sustainability, and recruiting additional leadership team members and a Collaborative Champions Board.

**Ongoing training and support**

NGCP offered support and follow-up training for Collaborative Leadership Team members in the form of resources, e-mail support messages, and online meetings. Almost all team members responding to the January 2015 Collaborative Leadership Team Report indicated that they read the support emails (95%). Just under half of respondents attended the online meetings (48%), plus another 25% who accessed archived versions of the web meetings. Slightly fewer indicated they used the SharePoint resource site (44%).

**Collaborative Leadership Team members identified a number of professional benefits as a result of their participation in NGCP as a Collaborative Leadership Team member.** They most commonly pointed to increases in connections within their own networks, among the Collaborative Leadership Team, and with STEM supporters throughout the state. These contacts helped them make connections between the programs and organizations and often furthered the work of their own program. Collaborative Leadership Team members wrote:

- *It has been a great networking opportunity; getting to know women who work in high ranking positions in multiple organizations is inspiring. I have a greater knowledge of the purpose and opportunities that the NGCP can offer and have learned more about STEM in the process.*
- *Participating in the Leadership Team has strengthened my relationships with a variety of other individuals representing different organizations and sectors.*

Many respondents wrote about their increased knowledge of how to effectively engage girls in STEM and the related issues of equity and inclusion:

- *It has certainly made me more aware of the concerns and issues facing young women and gender equity and ways to improve those situations.*

Other benefits included gains in technical skills and use of online tools, increase in presentation skills, opportunities to speak about NGCP and related issues, and increased leadership opportunities. Examples of responses included:

- *I have been greatly impacted by my participation with the NGCP Collaborative Leadership Team…it has helped me to build my elevator speech, and even had a tremendously positive impact on my managerial style.*
- *It has been awesome! I have a huge network that is constantly growing, have gained a huge knowledge base in grant writing and implementation; many other skills in giving workshops, hands-on activities, and planning large events.*

- *It has provided me with opportunities to grow in many areas such as facilitating meetings, prioritizing areas of work and ways of creating impact and identifying team member's strengths and areas of interest to support Collaborative work.*

**On the 2015 Participant Survey, Collaborative Leadership Team member "before NGCP" ratings were higher than other respondents' ratings on all eight items measuring impact.** Despite these initially high ratings, there were still substantial increases to "Current" levels. The amount of change was significantly different compared to other respondents for six out of eight items[17].

Items showing the most gains by Collaborative Leadership Team members were "*Knowledge of shared resources available from other programs related to serving girls in STEM,*" "K*nowledge of programs involved in STEM in my area*" and "*Knowledge of exemplary practices related to serving girls in STEM*."

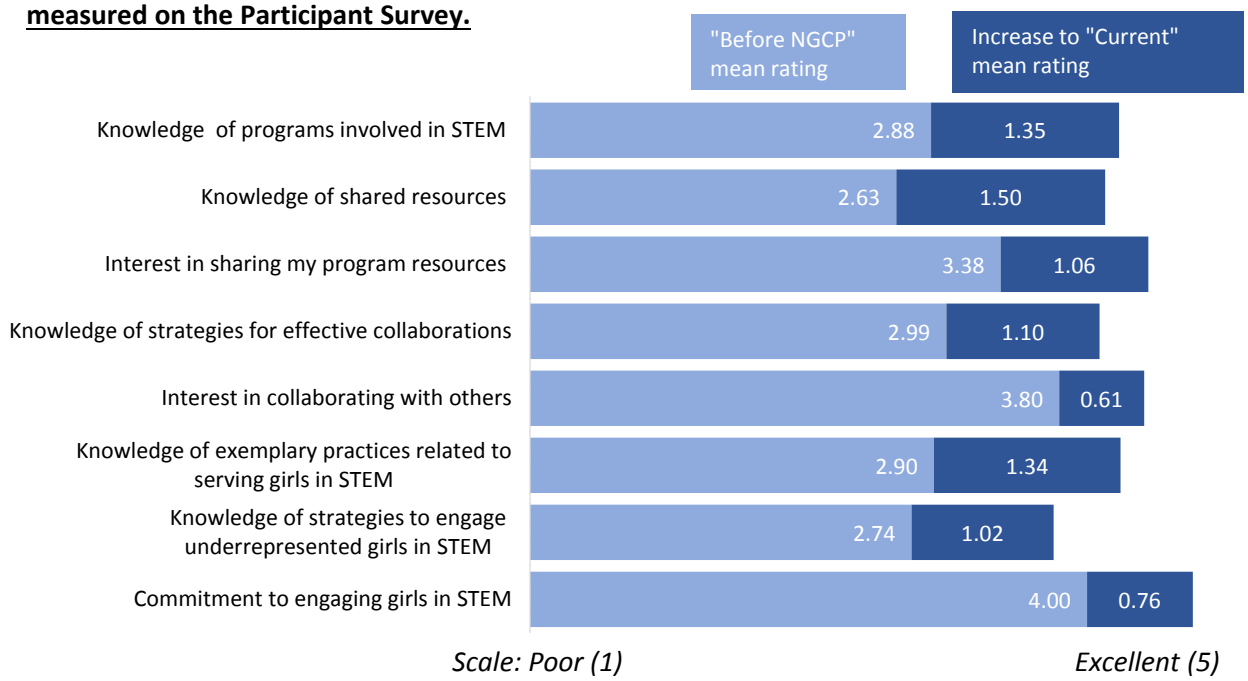
**Table 7. Collaborative Leadership Team members had higher "before" means and more substantial increases on all items on the Participant Survey.**

*Scale from Poor (1) to Excellent (5)*

| | Collaborative Leadership Team Members n=69 | | All Respondents n=606 | |
|---|---|---|---|---|
| | **Before NGCP** | **Current** | **Before NGCP** | **Current** |
| Knowledge of programs involved in STEM | 2.88 | 4.23 | 2.72 | 3.74 |
| Knowledge of shared resources | 2.63 | 4.13 | 2.51 | 3.57 |
| Interest in sharing my program resources | 3.38 | 4.44 | 3.08 | 3.77 |
| Knowledge of strategies for effective collaborations | 2.99 | 4.09 | 2.88 | 3.61 |
| Interest in collaborating with others | 3.80 | 4.41 | 3.38 | 3.97 |
| Knowledge of exemplary practices related to serving girls in STEM | 2.90 | 4.24 | 2.84 | 3.73 |
| Knowledge of strategies to engage underrepresented girls in STEM | 2.74 | 3.76 | 2.66 | 3.40 |
| Commitment to engaging girls in STEM | 4.00 | 4.76 | 3.76 | 4.29 |

[17] *The differences were significant on all items except for "Interest in collaborating with others" and "Commitment to engaging girls in STEM," both of which had very high "Before NGCP" ratings by Collaborative Leadership Team members and therefore not a lot of room to increase.*

**Figure 18. Collaborative Leadership Team members showed high increases on all items measured on the Participant Survey.**




**Collaborative Leadership Team members were also more likely to experience benefits to their work as a result of their involvement with NGCP.** Through increased collaboration and use of exemplary practices (which they were both more likely to experience through NGCP), Collaborative Leadership Team members were significantly more likely than other survey respondents to experience benefits to their work on all items such as recruiting and retaining girls from underrepresented groups, increasing the STEM content of their programs, improved their sustainability, and more effectively meeting program goals. Due to use of exemplary practices, every Collaborative Leadership Team member responding to the 2015 Participant Survey noted it helped them better serve girls.

For example, 98% of Collaborative Leadership Team members indicated the exemplary practices increased their girls' interest, confidence and positivity of attitudes toward STEM. And, due to increased collaboration, 95% of Collaborative Leadership Team members indicated they better served girls and had reduced feelings of organizational isolation.

In a case study interview, a Collaborative Lead spoke about how being part of NGCP and representing the Collaborative had resulted in a number of different opportunities such as speaking and presenting at different events and being invited to be involved with different STEM-related initiatives and groups, *"I'm starting to be seen as the go-to person."*

**Table 8. Collaborative Leadership Team members experienced benefits to their programs as a result of increased collaboration and use of exemplary practices from NGCP.**

| | Due to Increased Collaboration | Due to Exemplary Practices |
|---|---|---|
| Helped us better **serve girls** in our program | 95% | 100% |
| Helped my program **recruit** girls from groups underrepresented in STEM | 80% | 90% |
| Helped my program **retain** girls from groups underrepresented in STEM | 72% | 79% |
| Increased the **STEM** content in our program | 88% | 96% |
| Helped my work or program be more **effective** at meeting our goals | 94% | 98% |
| Helped my work or program be more **efficient** | 92% | 94% |
| Reduced feelings of organizational **isolation** | 95% | 96% |
| Improved my program's **sustainability** | 86% | 86% |
| Increased girls' **interest** in STEM | 93% | 98% |
| Increased girls' **confidence** in STEM | 92% | 98% |
| Increased the **positivity** of girls' attitudes toward STEM | 90% | 98% |

## 2b) To what extent are Collaboratives diverse in terms of the organizations represented by Leadership Team members? To what extent do Collaboratives develop and follow a shared leadership model and distribute work among members?

As strategies to make the project more sustainable, NGCP aimed to establish Collaboratives with a diversity of Collaborative Leadership Team members, a shared leadership model, and distributed work. A National Leadership Team representative felt the diversity of the teams during the formation of many Collaboratives for this grant was stronger than in previous iterations of NGCP because they had become very strategic in considering diversity in terms of sectors represented, areas of expertise, and geographic location. She felt diverse Collaborative Leadership Teams are positively correlated with sustainability, since they should have more areas of expertise, different groups of contacts, and different perspectives.

**The make-up of Collaborative Leadership Teams showed diversity by sector and also reflected the composition of the sectors involved in NGCP activities**. Collaborative Leadership Team members were most commonly from informal education (34% of respondents), higher education (33%), or K-12 (12%)[18]. There were also representatives from business (6%), professional organizations (3%),

[18] *According to data from the January 2015 Collaborative Leadership Team Report*

government (2%) and researchers/evaluators (2%). Those specifying "other" included a parent and media representative.

**Most Collaborative Leadership Team respondents felt that their team worked together effectively, with 85% indicating they felt moderately or very successful**. Additionally, 17 out of 25 Leads (68%), indicated their Collaborative had made efforts toward sharing the workload the most commonly selected item among seven activities that support Collaborative sustainability.

**Table 9. Collaborative Leadership Team Members Worked Well Together** (January 2015)

| | MEAN | Not At All Successful (1) | Slightly Successful (2) | Moderately Successful (3) | Very Successful (4) | Moderately + Very Successful |
|---|---|---|---|---|---|---|
| Overall effectiveness of how the Collaborative Leadership Team works together (n = 113) | **3.24** | 2% | 13% | 45% | 40% | **85%** |

A strong Lead was thought to be important by a National Champions Board member, who commented that the likelihood of sustainability would be increased by nurturing effective local leadership and finding somebody who has the right fit of personality, connections and commitment.

The National Leadership Team encouraged Collaboratives to have a shared leadership model in an effort to increase the likelihood of sustainability, as the project would then not be dependent on one or a few people doing the work or one organization supporting the project**.** Eight Collaboratives have a shared leadership model, with multiple Co-Leads. This structure was considered a success by one Collaborative Leadership Team respondent: "*Key to success for us is that the co-leads have a strong relationship and can share the responsibilities."*

Many responses to the 2015 Collaborative Leadership Team report referred to the majority of the Collaborative work being done by the Lead or a small number of active team members. A dedicated and engaged Lead could be beneficial, but many team members mentioned the potential downside of the Collaborative being dependent on one person who could experience job change or have other reasons for leaving the Collaborative.

- *The success of our Collaborative is due to our committed, motivating leader.*
- *We have huge momentum in our state, but it is resting on the backs of a few people. It would be nice to share the load more, and we are taking a few steps to do this. I (the Lead) need to be a better delegator, because people are willing. We could probably work on this effort 24/7 with all the leads to follow up on and avenues we could take.*

The Collaborative Leadership Team members appreciated their Lead doing so much to organize the Collaborative, but there were worries that the Collaborative was too dependent on that one person. *"[Our Lead] goes above and beyond what she should do… The Collaborative is very connected to what she is doing [in her job], so it's a perfect blend and that's been great. In the long term, it's probably not good in case she can't keep it going."*

At the same time, they appreciated the Lead taking responsibility for organizing all the work of the Collaborative, *"We are fortunate to have a strong lead. She keeps us all informed."*

Many Collaboratives experienced change in leadership during the grant. Some Collaboratives paused activities for at least a period of time while a new Lead was identified. In one example, a team member wrote about the lack of momentum after the start of a new Lead to how the Collaborative could meet its goals.

Managing a Leadership Team, including recruiting and training members, handling turnover, and dividing the workload was frequently mentioned as a challenging aspect by Collaborative Leads, so the topic was frequently a focus at NGCP trainings and meetings with the National Leadership Team. Collaborative Leadership Team report responses during the grant reflected their efforts:

- *We've been trying to expand our Leadership Team over the past year and have not had any new additions that have been very active. Still working on this, as we would like to have greater diversity (in terms of geography and sectors) represented.*
- *[We want] more involvement from business/industry. Diversifying the Champions Board and leadership team (not just race/ethnic diversity, but sectors, areas of expertise, etc.).*

Responses also referred to successes and challenges in sharing the workload. An example of a Leadership Team success was the involvement of people who were excited to be connected to each other, working on a common cause. Challenges were related to communication, Collaborative Leadership Team members not taking on enough work, or following through with their plans to support the Collaborative.

- *Trying to have remote leadership team meetings and getting a large group to be more actively involved.*
- *Communication was also a challenge. Too many people do not read their emails.*
- *Keeping momentum and assigning jobs to leadership team members. Everyone wants to be part of the Leadership team until it comes time to do the actual work. It seems like a few people carried a majority of the work for the team for the kick-off event.*
- *Getting leadership team to follow through on responsibilities for which the volunteered.*

Both Leads and team members made mention of distributing work efforts and building strong communication channels as methods to ensuring continued success.

## 2c) To what extent do Collaborative Leadership Team members increase their knowledge of strategies to sustain their work?

The National Leadership Team encouraged Collaborative Leads and team members to consider how to set-up and build a sustainable Collaborative that is supported by the local region.

Collaboration Institutes provided attendees with resources and information on building the sustainability of their Collaboratives. Many still had an interest in learning more: after the Collaboration Institute in 2012, **47% of the 26 respondents were interested in acquiring more information on building the sustainability of their Collaborative**. The same percentage of respondents felt they were prepared to implement what they learned on their own and 7% felt they knew enough to teach somebody else about sustainability.

As described under Question 2b, above, Collaboratives tried to recruit diverse Leadership Teams and Champions Boards, share the workload, and build local partnerships. As they proceeded with these efforts, they gained knowledge on how to accomplish these sustainability-related activities effectively.

A Collaborative Leadership Team member from a case study site talked about how the Institute increased her comfort and knowledge of how to seek funding, *"The biggest thing I got from the Institute was how to approach and feeling comfortable talking to potential partners and funders: asking and figuring out what they might be looking for; the fund development session and Howlett's work to understand why people would invest in the work we're doing and being able to speak to that."*

**Collaboratives were not very likely to have written grants or created a fundraising plan** (indicated by just three out of 25 Leads responding had done so[19]). They also did not commonly arrange professional development opportunities related to building sustainability (four Leads had done o) or secure in-kind donations to support their work (six Leads). The low percentage of Leads indicating they worked on sustainability activities might suggest that more training or support is needed in these areas. Leads were instead most likely to make efforts toward building or maintaining partnerships to support Collaborative's work (indicated by 16 out of 25 Leads) and to have planning discussions among Collaborative Leadership Team members (indicated by 15/25 Leads).

**National Leadership Team members stated that one strategy to help Collaboratives become sustainable was to provide a limited budget** (every Collaborative creates their own budget and requests the funds from the National Leadership Team, so Collaboratives receive varying amounts, up to a certain amount). As a National Leadership Team member said, *"It's easier to sustain if you were already doing it without any money. They are contributing their time. Collaboratives say they haven't started talking about sustainability, but they don't necessarily have to talk about it, they are*

[19] *As reported in the January Collaborative Leadership Team Report 2015*

*just doing it. Even without funds, they would keep doing this work with our support and mini-grant funding."*

**2d) What types of partnerships and assistance have Collaboratives obtained to support their work?**

*"The emphasis on building partnerships in region will help them (Collaboratives) sustain…Bringing them the network projects is also a piece. Forming those relationships is helpful… With more people and their organizations invested, you have a better chance of being sustained."*

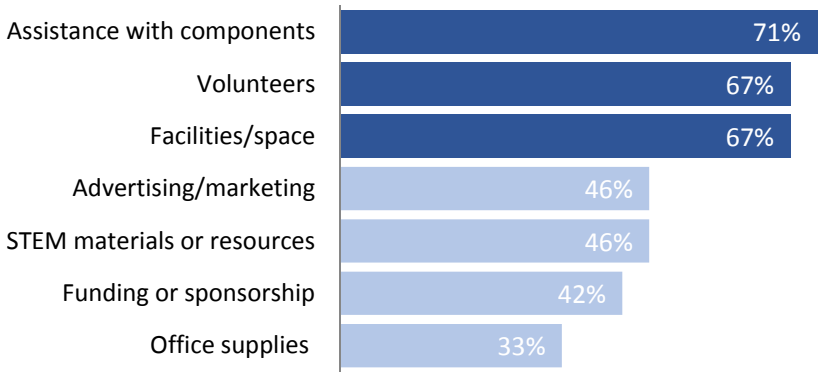
– National Leadership Team member, 2014

**Sixteen out of twenty-five Leads (64%) responding to the January 2015 Collaborative Leadership Team Report indicated they had been involved with building or maintaining partnerships to support the Collaboratives' work during the past year.** In addition, six Leads indicated they had gained in-kind donations to support the Collaborative to support their work**.**

Leads indicated the types of financial or in-kind support that their Collaborative received from regional individuals, programs, and organizations. These most commonly included assistance with specific components of NGCP, such as events or mini-grants, finding volunteers, and use of facilities or space for the Collaborative to use. They were less likely to get support in the form of funding or sponsorship or office supplies, though those were still obtained by more than a third of Collaboratives.

A NGCP case study site commonly offered their Collaborative events in conjunction with an event or conference that was already taking place that would be attended by people targeted for participating in the Collaborative and NGCP. **Linking with another organization had a number of benefits for the Collaborative,** with huge savings of time and cost. The partner organization took on the bulk of the organization of the event and had existing routines or plans for facilities, food, publicity, and other logistics. The organization also had access to a potential group of event attendees that could learn about NGCP as well as their own content or activities planned for the conference day.

**Figure 19. Collaboratives most commonly received assistance implementing components, volunteers and facilities as forms of in-kind support (n = 92)**




**Team members overall did not feel as successful at receiving financial or in-kind assistance from local sources as compared with other Collaborative components**. Collaborative Leadership Team members felt mostly Moderately Successful (3), with a mean response of 2.65 on a scale from Not at all Successful (1) to Very Successful (4). One Collaborative shared that they "*received a grant from the Women's Foundation of [our state] to double the amount of funds we can give away through our mini-grant program.*"

In a case study site, the Lead mentioned that she had added two people from businesses to help with mini-grants as a strategy to get them involved in the Collaborative to potentially help with sustainability, *"I want them as partners; we're always thinking of sustainability and potential funding."*

NGCP asked Collaborative Leadership Team members to list programs, groups, societies, and organizations they were affiliated with in May 2014. There were 71 national affiliations and 71 regionally based affiliations on the compiled list of all responses. Common affiliations included SciGirls, SWE, AAUW, FIRSTRobotics, NCWIT, EYH, AAUW and their afterschool network.

**Figure 20. Common Affiliations of Collaborative Leadership Team Members**
*NGCP Information Gathering, May 2014*


Open-ended responses of Collaborative Leadership Team members on Collaborative successes included references to project partners:

- *Connecting with SciGirls and bringing the program to our 26 afterschool programs*
- *I successfully managed to connect our Collaborative with the state STEM network (finally!).*
- *Provided a forum on role model training to support the Million Women Mentors movement.*

## 2e) What are Collaboratives long-term plans to be sustainable?

A National Leadership Team member commented that the Collaboratives trained under this grant have a different perspective on sustainability as a result of changes made to the funding structure to Collaboratives. The National Leadership Team member felt the new ***Collaborative Leadership Team members came with a mentality of passion and volunteerism, rather than seeking funding to support the work they were doing at their organizations.***

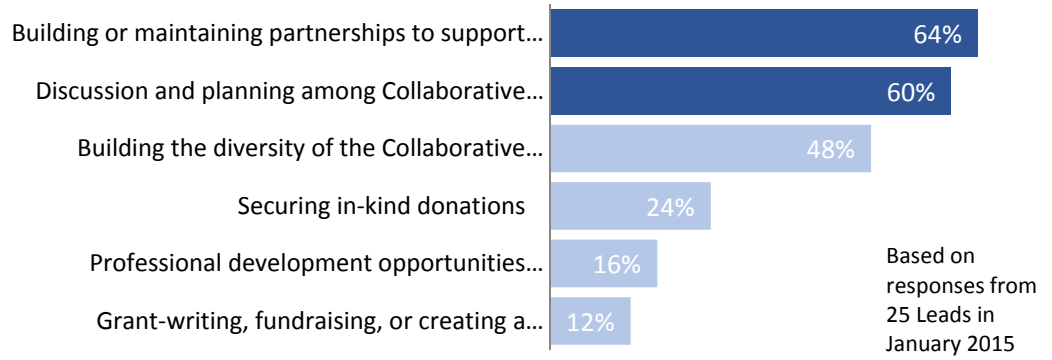
The National Leadership Team hoped that each Collaborative would have a sustainability plan for continuing their NGCP activities. Even as early as their Kick-off Conferences, Collaborative Leadership Team members were thinking about sustainability. The National Leadership Team supported efforts by starting to talk about sustainability at the Institute and continuing to focus on it during ongoing support to Collaboratives. In interviews at case study sites, members mentioned discussions among the team, efforts to identify grants and foundations to approach for funding and thinking about other fund development strategies. Most Collaboratives worked throughout the grant on activities that will help ensure sustainability, such as building diverse and active Leadership Teams and Champions Boards.

In the December 2012 Collaborative Leadership Team report, **respondents were least commonly engaged in building Collaborative sustainability (17%) or fundraising (13%) compared with other**

**NGCP-related activities**, and identified sustainability as an area of challenge. A low percentage of respondents indicated they had secured in-kind donations (20%), done grant-writing, fundraising, or drafted a fundraising plan (20%) during the previous six months. Collaboratives were more commonly engaged in building partnerships to support their work (48% of respondents), having discussions among the team or Champions Board (48% of respondents), and building the diversity of the team (44%)**.** One Collaborative had finalized bylaws and updated a strategic plan.

**By January 2015, the responses were similar; sustainability efforts were most likely to be building or maintaining partnerships to support their work** (indicated by 16 out of 25 Leads) and to have planning discussions among Collaborative Leadership Team members (indicated by 15 out of 25 Leads).

**Figure 21. The most common sustainability efforts were seeking partners and doing planning around sustainability**




When identifying Collaborative challenges, a few team members mentioned factors relating to sustainability such as, "*Gaining funding and fostering partnerships for sustainability."*

In the 2015 report, Leads indicated they believed that factors related to the number and type of Collaborative Leadership Team members were related to the sustainability of their Collaborative. They sought to have a diverse set of Collaborative Leadership Team members who are highly engaged (discussed in Question 2c) and many were looking to recruit new members to their team to fill their gaps.

- *Commitment and passion of individual Leadership Team members*
- *We have been actively adding more Leadership Team members to help catalyze a volunteer network.*
- *Finding leadership team members that are willing to invest time and resources*
- *Spreading the workload and workshop facilitation across team members*

Other factors Collaborative Leadership Team members suggested to promote sustainability included forming partnerships, building a positive reputation in the region, and continuing to provide needed resources. A few mentioned funding, including making a fundraising plan, managing funds wisely, and maintaining current funding sources.

**In terms of factors that may inhibit the sustainability of the Collaboratives, Leads frequently noted time constraints (nine respondents), funding (four respondents) and issues related to personnel, such as turnover (three respondents).**

- *Time is the limiting factor in sustaining the Collaborative.*
- *Turnover of leadership team members as people move and job descriptions change.*

In a case study site, the Lead seemed confident about the sustainability of their Collaborative The larger team had not yet had discussions about sustainability, but others were involved in looking for grants. The Lead commented that she was uncertain how to keep mini-grants going, but other components would be easier.

*"I don't think the network is going to go away as long as we have the website and [program] directory, even without events. There could be a shift in the operation... less focused on events, but having a presence at other events going on rather than having our own; we're already do this to some degree. I wouldn't have thought that, but now I know that we get by with little money anyway. As long as we have a place to house it. If I leave, I take it with me. I'm always thinking about it, but haven't talked about it with the team."*

## 3. To what extent and how does NGCP impact collaboration between those supporting the involvement of girls in STEM?

### 3a) To what extent do NGCP participants increase their understanding of the value of collaboration?

*"I learned that collaboration is much more than just networking. Collaboration has to be strategic and planned, with follow-through and work. I plan to be more strategic about my future work and use the action planning worksheet."*

- 2013 Annual Survey Respondent

NGCP promotes collaboration as an effective and efficient strategy to increase girls' participation in STEM. As a National Leadership Team member said, "*"We (NGCP) talk about collaboration in everything we do. Whether you are attending webinar or applying for mini-grant, or attending an in-person event, you are learning a common definition of collaboration and concrete examples of what it looks like."*

Most Collaborative Leadership Team members that joined NGCP already highly valued collaboration. Following the site visits,[20] one of the highest ratings from Collaborative Leadership Team members was regarding their understanding of the role of collaboration. Site Visit Survey responses showed how team members already valued collaboration and saw the need for building a network of programs in their area, "*We need an umbrella organization to bring together all the different girl-serving STEM groups across the state, especially with so much going on. Collaborative activities can only benefit everyone."*

A Collaborative Leadership Team member noted that most people were generally very attracted to collaboration and did not need to be convinced of the benefits of working with others, *"A lot of people feel they're doing things on their own, so they're excited to work with others. Resources are tight for everybody. People want to partner and they're excited to have been approached. There is a passion for the work they do… Collaboration is so huge. Everybody is a potential collaborator, they have something to offer."*

Information Session post-survey data from potential NGCP participants followed a similar pattern, with responses reflecting the belief that their programs would benefit from NGCP by providing them opportunities to connect with others in their area and form new partnerships: *"I LOVE the concept of bringing together those programs that can benefit from helping each other. We have a lot of resources (compared to other programs) but can always be stronger if we collaborate."*

Despite responses showing a high value for collaborating, just 46% of Information Session respondents felt their knowledge of strategies for effective collaborations was Good (4) or Excellent (5). Participant survey data in 2015 showed even lower "before NGCP" ratings, with just 29% of respondents indicating Good (4) or Excellent (5), with a mean of 2.88. "Current" ratings increased, with 58% of all respondents indicating Good (4) or Excellent (5). The increase from "before NGCP" to their "Current" with a mean of 3.61 was significantly different for all respondents.[21] This difference was larger for those participating in NGCP at higher levels, especially Collaborative Leadership Team members and mini-grantees.

[20] *Site visits are the initial meetings with potential Collaborative Leadership Team members at new Collaboratives held by the National Leadership Team*

[21] *Matched sample t-test*


Comments from event attendees showed they highly valued networking and collaboration, and had a belief that it would help their work: *"[The most valuable aspect of the event was] networking with individuals from other organizations. I made several really key contacts that I think will be helpful to my work and our organization."*

One event attendee noted how increased awareness of other programs and resources would provide opportunities to collaborate and experience benefits as a result: *"Having awareness of others within my state whose goals are similar, I can think of ways of sharing resources and collaborating with them in mutually beneficial ways. For example, bringing K-12 girls to campus and introducing them to women faculty/scientists/students will benefit recruitment for both our university and for the 'girl groups' in K-12."*

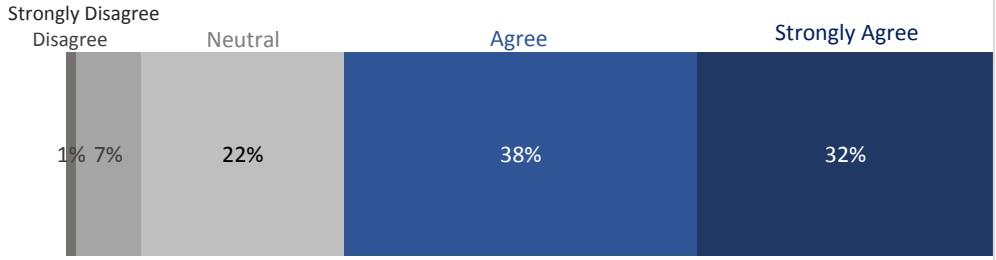
**After an NGCP event, 91% attendees agreed they understood how NGCP could benefit them and their work** and many appeared to attend the event in order to network and collaborate, *"There are so many motivated, talented people out there and it is only with events like these that lets them all come together and swap information and guidance!"*

> *"[The most valuable part of the event was] meeting others who are doing something similar to what we do, and learning from their successes and mistakes. There was so much collective knowledge in the room--it felt like I was able to provide others with ideas, and I certainly got a lot of ideas from others! It also really recharged my batteries; being in the trenches of running an education outreach program can be exhausting and sometimes you forget about the bigger picture. It was amazing to be with so many like-minded people who share your passion and understand your struggles!"*
>
> - Collaboration Conference Post Survey

**The large majority of event attendees felt they learned strategies for collaborating effectively at the NGCP event they attended (70% agreed, and 22% were neutral)**.

NGCP events included information on benefits of collaborating, effective strategies for collaborating, and opportunities to connect with others to pursue collaborations. This type of information was covered to some degree at all NGCP events, but was a particular focus of Collaboration Forums offered by each Collaborative prior to the opening of Mini-grant applications.

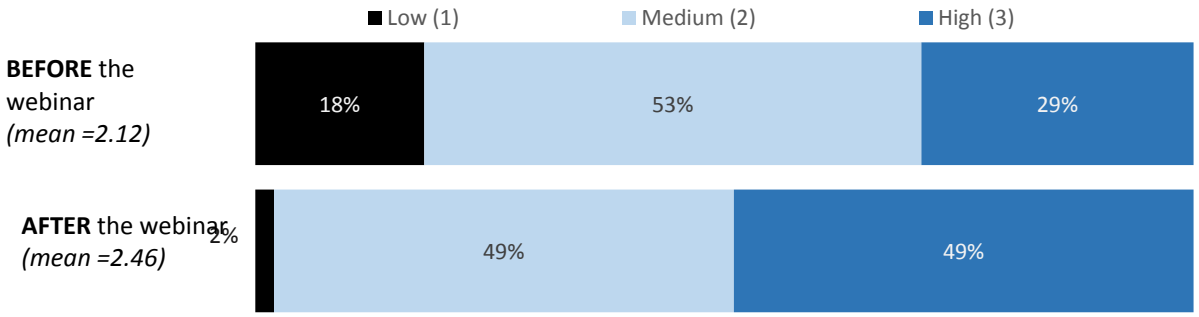
**Figure 22. Event attendees learned strategies for collaborating effectively.**
*Post-event survey (n=1812)*




The importance of collaboration was also highlighted during NGCP webinars and a few webinars focused specifically on why and/or how to collaborate. **Sixty-five percent of webinar post-survey respondents agreed that they learned strategies for collaborating with others during a webinar.** A quarter of respondents, across all webinars, indicated they were "Neutral," possibly reflecting on the topics of the webinars which usually focused on disseminating exemplary practices rather than collaboration.

Self-ratings of webinar participants' knowledge on how to effectively collaborate with others increased significantly from a mean of 2.12 prior to the webinars to 2.46 after the webinars, on a scale from Low (1) to High (3)[22].

**Figure 23. NGCP webinars increased participants' knowledge of effective practices to collaborate with others** (n=171)




An extended webinar on best practices in collaboration was offered by NGCP in September 2012 and was attended by 59 participants[23]. Ratings of their knowledge on how to effectively collaborate with others increased significantly from 2.06 prior to the webinar to 2.46 after the webinar, on a scale from Low (1) to High (3). Information that was most helpful included the connections to local organizations, handouts on best practices in creating successful collaborations, a collaboration action planning document, and the networking activity. Collaborative partnerships in mini-grants were a focus of the "*STEM Equity in Practice: Reflecting on a Mini-Grant Partnership Webinar"* presented in November 2014. Eight out of ten of the post-survey respondents indicated they learned strategies for collaborating with others at this webinar.

> *"I think there is too little collaboration across the board, too many silos. In the case of STEM, national and local, there are so many organizations that are empirically or dedicated to STEM. It seems that we run the risk of causing more chaos or confusion if we don't get them to coordinate… It's the responsible thing to do to support the activities."*
>
> - National Champions Board Member

[22] *Matched sample t-tests from retrospective pre-scores to post-scores on the webinar post-survey (p<.001)*

[23] *More participants could access the archive version of the webinar (not tracked in the evaluation).*

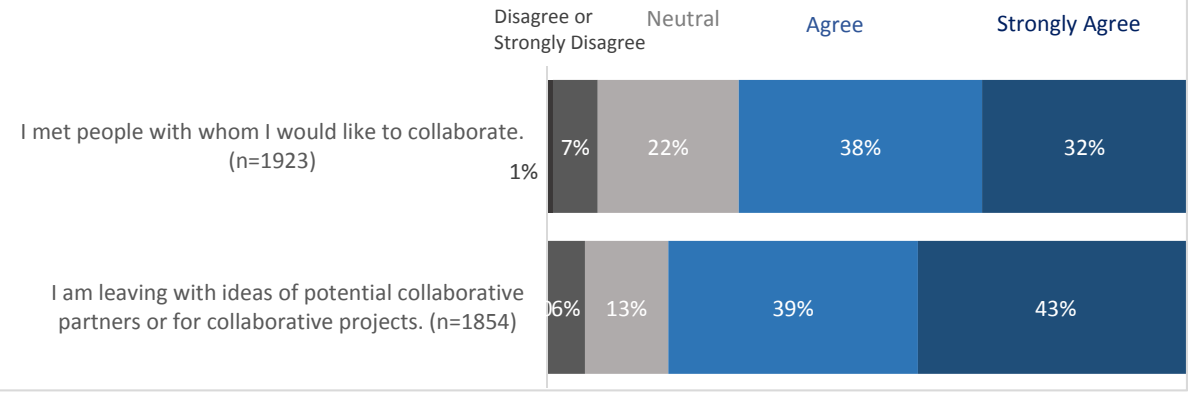
## 3b) Are NGCP participants more interested or more likely to collaborate?

*"Working together collaboratively makes more sense than reinventing the wheel for each topic, school, audience."*

- NGCP Event attendee

**At an NGCP event, attendees were likely to meet somebody with whom they could collaborate (90% agreed or strongly agreed), and 81% indicated they were leaving with ideas for potential collaborative partners or collaborative projects.**

**Figure 24. Event attendees met potential collaborative partners at NGCP events.**




**A large percentage of Participant Survey respondents noted an increase in their interest to collaborate with others and in their interest to share program resources due to NGCP.** Analysis of change in means from levels "before NGCP" to "Current" showed statistically significant differences among all respondents in both of these areas (even though respondents' interest in collaborating with others was initially quite high, ranking second on the list of eight items on the survey). In addition, the ratings of the level of impact of NGCP differed based on respondents' level of participation in the project. The differences in mean responses for interest in sharing program resources with others were statistically significant for Collaborative Leadership Team members, mini-grantees and event attendees, compared to the other respondents.

**Figure 25.**

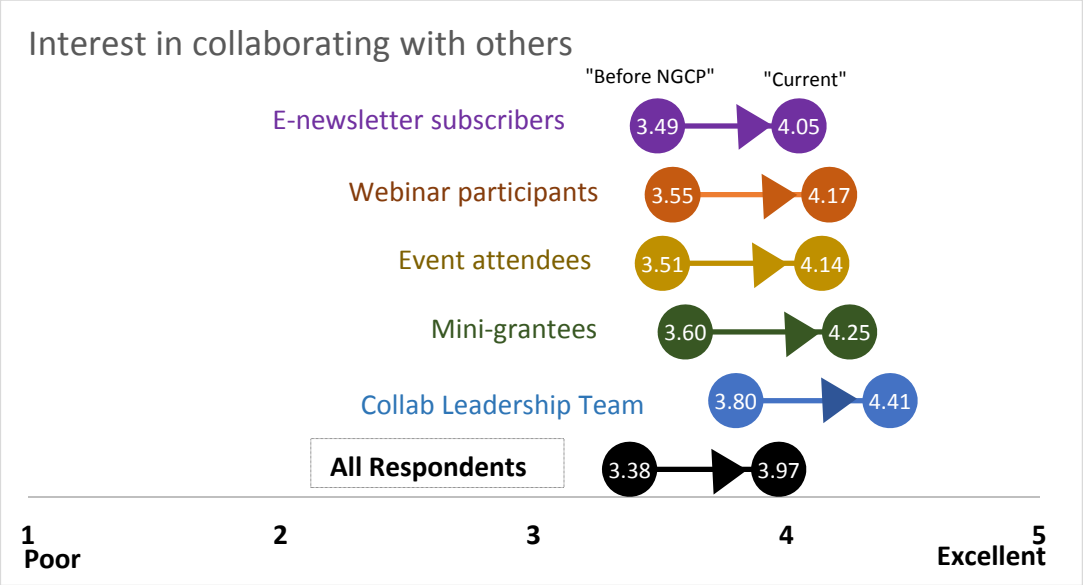
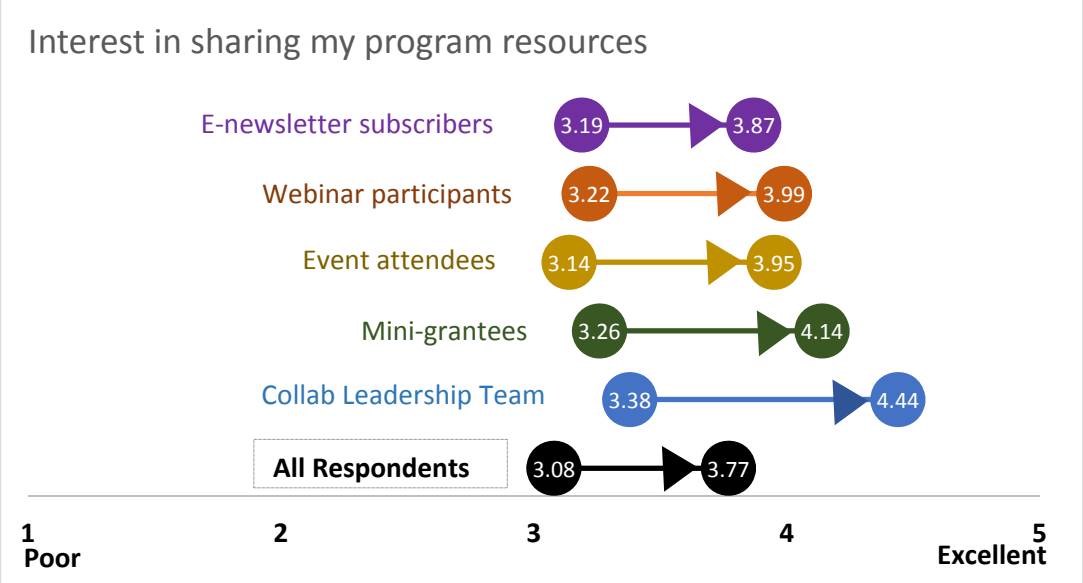
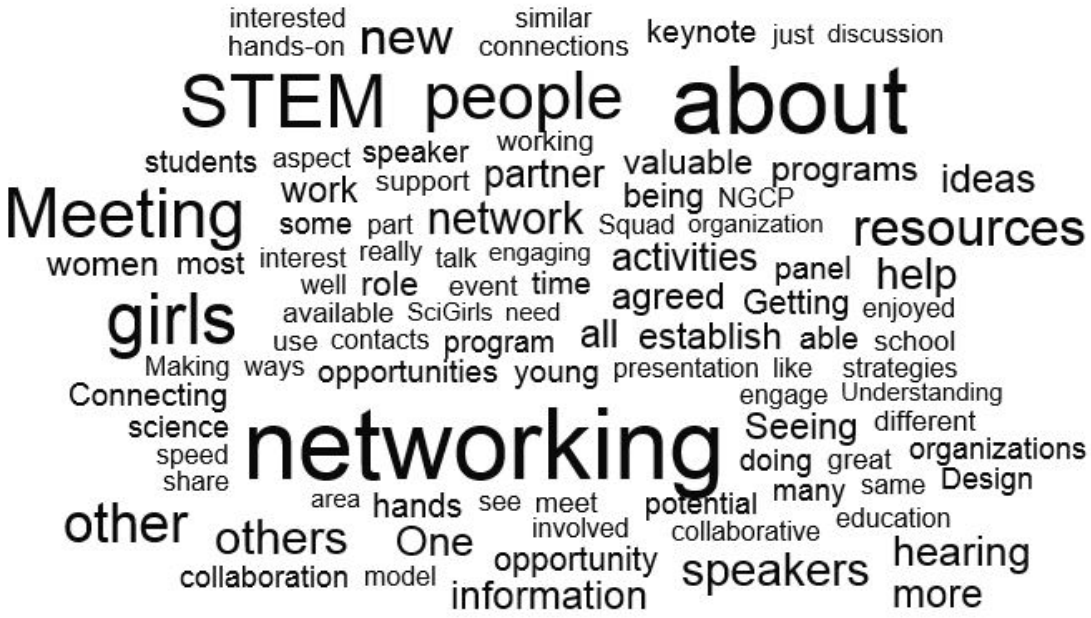



**Figure 26.**




The most frequently mentioned 'valuable aspect' of the events by a large margin were the opportunities to network and meet others. A typical response was, *"'Meeting new people and discussing what we are doing and learning from them."* Event attendees learned about resources that existed in their area at NGCP events, *"Being made aware of additional resources and programs in the community to draw from."* Some respondents seemed more deliberate in their connections, *"The most valuable aspect for me was learning about available programs and companies I could contact for my school."*

**Figure 27. Networking was frequently mentioned as the most helpful aspect of NGCP events. (n = 344)**
*The font size reflects the number of times that the word was used in responses.*




When asked what event attendees learned from NGCP events that they would apply to their work, many wrote about their plans related to collaboration. Examples included finding new partners to help implement projects, help with outreach, or offer in-kind resources. Specific responses included:

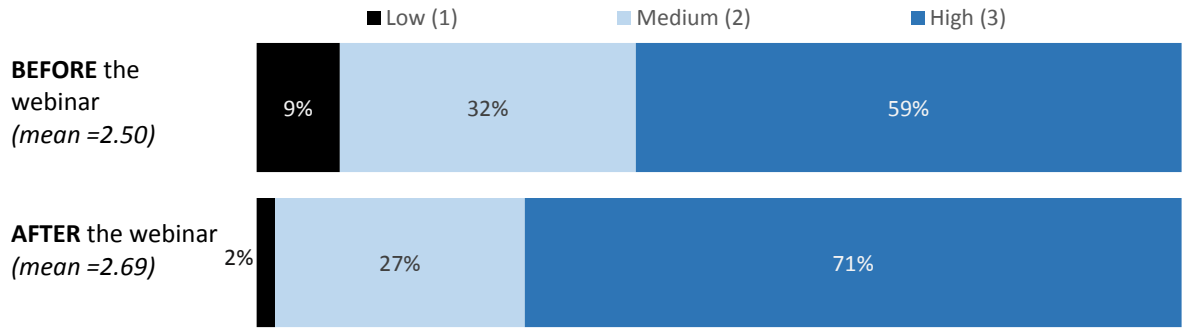
> *"As the state convening organization, NGCP has helped us engage numerous new partners in our STEM efforts and given us access to countless resources that we are able to pass along to hundreds of programs around the state!"*
>
> - 2015 Participant Survey Respondent

- *As a result of this event, my district is planning to meet with more higher education partners in the future in order to begin more wide scale collaboration projects.*
- *I made many contacts that will help broaden and strengthen my outreach efforts.*
- *Representatives from science museums to use as [facility] space.*
- *We made several contacts that we believe will aid us in the development and implementation of our engineering program.*
- *We plan to collaborate with partners to spread awareness about strategies to engage with girls in STEM, with a focus on meeting the girls at their interest level, and finding a way to tie STEM careers to their areas of interest.*
- *I will look or opportunities to collaborate with others outside of my school such as colleges and businesses that could collaborate with me on STEM activities for students.*

Event post-survey feedback suggested making more time for networking, and more in-depth networking activities, "*The best part of the event was cut short--the networking. I would recommend doing an initial introduction before heading into the 'speed dating' portion so people could be strategic about who they spoke with. I wound up speaking with a bunch of wonderful people, but we were all looking for programs to partner with because we already had the kids.*"

Though NGCP in-person events were more conducive to attendees meeting and forging a connection, NGCP webinar participants also showed change in their level of interest in collaborating with others. Despite initially high means, ratings increased significantly after participating in a webinar (from 2.50 to 2.69 on a scale from Low (1) to High (3)[24]).

**Figure 28. NGCP webinars increased participants' interest in collaborating with others**
(n=173)




A National Leadership Team member commented that mini-grants were an effective incentive to encourage collaboration, especially since many people have had negative experiences collaborating or were focused on the barriers to collaboration (such as being time consuming or logistically challenging).

**3c) To what extent and how do NGCP participants increase the number of STEM programs and organizations in their professional network?**

*"NGCP has given us a venue and system to build connections with existing resources and programs in the area while we continue to expand our network to include more STEM programs, out-of-school time programs, K-12 educators & administrators and 'expert' from STEM fields."*

- 2015 Participant Survey Respondent

[24] *Matched sample t-tests from retrospective pre-scores to post-scores on the webinar post-survey (p<.001)*

NGCP brought people and organizations together and encouraged collaboration, discussion of ideas, and exchange of resources. According to one survey respondent, creating a network is the first step to collaboration, *"By connecting organizations, educators, and businesses - providing a network upon which collaborations may foster and by highlighting the importance of gender equity in the STEM disciplines!"*

Respondents to the 2015 Participant Survey connected with an average of **26 people** through NGCP, with a minimum response of 0 and a maximum of 10,000. The average number was much higher for Collaborative Leadership Team members, who connected with 92 people, and was also significantly higher for event attendees, who connected with an average of 56 people through NGCP.

> *"The most valuable aspect of an NGCP event was collaborating with other organizations, speed networking and a chance to talk with others about what is happening in their organizations and how we can work together…"*
>
> - NGCP Event Post Survey

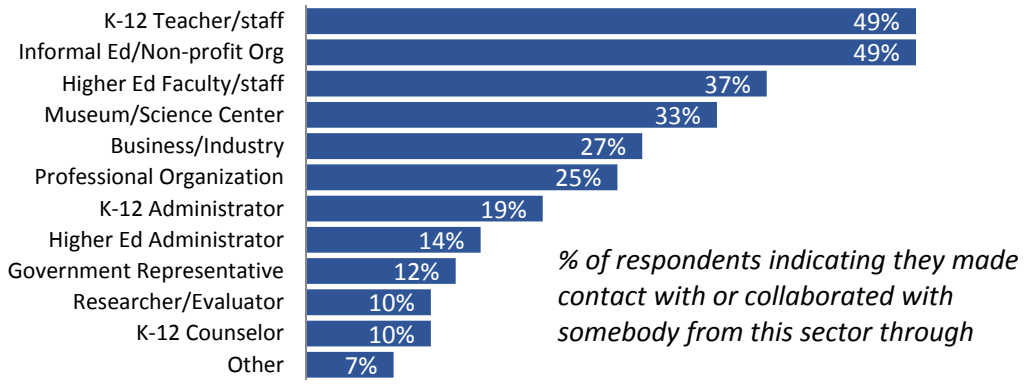
**Table 10. Mean number of different people respondents connected with through NGCP in one year varied based on participation.**

| All (n=829) | Collaborative Leadership Team n =80 | Mini-grantees n=134 | Event Attendees n=334 | Webinar Participants n=329 | E-news Subscribers n = 635 | Program Directory n=394 |
|---|---|---|---|---|---|---|
| 26 | 92 *** | 43 | 56* | 29 | 32 | 48 |

*Significantly different than those not participating in the component (independent samples t-test) *** p<.001 *p<.05*

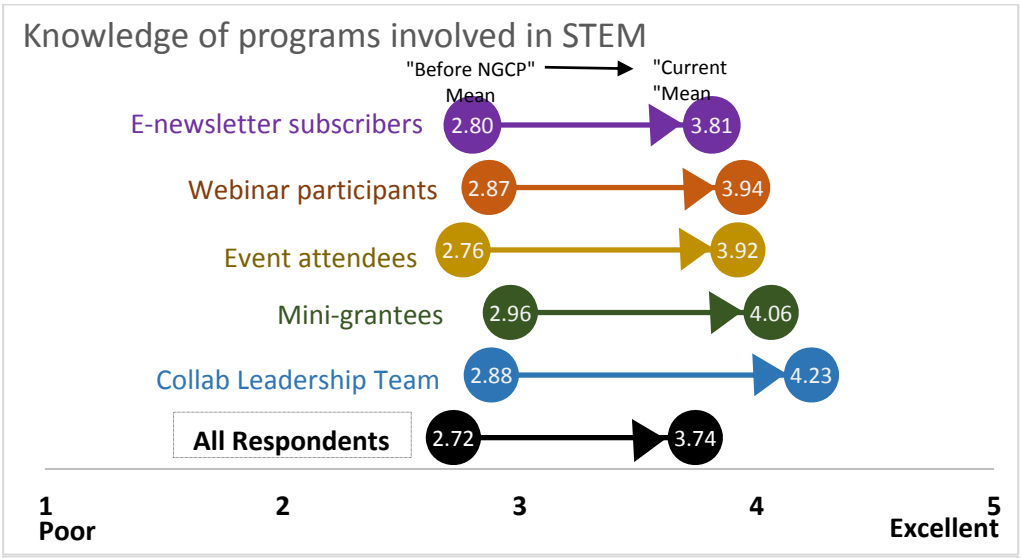
NGCP participants identified organizations they contacted or collaborated with through NGCP. They most commonly connected with K-12 teachers/staff and representatives from informal education (about half of respondents in 2015). They were least likely to connect with K-12 counselors and researchers/evaluators (10% of all 2015 Participant Survey respondents).

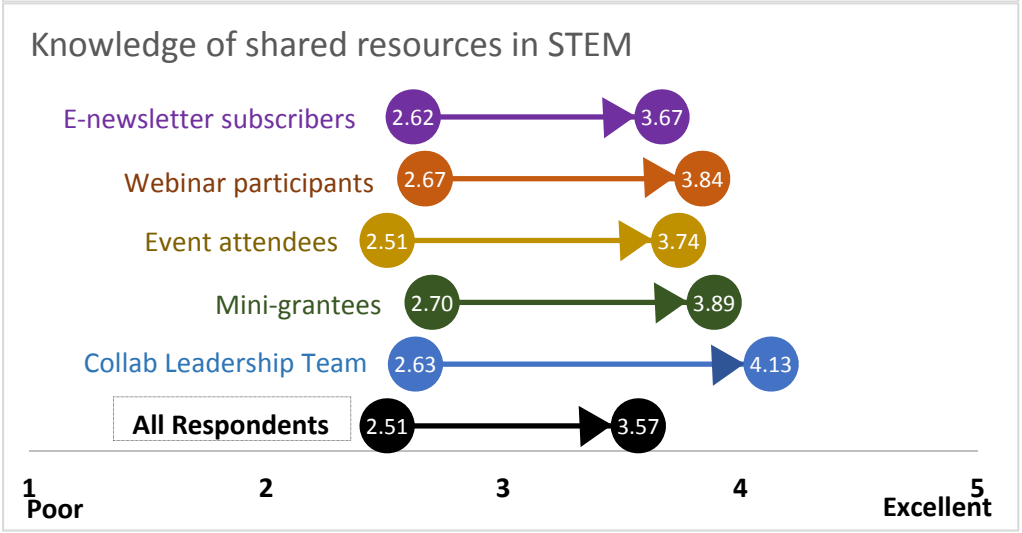
**Figure 29. Respondents most commonly connected with K-12 teachers/staff and people from informal ed/non-profits through NGCP.**



**The highest increase in ratings from "before NGCP" to "current" levels from was in respondents' knowledge of STEM programs in their area**: 28% of respondents specified their knowledge as "Good" or Excellent" before participating in NGCP, and 68% rated their current level as "Good" or Excellent." There was a similar increase in respondents' **knowledge of shared resources in STEM**, with those selecting "Good" or "Excellent" increasing from 20% to 59%. Means showed a statistically significant level of change on both items[25]. Higher rates of change occurred for those participating in NGCP through different components, with knowledge of STEM programs increasing more substantially for event attendees (compared with other respondents) and knowledge of shared resources increasing more significantly for event attendees and webinar participants.[26]

**Figures 30-31.**




[25] *Matched pair t-test, p<.001*

[26] *Independent samples t-test. For event attendees p<.001. For webinar participants, p<.05.(Change scores for Collaborative Leadership Team members were also significant in both areas p<.001).*

Two components of NGCP that were effective in building a network and facilitating connections among individuals and programs (and their resources) were in-person events and the Program Directory.

The large majority of NGCP event attendees who completed a post-survey (n=1,927) felt the opportunities to network and collaborate at an event were Excellent (56% of respondents) or Good (31%). The mean rating was 4.37 on a scale from Poor (1) to Excellent (5).

**Figure 32. Event attendees rated opportunities to collaborate or network highly.**


**NGCP event attendees connected with an average of nine new people at an event[27].**

**Seventy percent of NGCP event attendees indicated they had followed-up with a contact they met at a NGCP event[28].** They were most likely to discuss ideas for collaboration (64%) or to share or exchange resources (59%).

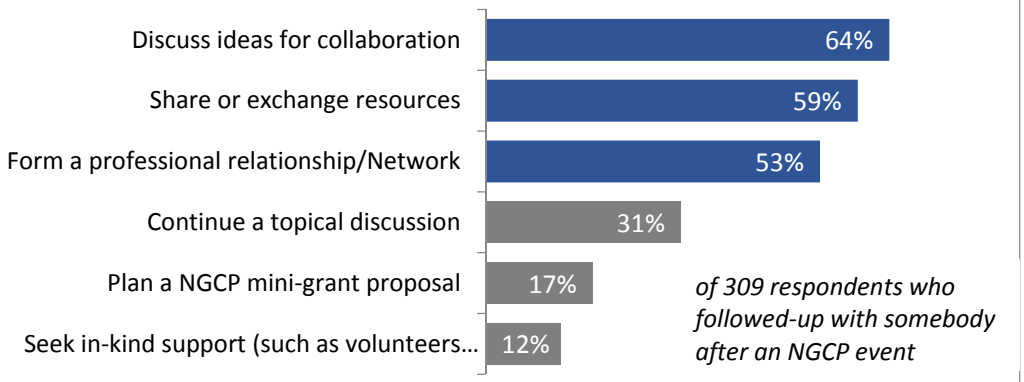
*"I attended my first (NGCP) event this year, and I can say without a doubt, that this was the best event I've ever attended resulting in important relationships to assist in making our program a success and in growing my knowledge of what programs and others in this arena."*

- 2015 Participant Survey

[27] *The average of 1814 responses to the event-post survey was 8.65, with a minimum of 0 and maximum response of 100 (standard deviation =9).*

[28] *As reported by 2015 Participant Survey respondents who had attended an NGCP event. This percentage is consistent with results from previous participant surveys: it was 72% of in 2013 and 71% in 2012.*

**Figure 33. Intentions for following-up with an NGCP event attendee were commonly related to collaboration.**

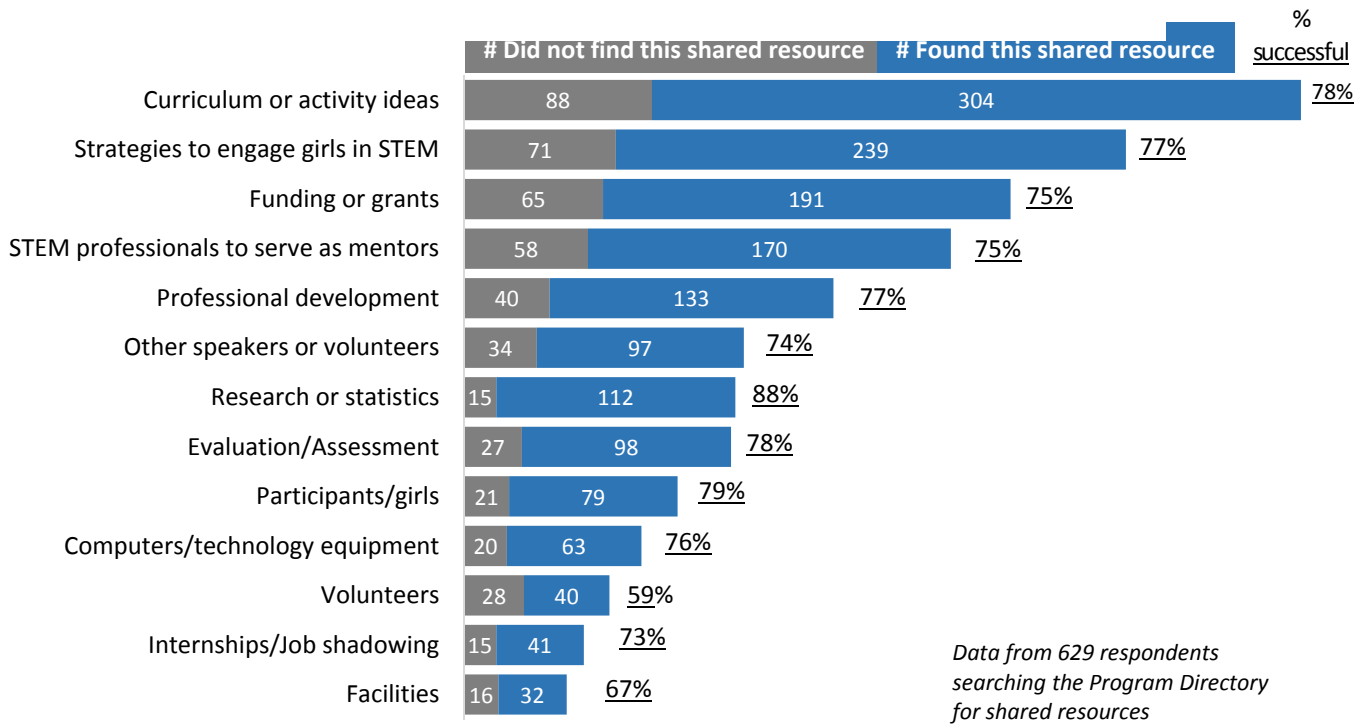



*"NGCP has opened many doors for us. We now have people we can collaborate with or consult with all across the country. It has created a strong shift in our programming and allowed us to also touch the many groups we work with –especially teachers. It will make a significant difference in the quality of STEM education in our city."*

- 2011 Participant Survey

**2015 Participant Survey respondents used the Program Directory to facilitate collaboration**—38% of all respondents had used it to find resources or activities from other programs and 35% were looking for programs in their region. In 2015, 59% of Program Directory users had looked for shared resources from other programs, an increase from 31% of respondents from the 2013 survey. They were most commonly searching for curriculum or activity ideas, or information and strategies to engage girls in STEM. On average, 75% of searches were successful and that percentage was fairly consistent across all items.

**Figure 34. Searches for shared resources in the Program Directory were mostly successful (on average, 75%).**

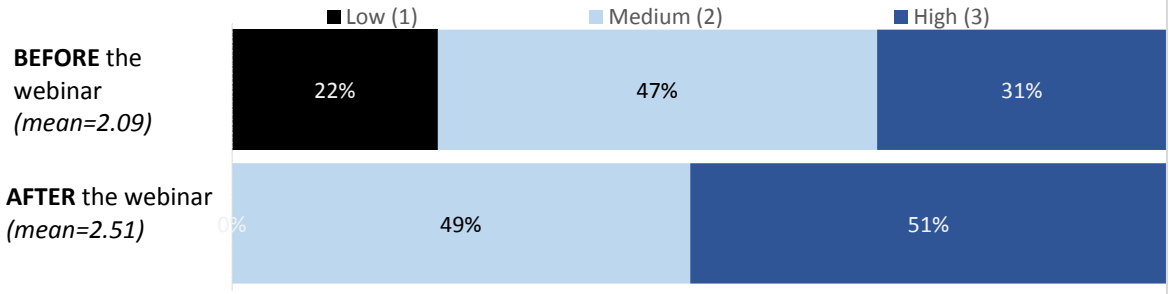



**Seventy-percent of respondents using a shared resource identified through NGCP experienced a positive outcome to their program.** Searches for shared resources in the NGCP Program Directory that most commonly resulted in positive outcomes included volunteers, evaluation, and facilities. In descriptions of how the Program Directory had benefited them, respondents wrote that they were able to form connections with other people and programs, built their awareness of other programs in existence, or found partners to implement projects. One person wrote, *"[We have] met other similar organizations and have shared information about projects, ideas and how to get girls interested in STEM*."

Webinars also played a role in introducing shared resources to participants. There was significant difference in respondents "before" and "after" ratings on their awareness of resources related to serving girls in STEM.[29]

[29] *Matched pair t-test, p<.001*

**Figure 35. NGCP webinars increased participants' awareness of resources related to engaging girls in STEM** (n=175)




**Social Network Analysis** Evaluators administered surveys to programs in two case study sites during Year 2 of the project to investigate via network analysis the connections between girl-serving STEM programs and supporters . The survey explored the levels of familiarity and collaboration between STEM programs in each region, and mapped the existing connections between programs before the start of Collaborative activities. The surveys were intended to be a baseline measure, but evaluation resources were directed away from the case study thus there was no post survey. Sociograms that visually showed the results of the first survey were shared with the National Leadership Team and relevant Collaborative Leadership Teams. Statistical measures included the number of connections per program (about 4) and the average number of programs that lay in the path of any two programs (about 2).

**Table 11. Social Network Analysis Statistics**

| Measure | Definition | Whole Network n = 74 | Respondents Only n = 19 |
|---|---|---|---|
| Average Degree | Average number of connections per node (or program) | 4.14 | 4.84 |
| Density | Percentage of connections that exist out of the total possible number | 5.7% | 26.9% |
| Connectedness | Percentage of pairs in the network that are connected | 22% | 69% |
| Distance | Average number of steps between programs | 2.20 | 2.00 |

In describing the level of collaboration among girl-serving and STEM programs and organizations in their region prior to NGCP, Collaborative Leadership Team members at case study sites described scattered efforts without a place or reason to convene. A Lead noted that the Collaborative could be a center point of the STEM effort in the state if they continued reaching out, making materials and resources available, and maintained a high level of communication and publicity.

Along with this evidence that NGCP has built a network of individuals, programs, and organizations connecting to each other, it is important to note the network effects. In a few examples, respondents felt more committed to their efforts to engage girls in STEM, and felt they were part of a larger movement to do so. They felt supported in their work and more confident due to being part of a network. Examples included:

- *Removed isolation - We're now certain that I can get the support that I need when I need it*
- *A lot of good activity ideas and the general support network helps us to feel confident in encouraging girls in areas of STEM for our programs, finding NGCP has given us avenues for exploring collaborations. We plan to employ strategies for recruiting and engaging underrepresented girls in STEM.*

Awareness of other programs and available shared resources can be considered prerequisites to collaboration, and therefore are part of the process that leads to other program benefits that are covered in subsequent evaluation questions.

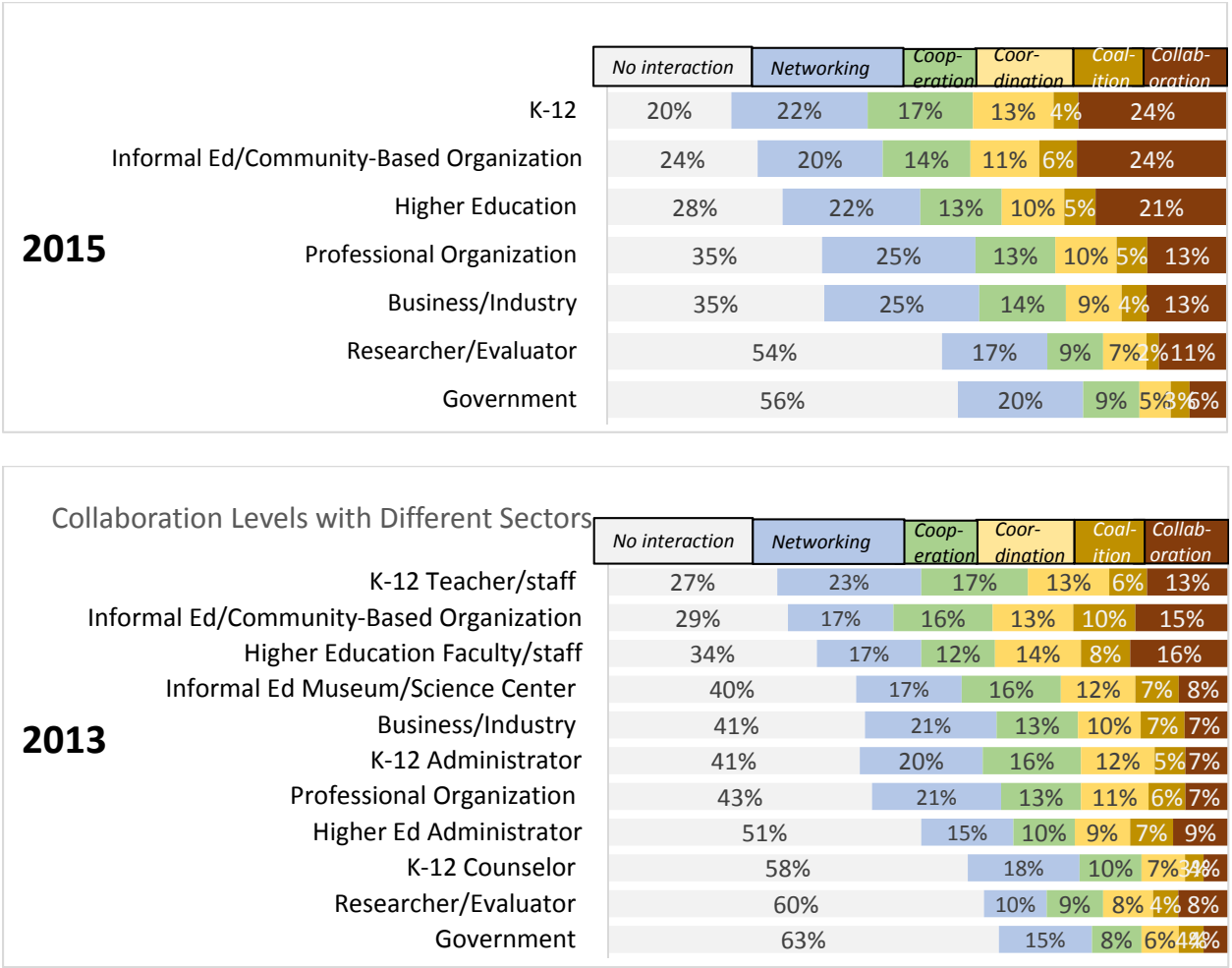
### 3d) How does participation in NGCP affect levels of collaboration with STEM programs and organizations?

The NGCP participant survey asked respondents to indicate the highest levels of collaboration between their program and other groups and organizations supporting girls in STEM. A rubric of collaboration levels adapted from the work of Hogue (1993), Borden and Perkins (1998, 1999), and Frey (2004) was used by respondents to indicate the highest levels of collaboration between their program and other groups and organizations supporting girls in STEM. The response scale ranged from No Interaction (0) to Collaboration (5), with short descriptions provided for each level.

| | | | | | |
|---|---|---|---|---|---|
| **No Interaction (0)** | **Networking (1):** Aware of organization: Loosely defined roles: Little communication: Decisions made independently | **Cooperation (2):** Provide information to each other; Somewhat defined roles; Formal communication; Decisions made independently | **Coordination (3):** Share information; Share resources; Defined roles; Frequent communication; Some shared decision making | **Coalition (4):** Share ideas; Share resources; Frequent and prioritized communication; All members have a vote in decision making | **Collaboration (5):** One system; Frequent communication characterized by mutual trust; Consensus is reached on all decisions |

Overall, the mean of respondents' collaboration levels with different sectors ranged from 0.97 (government representatives) to 2.31 (K-12 representatives) on the scale from No Interaction (0) to Collaboration (5). Respondents tended to have the highest levels of collaboration with others from their same sector. They were most likely to reach Collaboration (5), the highest level of working together, with informal education (24%) and K-12 representatives (24%). They were most likely to have No Interaction (0) with government representatives (56%) and researchers (54%)[30].

**Figure 36. Levels of collaboration were highest with K-12 and informal educators, and higher in 2015 compared with increased from 2013.**

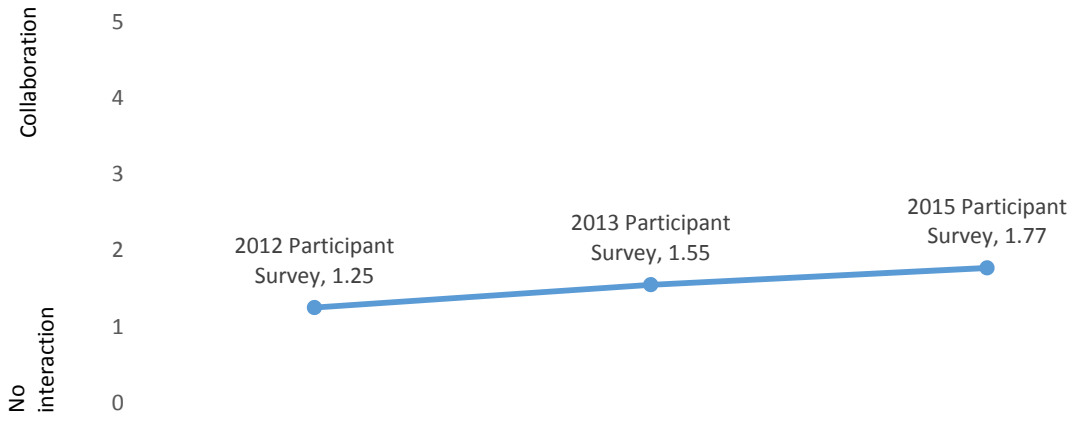



**There is evidence that NGCP participants increased their level of collaboration**. First, the 2015 Participant Survey showed higher levels of collaboration overall compared with past administrations of the survey (a trend visible when comparing the collaboration rubric data from 2013 and 2015, above).

[30] *One reason behind this trend is that respondents from any one sector had the highest levels of collaboration with others from the same sector and those two sectors had the highest number of respondents to the survey.*

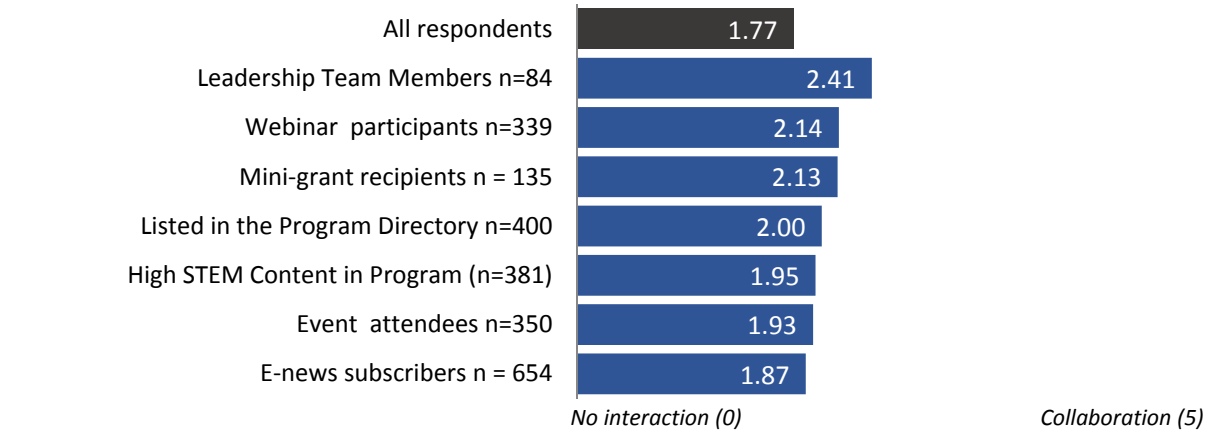
**Figure 38. The individual mean level of collaboration of NGCP participants has increased over time.**

*Based on all respondents to each survey, not a matched sample.*




Secondly, mean individual levels of collaboration were higher for those who participated in NGCP activities, especially for Collaborative Leadership Team members, webinar participants, and mini-grant recipients.

**Figure 39. Individual mean levels of collaboration are higher for those participating in different NGCP components.** *2015 Participant Survey data*



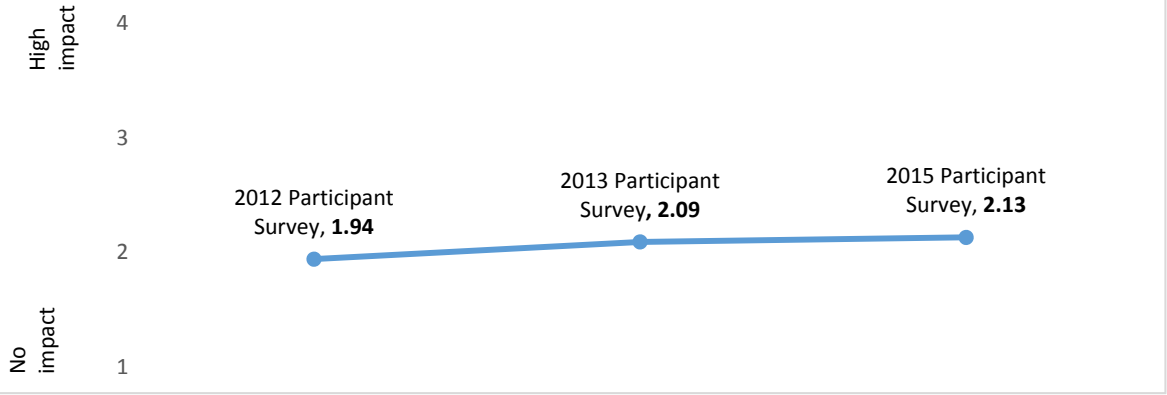

*Means of these groups are significantly different than those not participating in the component.*[31]

On a scale from No impact (1) to High impact (4), respondents rated the degree to which NGCP influenced their levels of collaboration with others. These data show the same trend as the levels of

[31] *Independent groups t-test (p<.001) for all groups, except for event attendees and webinar participants, (p<.01)*

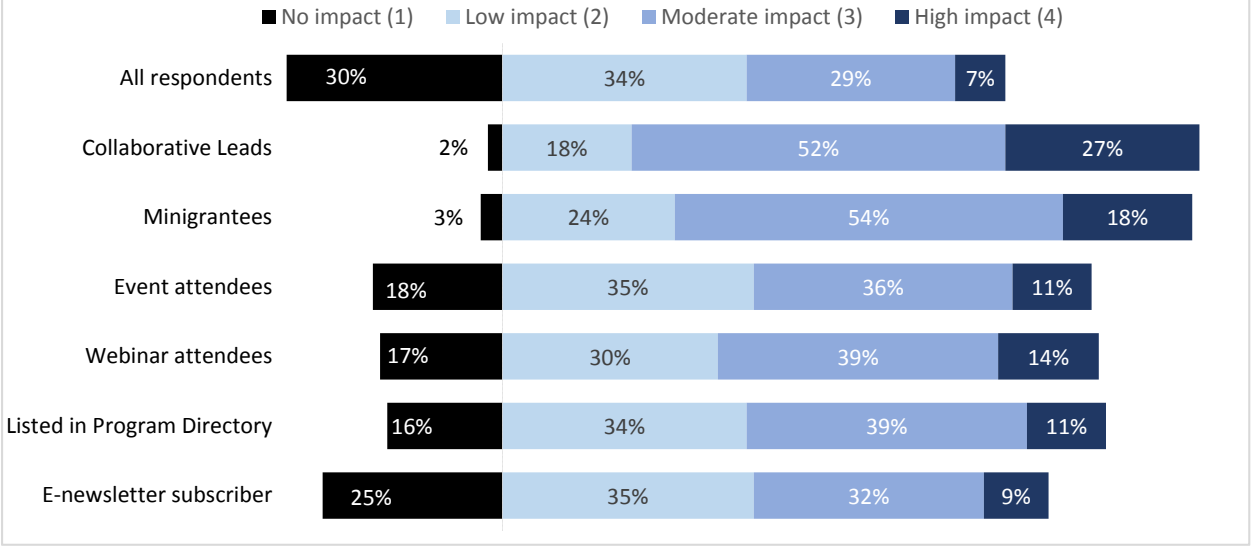
collaboration; mean responses increased over time and participants involved at high levels in different components of NGCP had higher ratings.

**Figure 39. The mean impact of NGCP on levels of collaboration has increased over time.** *Based on all respondents to each survey, not a matched sample.*




**Those participating in different components of NGCP indicated a higher impact of NGCP on their collaboration.** In 2015, the mean 'impact' response was 2.13, with 30% specifying No impact (1) and 7% of respondents indicating High impact (4). For example, in 2015, 27% of Collaborative Leadership Team members and 18% of mini-grant recipients specified a high impact. Mean individual levels of collaboration were higher for those who participated in different types of NGCP components.

**Figure 40. Those participating in different components indicated higher impact of NGCP on collaboration levels**



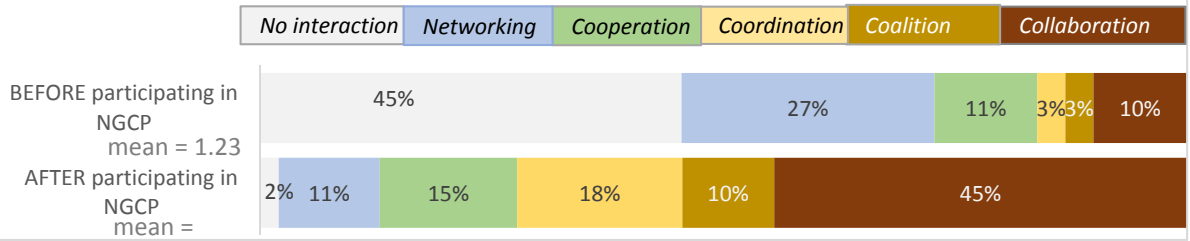

** All means were significantly different than those not participating in that component*[32]

[32] *Independent samples t-test of means, p<.001*

Respondents from the informal education sector were most likely to specify a higher impact of NGCP on their collaboration levels while respondents from K-12 were least likely to be impacted.

Just over 200 NGCP Participant Survey respondents in 2015 shared an example of a collaboration that was influenced by NGCP. They indicated that NGCP had changed their relationship with their partner by an average of 2.3 steps on the 6-point rubric, including 28% of respondents who increased their rating four or five steps. In collaboration examples, 45% of respondents had not interacted with their partner at all prior to becoming involved with NGCP.

**Figure 41. Collaboration levels increased during involvement with NGCP by a mean of 2.33 on the 6-point scale in one example per respondent (n=204).**



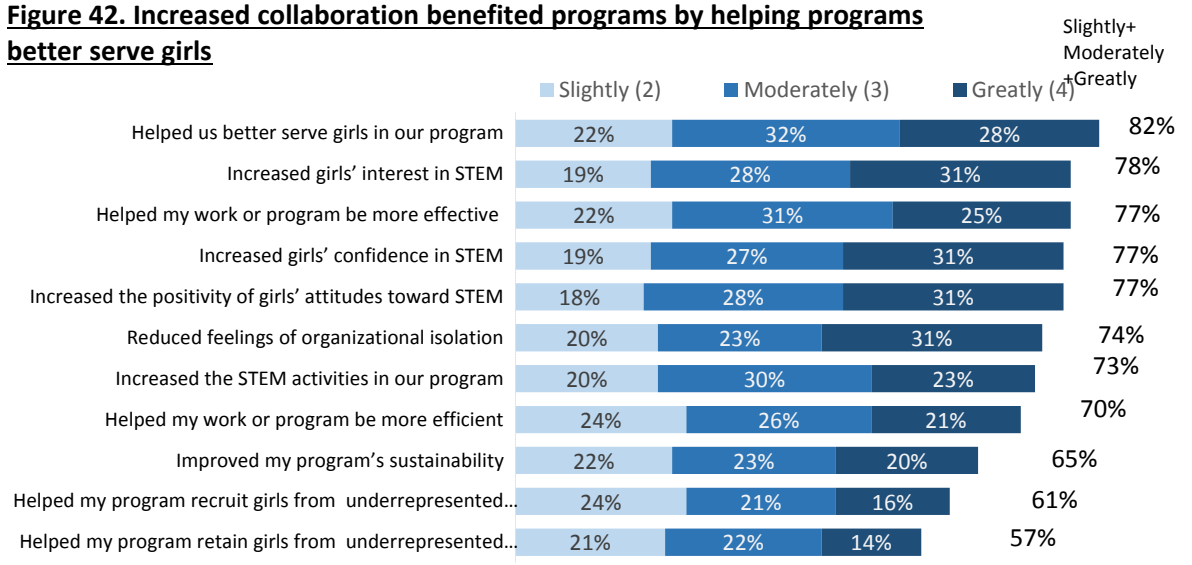

*"I think our Collaborative is fantastic and effective in a landscape where many organizations simply duplicate existing efforts. Our Collaborative provides real world information, collaboration, and education for all."*

- Collaborative Leadership Team Member

**There were many impacts resulting from higher levels of collaboration, most commonly in helping programs better serve girls in their program and increasing girls' interest in STEM.**

Overall, respondents were least likely to identify benefits of increased collaboration as helping them to recruit or retain girls from underrepresented groups, though more than half of respondents' indicated at least a slight impact on their program in these areas.

**Figure 42. Increased collaboration benefited programs by helping programs better serve girls**

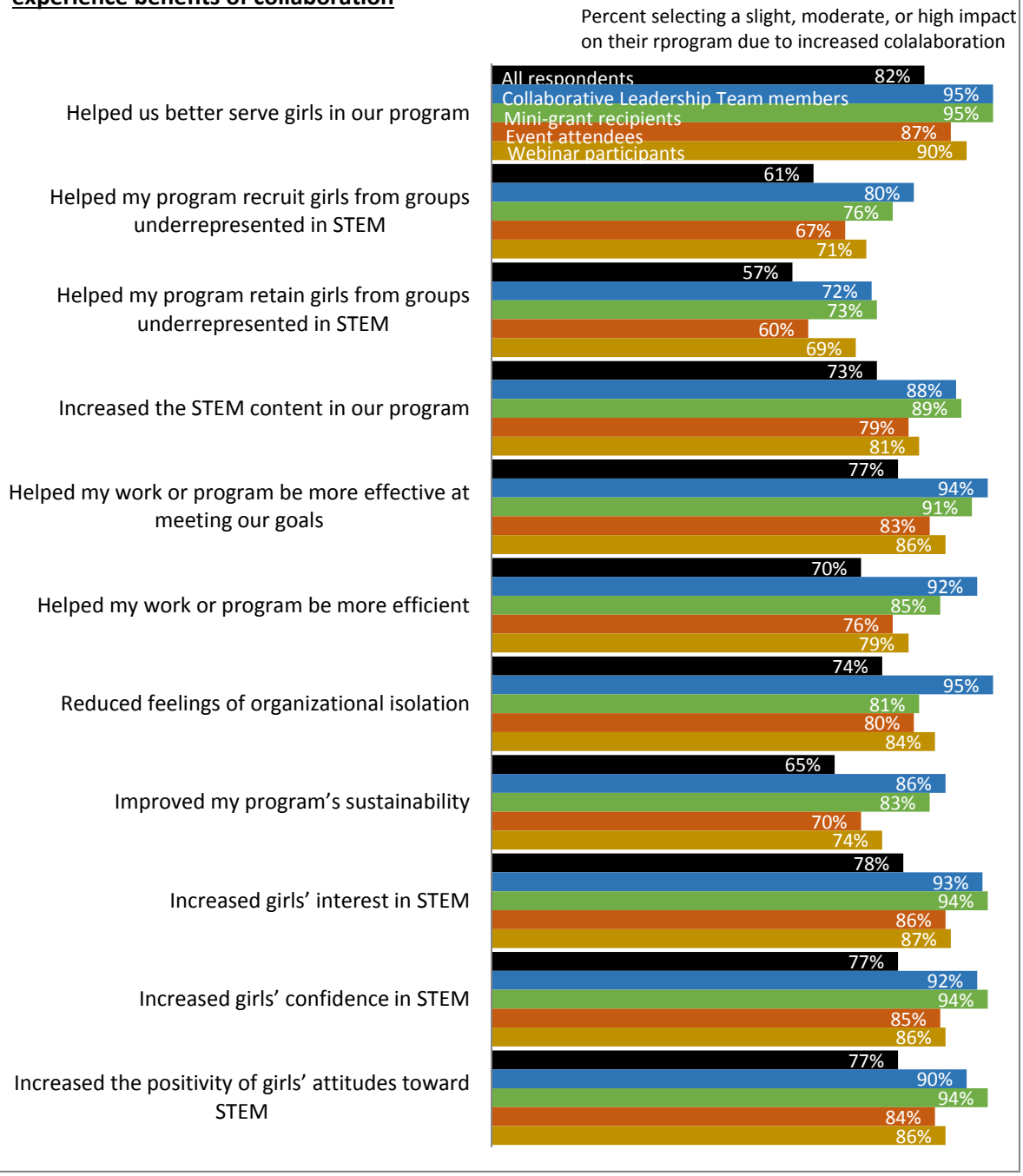



*"Having an opportunity to be introduced to an entire community of people and organizations whose aims are similar to mine. We are all working towards the same cause, and it's great to know that everyone is willing to collaborate and support each other."*

- Collaborative Leadership Team Member

Collaborative Leadership Team members and mini-grant recipients were more likely to identify higher benefits of increased collaboration to their programs. More than 90% of mini-grant recipients indicated higher collaboration helped them better serve girls in their program, helped their work be more effective, increased girls' interest in STEM, girls' confidence in STEM, and increased the positivity of girls' attitudes toward STEM.

**Figure 43. Respondents participating in different components of NGCP were more likely to experience benefits of collaboration**




There is further discussion of the impact on serving girls in STEM in Question 5.

## 4. To what extent do K-12 programs participating in NGCP have increased access to and use of exemplary practices related to serving girls in STEM?

### 4a) To what extent do youth-serving programs apply exemplary practices to their work?

NGCP disseminated information on exemplary practices and resources related to recruiting and better serving girls via the project website, the e-newsletter, events and webinars.

**One-quarter of 2015 Participant Survey respondents had used an exemplary practice in their work, and 45% planned to apply a practice in the future[33].**

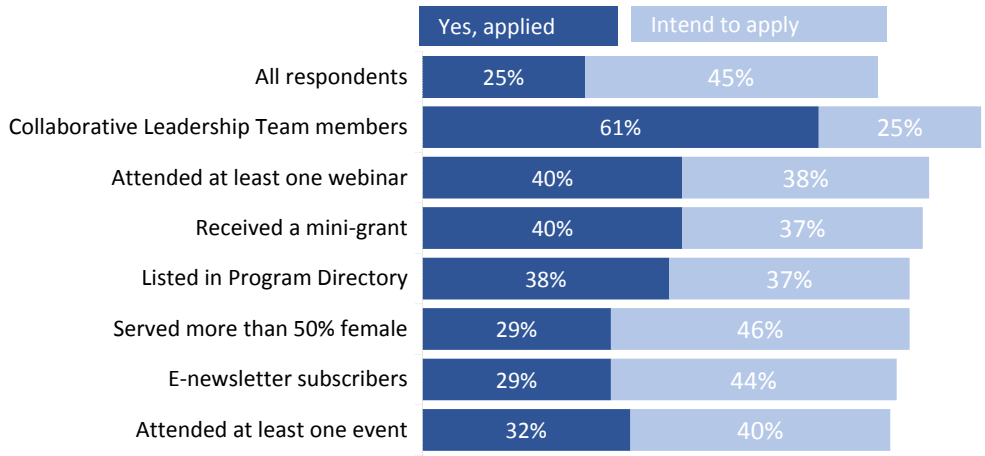
*"There is lots of information out there and a lot of different curriculum out there and people are just craving creating good content and somebody else to navigate the noise for them to figure out what is good. It positions us as one of those organizations that provides great content and curriculum that they can grab and use and go and the support behind it."*

- NGCP Collaborative Lead

**Those participating in NGCP components were more likely to apply an exemplary practice**, with 61% of Collaborative Leadership Team members, 40% of mini-grant recipients, and 40% of webinar attendees applying an exemplary practice disseminated by NGCP. Those with more STEM activities in their program were significantly more likely to apply exemplary practices (30% of respondents from programs where almost all activities are related to STEM had used an NGCP exemplary practice, compared with 17% of those from programs with few or no STEM activities) (Chi-squared $p<.05$).

[33] *This was a slight increase from 2013 Annual Survey when 22% had applied an exemplary practice and 55% planned to in the future.*

**Figure 44. Use of exemplary practices was higher for those participating in NGCP, and especially for webinar attendees and mini-grantees.**




Respondents that attended more NGCP webinars and events were more likely to have applied an exemplary practice. For example, only 16% of those who had not attended a webinar had applied an exemplary practice, while 84% of those attending at least six webinars had. A similar trend was found in the event data.

**Figure 45. The more NGCP webinars attended, the more likely respondents were to apply an exemplary practice.**

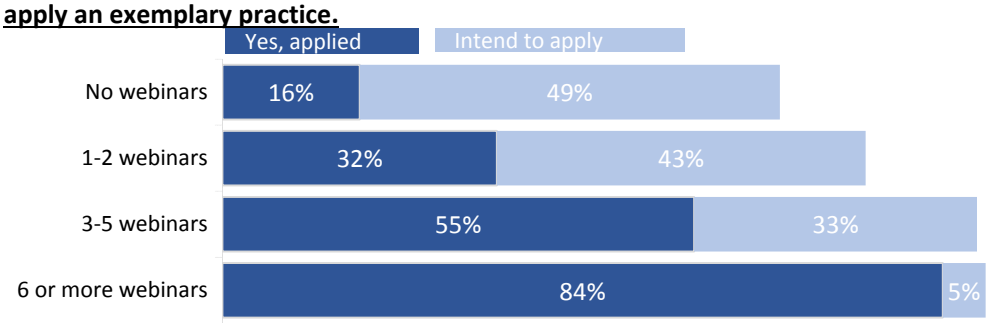
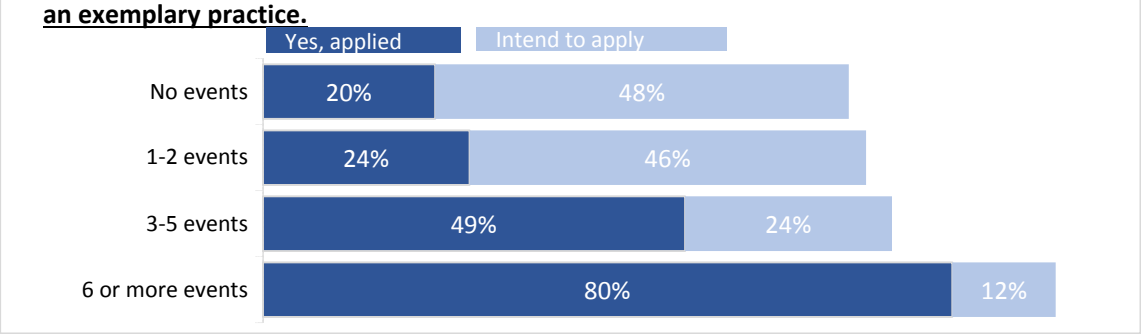


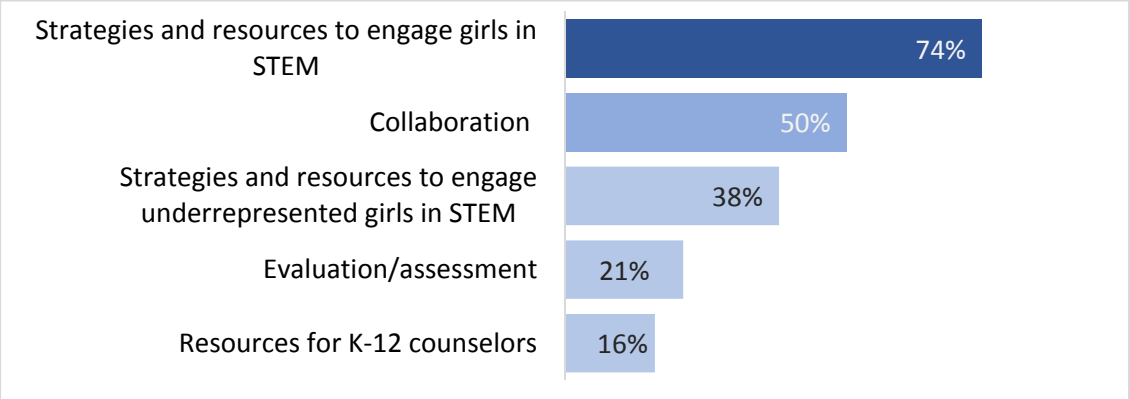
**Figure 46. The more NGCP events attended, the more likely respondents were to apply an exemplary practice.**




There were also differences based on sector: informal educators were most likely to have applied exemplary practice (31%), followed by K-12 (28%) and higher education (21%)[34].

Of those applying an exemplary practice disseminated by NGCP, 74% used strategies and resources to engage girls in STEM and 50% used practices related to collaboration. They were less likely to apply evaluation and assessment resources (21%) or resources for K-12 counselors (16%).

**Figure 47. Participants most commonly applied strategies and resources to engage girls in STEM** *Respondents applying exemplary practices from NGCP selected all that apply (n = 224)*




A necessary precursor before applying exemplary practices is to understand what they are and how they are used. **Participant Survey respondents indicated increased knowledge of exemplary practices after participating in NGCP.** Thirty-one percent of respondents indicated their knowledge was Good (4) or Excellent (5) "Before NGCP," and 67% indicated their current level after participating in NGCP as Good (4) or Excellent (5). The mean

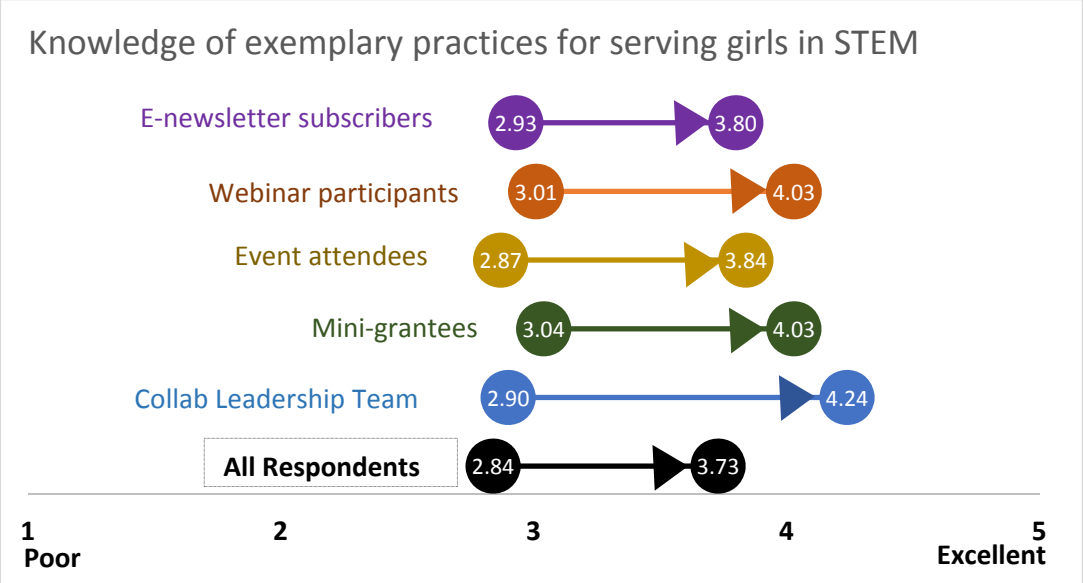
*"NGCP has definitely done a great job building a community of practice around girl serving organizations and helping to improve practitioners' knowledge and hopefully help them use whatever best practices there are out there."*

– National Champions Board Member

[34] *Chi squared p<.05*

ratings of all respondents increased significantly, from 2.84 to 3.73.[35] The change scores for Collaborative Leadership Team members and webinar attendees were significantly higher than other respondents[36].

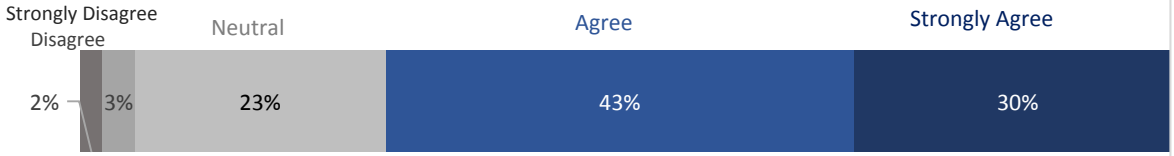
**Figure 48. Ratings of current knowledge of exemplary practices were higher for respondents participating in NGCP components**




According to Webinar Survey respondents, webinar topics were relevant: 84% of post-survey respondents agreed that the content was relevant to their work, and the relevancy of the topic was by far the most frequently noted "motivation" for attending a NGCP webinar[37]. **The large majority of webinar attendees agreed that they learned exemplary practices to engage girls in STEM during the NGCP webinar they attended, with 73% agreeing and 23% who were neutral.**

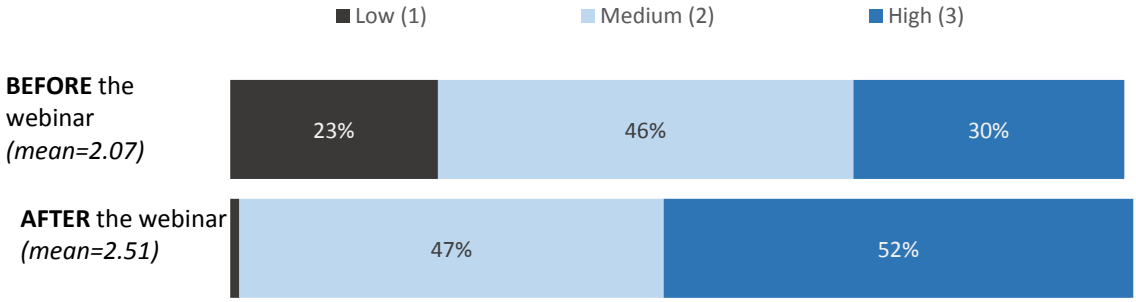
[35] *Matched pair t-test, p<.001*
[36] *Independent samples t-test. For Collaborative Leadership Team, p<.001. For webinar participants, p<.01*
[37] *selected by 81% of all webinar post-survey respondents*

**Figure 49. Seventy-three percent of webinar participants agreed they learned exemplary practices to engage girls in STEM..**




Mean ratings of webinar participants' knowledge of effective practices to engage girls in STEM increase **significantly from 2.07 before the webinar to 2.51 after the webinar on a scale from Low (1) to High (3), (p<.001).** Fifty-eight percent of the respondents with Low (1) or Medium (2) "Before" ratings improved after the webinar.

**Figure 50. NGCP webinars increased participants' knowledge of effective practices to engage girls in STEM** (n=171)

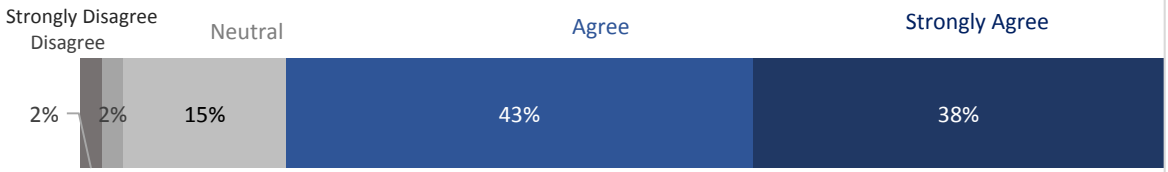



*"It's relatively easy to put the information out there, and people will show up and consume it, but I'm not sure if that necessarily translates to action. People are very busy and they do what they have to do. If there is a certain mode of operation that people have gotten into, it's difficult to change that mode of operating. I'm just not sure that the interventions NGCP has provided has actually changed the way people operationalize their work."*

– National Champions Board Member

**Participants were very likely to agree they would apply what they learned during the webinar to their work soon after a webinar.**

**Figure 51. Eighty-one percent of webinar participants agreed they planned to apply what they learned to their work.**



Post-webinar respondents identified potential barriers to applying the webinar content, including lack of time (26% of respondents) and not enough funding (23%). Only 10% of respondents felt that the webinar they attended did not provide sufficient information on how to apply the content. One participant suggested webinar content could be more tailored to specific groups, "*I think the webinars could be improved by being more explicit about the different challenges/successes the different audiences might face in relation to the topic. For example, the challenges an after school non-profit faces may be different than what an administrator faces.*"

A popular page of the NGCP website was "*Exemplary Practices for Engaging Girls in STEM*," with 10,864 unique page views during Year 4.

NGCP event attendees were likely to agree they learned practices to engage girls in STEM at the event (79% agreed) and planned to **implement information that they learned at the event in their own work (83% agreed)**. The percentage agreeing to these statements was slightly higher for event attendees compared to webinar participants, perhaps a sign that the in-person learning experience was more powerful. However, from the Participant Survey, webinar participants were more likely than event attendees to actually apply a practice to their work.

**Figure 52. Seventy-eight percent of event participants agreed they learned strategies to engage girls in STEM.**

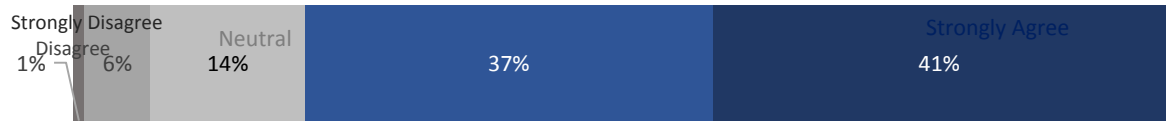
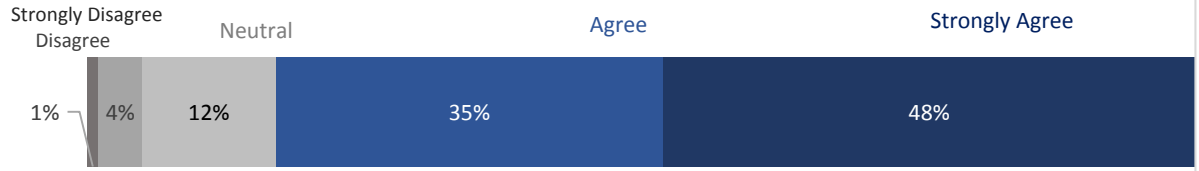



**Figure 53. Eighty three percent of event participants agreed they learned strategies to engage girls in STEM.**



Examples of what event attendees learned that could apply to their work included:

- *Material and activities from the Role Models Matter workshop for our program instructors.*
- *I will try to foster a growth mindset in girls, by creating more open-ended experiments and using language that encourages girls to see mistakes as learning opportunities.*
- *I am now more aware of the need to share with my students what STEM careers look like on a daily basis.*
- *I will focus on collaborative strategies, use words to emphasize creativity, modify lessons to encourage free-form engineering and problem solving, and strive to give tailored positive feedback*
- *From the discussions, we have decided to focus on girls in middle school. Several events and field trip options we found through networking will be advertised/encouraged with this group.*
- *Clear strategies and activities to use in our organization's programs.*

In feedback provided by respondents to the event post-survey, suggestions were made for more clear practices to easily apply to their work. One person wrote, "*I was really hoping to see actual implementation ideas that we could take back to the classroom that day. Examples: Girls like to work collaboratively and seating arrangement is very important to them so try to use tables opposed to single-student desks… There was plenty of information but very little that I felt I could take home and immediately act on.*"

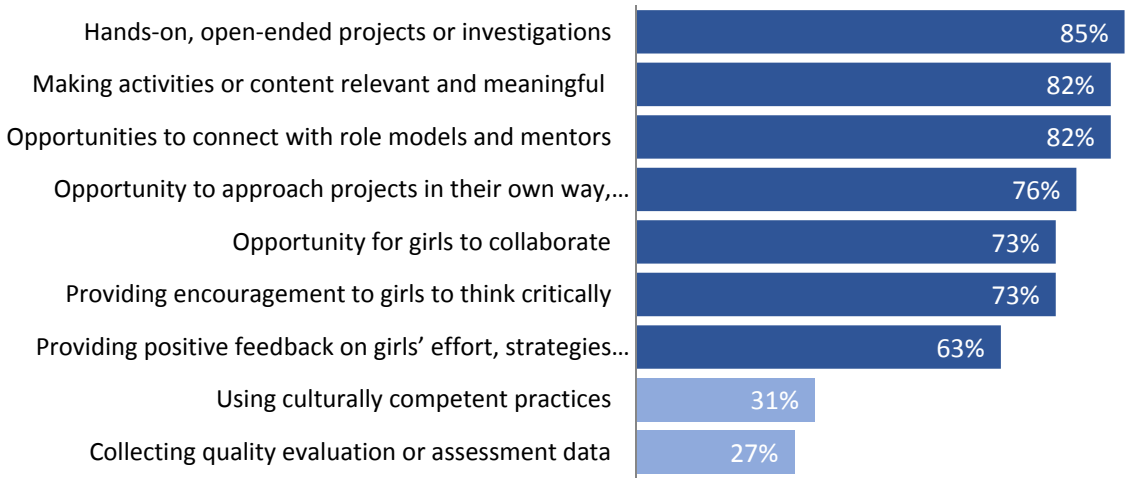
**National Leadership Team members specified that the challenge of disseminating exemplary practices is the transference from knowledge to actual application of the practices.** To increase the likelihood that practices are applied, they employed strategies such as making practices and the resources specific and user-friendly, offered follow-up support as needed, made webinars available through an archive, and even asked attendees to plan out how they would apply what they learned in their work.

**4b) What exemplary practices are utilized by mini-grant recipients? Are the practices perceived to be effective and/or applicable to other work?**

Mini-grantees were likely to utilize multiple exemplary practices in their projects. Most commonly, they were using hands-on, open-ended projects (85%), making activities or content relevant to participants (82%), or providing opportunities to connect with role models or mentors (82%). The least common exemplary practices from the select-all question was using culturally competent practices and collecting quality evaluation data (selected by about 30% of respondents).

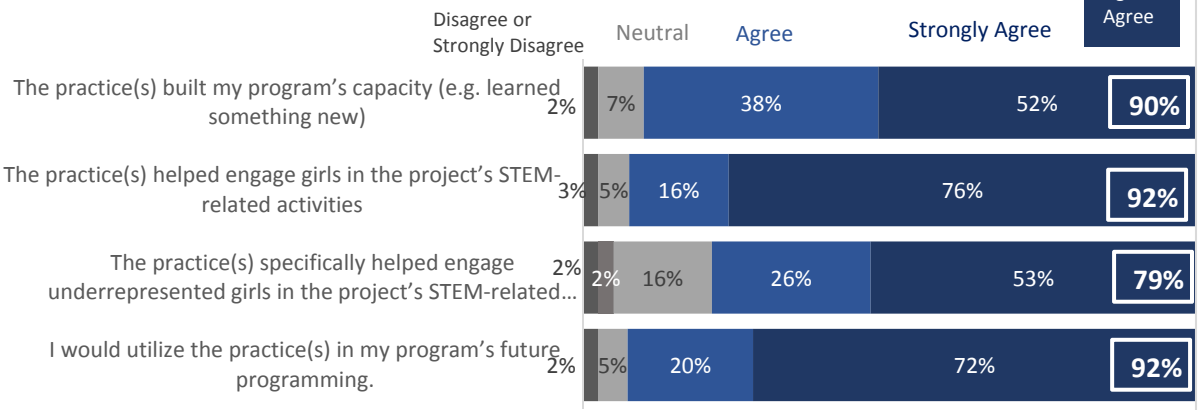
> *"The NGCP mini-grant is directly responsible for the birth of our grass-roots, community based STEM program. A combination of training, networking, mini-grant and collaborative resources was the undergirding of our program's success. We have impacted over 600 girls in [our] area. The resources like webinars, conferences, and experts allowed me to empower the parents and community activist with knowledge and 'know-how' to bring STEM literacy to underserved communities."*
>
> – Mini-grant report

**Figure 54. Mini-grants applied a number of exemplary practices in their projects, most commonly hands-on learning, making activities relevant, and role models. (n=84)**




**Mini-grant recipients were very likely to agree they would utilize the exemplary practices from their mini-grant projects in their future programming (92%) and that using the practices built their program's capacity (90% agreed).** They mostly agreed that practices helped engage girls in the STEM activities (92% agreed) but were slightly less likely to indicate that the practices specifically helped engage underrepresented girls in the project's STEM-related activities, with 79% agreeing.

**Figure 55. Mini-grantees experienced many benefits from using exemplary practices, including better engaging girls.**




Overall, comments from mini-grant report respondents indicated that the exemplary practices were effective. One respondent described how the hands-on nature of the project engaged youth with disabilities, *"Because our project was hands-on, girls with learning and mental health disabilities were able to fully engage. Staff and student participants recognized strengths and contributions from all students while allowing space when a girl needed time to process. Girls acknowledged and valued the efforts of the whole team in completing the playhouse."*

A mini-grant recipient wrote about their recruitment efforts to engage Hispanic youth in their project and how they were successful in leading to positive outcomes for these girls: *"In this low-income largely Hispanic community, the percentage of underrepresented students enrolled in college prep/STEM courses is unacceptably low. The percentage of underrepresented girls is even lower. Our first win was raising participation to 46% girls; the second win was giving girls the support to demonstrate their success to their peers, offering them role models and giving them opportunities to collaborate. The girls completing (our) program see themselves as competent, college-bound students. The growth in their confidence and their persistence during the school year is strong evidence that the model is working."*

More findings related to the impact of exemplary practices on girls' engagement in STEM is discussed in question 4d).

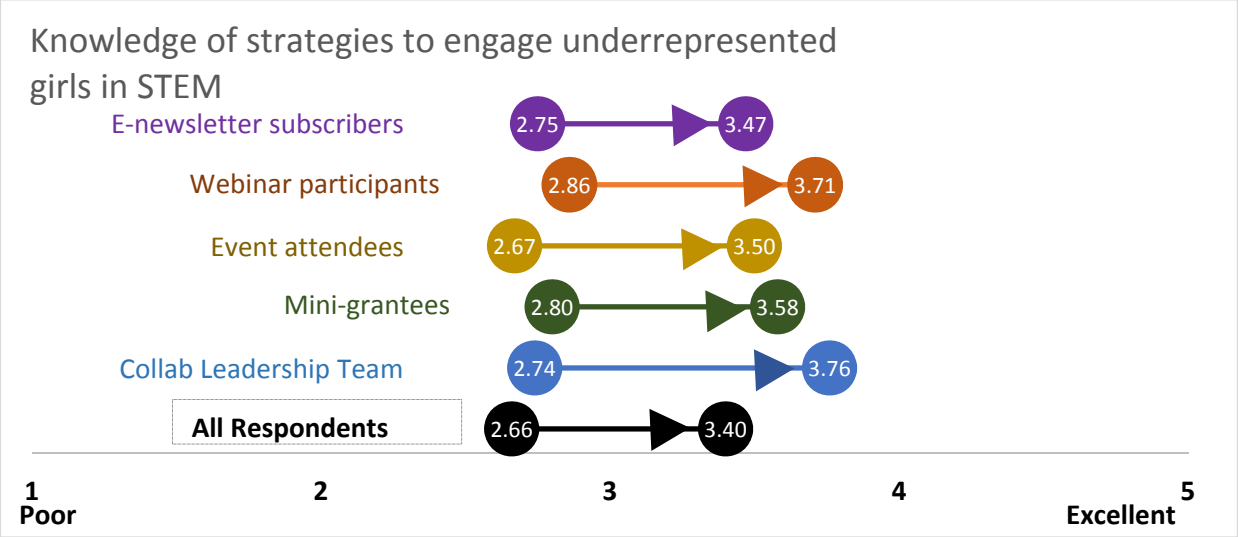
### 4c) Are programs more aware of and do they utilize exemplary practices and resources on serving underrepresented girls?

Exemplary practices related to engaging underrepresented girls in STEM are disseminated through the same modes as other exemplary practices: in the e-newsletter, on the NGCP website (under pages entitled "Access and Equity" developed during Year 3) and in webinars. Additionally, mini-grant funded projects targeted underrepresented girls and were required to apply exemplary practices. Respondents accessing exemplary practices through NGCP **most commonly looked for strategies and resources to**

**engage girls in STEM** (74% of those accessing exemplary practices), followed by collaboration (50%), then strategies and resources to engage underrepresented girls in STEM (38%).

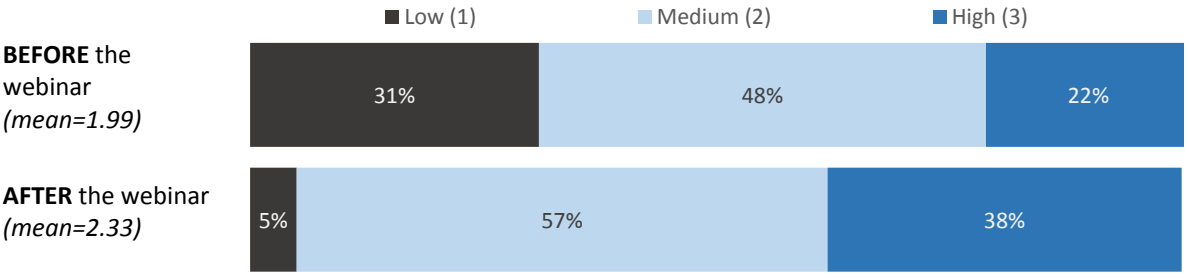
**Ratings on knowledge of strategies to engage girls from underrepresented groups in STEM showed significant levels of change from "before NGCP" to "Current" levels[38].** Though this item received the lowest rating of the areas of impact of NGCP at both "before NGCP" to "Current" levels, change scores of Collaborative Leadership Team members, event attendees and webinar participants were significantly higher than other respondents, showing the effectiveness of those components in increasing knowledge of practices to engage underrepresented girls[39].

**Figure 56.**




**In rating their knowledge of effective practices to engage underrepresented girls in STEM prior to and after a webinar, survey respondent means increased significantly from 1.99 to 2.33 on a scale from Low (1) to High (3)[40].**

**Figure 57. NGCP webinars increased participants' knowledge of effective practices to engage underrepresented girls in STEM** (n=164)




[38] *Matched pair t-test, p<.001*
[39] *Independent samples t-test Collaborative Leadership Team, p<.001, webinar and event attendees, p<.05*
[40] *Webinar post-survey Matched pair t-test, p<.001*

Although many webinars addressed reaching underrepresented girls, here are three with the topic as the main focus:

- *"Increasing Equity and Diversity in the STEM Workforce: Understanding the Issues and Strategies for Addressing It"* in September 2013 with 77 participants. Eighty-two percent of webinar post-survey respondents agreed they learned about resources to help engage underrepresented girls in STEM. By the end of the session, 55% indicated their knowledge of effective practices to engage underrepresented girls in STEM was high, compared with 27% before the webinar.

- *"Engaging Underserved Youth: Strategies for Family Involvement"* in February 2012, attended by 67 people. Ninety percent of the post-survey respondents agreed that the content was relevant to their work and 76% agreed they would apply what they learned. Respondents suggested more detailed information and strategies and thought the most useful aspects were the specific tips on getting families involved in their programs and the general information on cultural competency.

- *"An Introduction to the Smithsonian Latino Virtual Museum's Teacher Toolkit,"* in October 2014, with 37 attendees. Ninety percent of post-survey respondents agreed they learned about resources to help engage underrepresented girls in STEM and 80% indicated they planned to apply what they learned to their own work. After the webinar, 56% of respondents indicated their knowledge of effective practices to engage underrepresented girls in STEM was "High (3)," an increase from 22% of respondents indicating a "High (3)" level of knowledge prior to the webinar.

**In event post-survey responses, most attendees agreed that they learned practices or strategies to engage underrepresented girls, though ratings in this area were much lower than in other areas.** Fifty-two percent Agreed (4) or Strongly Agreed (5) that they learned such strategies, and almost 30% were Neutral (3). Although events were required to include resources and strategies for engaging underrepresented girls, it was not always a focus of the event.

One event post-survey respondent mentioned that s/he would apply practices related to engaging underrepresented youth in STEM, "*Improve effort to reach out to young women and specifically those of color just to get to know them and not always with a motive to get them to participate in any specific activity. Giving the teaching staff at the high school where I work part time more opportunities to engage girls in stem by making sure they are aware of field trips, collaborations activities, etc.*"

**Figure 58. Seventy-five percent of webinar participants agreed they learned about resources to engage underrepresented girls in STEM.**

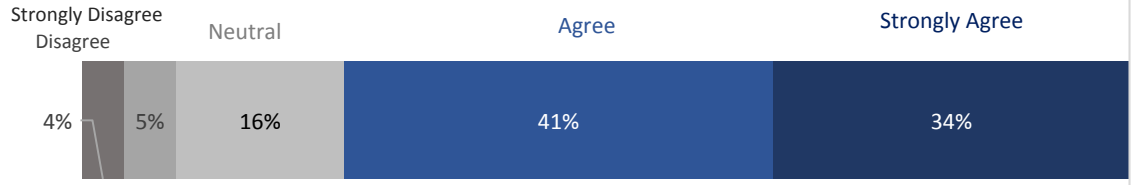
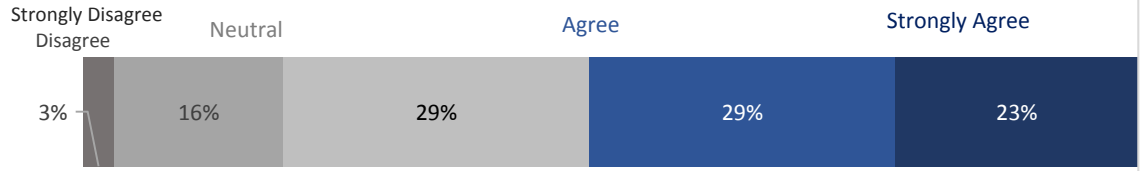



**Figure 59. Fifty-two percent of event participants agreed they learned strategies to engage underrepresented girls in STEM.**




An event post-survey respondent mentioned that s/he would apply practices related to engaging underrepresented youth in STEM, *"[I plan to] Engage underrepresented girls in STEAM activities by using the resources of the collaborators met at the conference."* Another respondent wrote, *"I plan to create and implement programs that will appeal to more girls and collaborate with organizations that work with girls of color to include them in my programs."*

Another respondent provided feedback suggesting more involvement from underrepresented ethnic groups, *"Provide workshops that display cultural competency and provide perspectives from women of African and Latina decent. It's best to understand how to serve an underserved community with input from individuals from that sub-group."*

Despite the evidence that NGCP increased awareness of exemplary strategies to engage underrepresented girls in STEM, and despite the intentions of webinar and event attendees to apply these practices to their work, a fairly low percentage of 2015 NGCP Participant Survey respondents indicated they had applied the practices (overall, 25% of participant respondents had applied an exemplary practice).

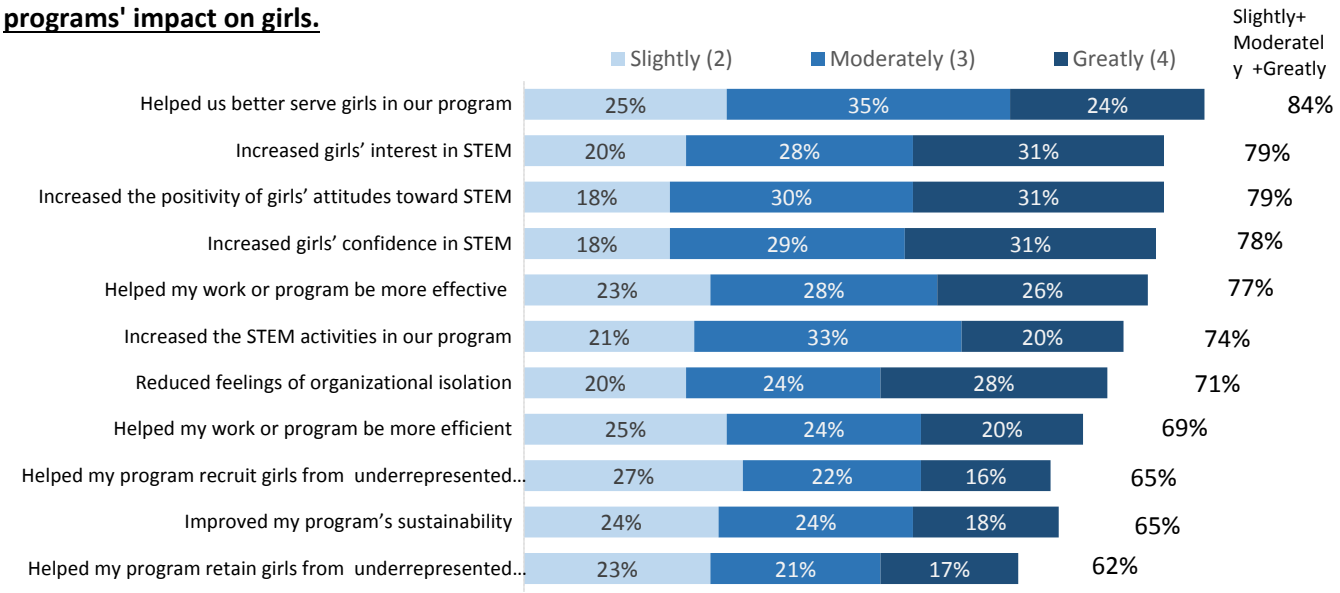
**Thirty-eight percent of participants applying an exemplary practice disseminated by NGCP (n=85) had used strategies to engage underrepresented girls (such as African American girls in STEM or girls with disabilities) in STEM.**

**4d) Are the exemplary practices perceived to be effective at engaging youth in STEM, especially girls and underrepresented girls?**

**The use of the exemplary practices disseminated by NGCP widely benefited programs in a number of ways, with the four most common related to better engaging girls in STEM:** Eighty-four percent indicated that exemplary practices slightly, moderately, or greatly helped them better serve girls in their program. Exemplary practices very commonly helped increase girls' interest, the positivity of girls' attitudes toward STEM (79% each) and increased girls' confidence in STEM (78%).

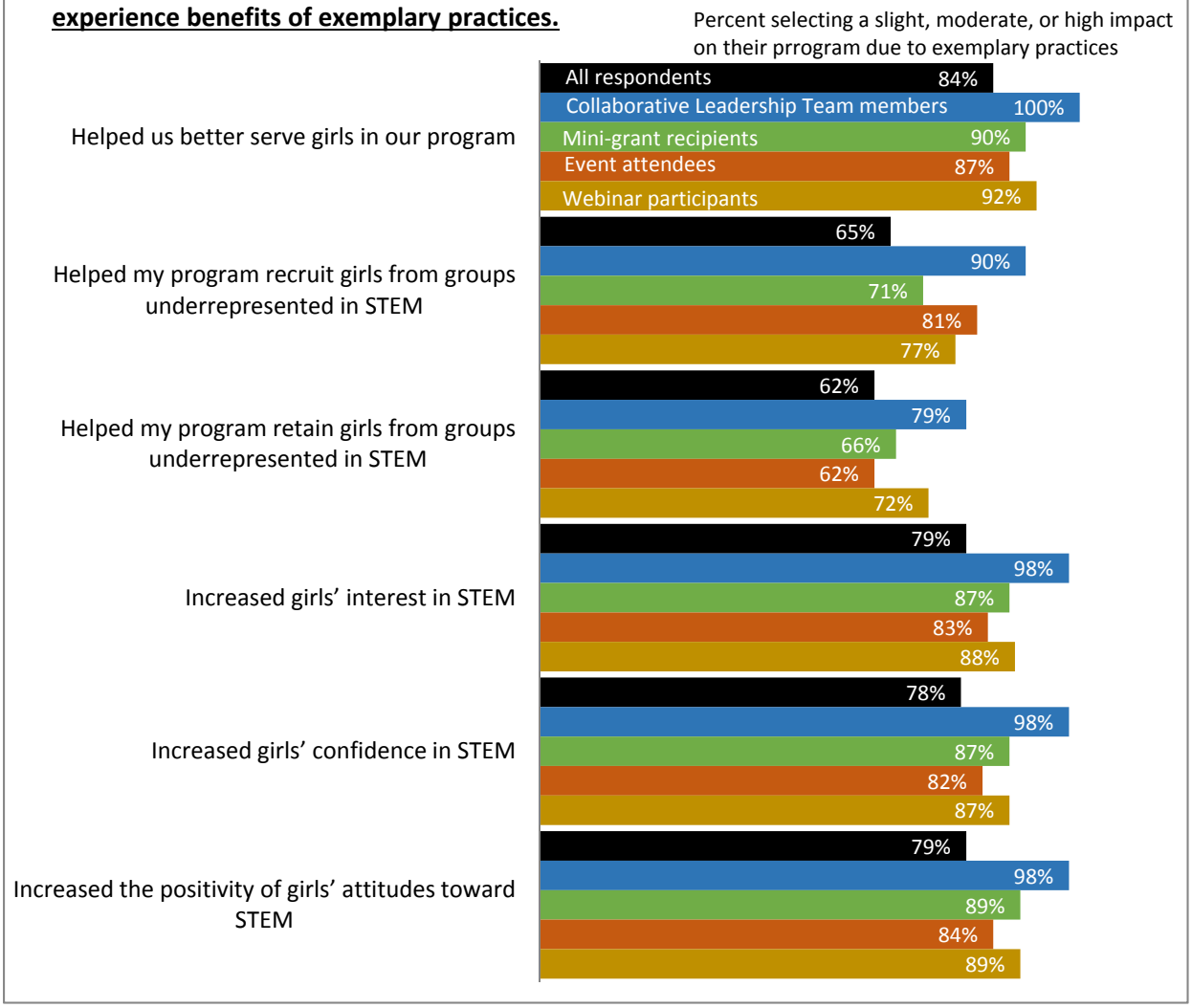
**Respondents were not as likely to indicate that exemplary practices affected their program's ability to recruit or retain girls from underrepresented groups** (65% and 62%, respectively, indicated at least a slight benefit).

**Figure 60. NGCP exemplary practices benefited programs most commonly by increasing programs' impact on girls.**




On each of these items, respondents who participated in NGCP as a Collaborative Leadership Team member, received a mini-grant, attended an event, or participated in a webinar, were more likely to experience the benefits of using exemplary practices. The table below shows only the items related to better serving girls and the percentages of respondents who participated in NGCP as a Collaborative Leadership Team member, received a mini-grant, attended an event, or participated in a webinar

**Figure 61. Respondents participating in different components of NGCP were more likely to experience benefits of exemplary practices.**




Of participants **applying an exemplary practice disseminated by NGCP, 95% experienced a positive outcome to their program.** This percentage was consistent across the different topics of exemplary practices.

**Table 13. All categories of exemplary practices disseminated by NGCP were very likely to lead to positive outcomes.**

| | Number using the practice | Number experiencing positive outcome | Percentage experience positive outcome |
|---|---|---|---|
| Strategies and resources to engage girls in STEM | 167 | 151 | 90% |
| Collaboration | 112 | 105 | 96% |
| Strategies and resources to engage underrepresented girls in STEM | 85 | 82 | 96% |
| Evaluation/Assessment | 47 | 47 | 100% |
| Resources for K-12 counselors | 36 | 36 | 100% |

Positive outcomes, as described in an open-ended survey question, were most commonly related to girls' engagement in STEM (mentioned by 36% of respondents).

- *The girls' scores on math and science tests increased as teachers became better at teaching them.*
- *All students, not just girls, highly engaged and motivated to continue learning topics even when our investigation was complete.*
- *When we have our robotics practices, I often hear the girls say, "I feel like I always accomplish something when I come here." or "I enjoy talking to our women in science fields." or "I really like that I get to use cool tools here." That is proof to me that I am doing something worth my time and effort.*
- *Evaluation from participants was more positive; more participants returned to future like programs.*

Using exemplary practices mentioned improved their curriculum or programming (23% of responses):

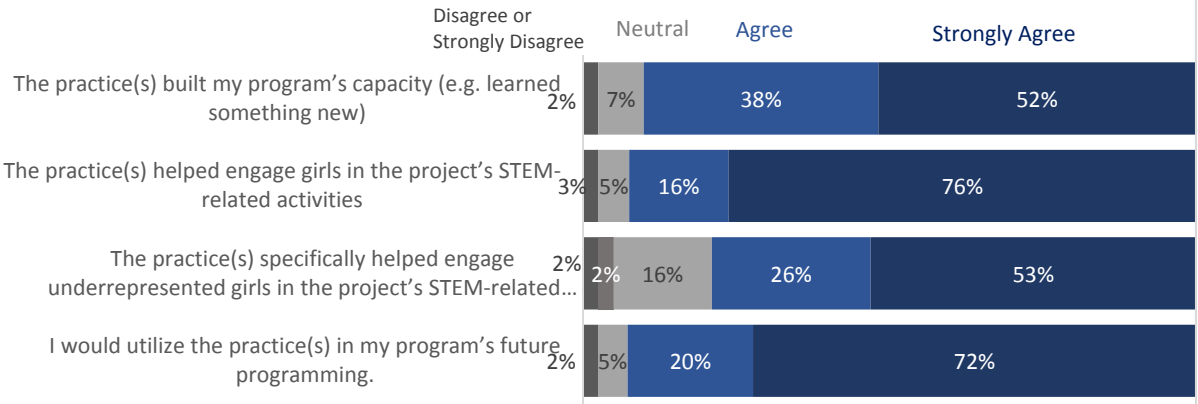
- *We relied on research from AAUW's report 'Why So Few?' to build our camp, making sure there were positive female role models in STEM and that activities were hands-on and fun, to engage girls in STEM.*
- *Using the SciGirls Seven as well as learning HOW to collaborate helped us yield positive outcomes and continues to do so.*
- *After applying a variety of practices gleaned from NGCP, I was able to improve and enhance an existing program by more effectively utilizing role models, engaging partners, and sharing resources.*

A few participant survey responses specifically mentioned exemplary practices affecting how well they served girls from groups underrepresented in STEM.

- *We have been successful at attracting more African American students.*
- *(I received) inspiration from contact with professionals at the networking events, who encouraged me to offer game design programming and to actively recruit minority girls to participate. I recruited female professionals from the community to facilitate and made sure the environment was open and exploratory. I then collaborated with the professional women on hosting their own summer camp experience for kids, used my position to promote that camp with minority youth, and advised them of the practices I found most useful.*

Mini-grantees applied exemplary practices in their project's activities (described in Question b) and they believed the practices effectively engaged girls in STEM. **Ninety-two percent of mini-grantees agreed that the practices helped engage girls in STEM, and 79% agreed that the practices helped engage underrepresented girls.**

**Figure 62. Mini-grantees experienced many benefits from using exemplary practices, including better engaging girls.**




Overall, youth engagement in mini-grant projects was very high (79% of mini-grant respondents indicated youth were "Very" engaged and the remaining 21% indicated they were "Mostly" engaged. There was no relationship between the engagement of youth and the type of exemplary practice used.

Looking at the differences in ratings based on exemplary practices used in mini-grant projects shows that:

- Mini-grantees who provided **opportunities for girls to approach projects in their own way** had statistically higher levels of agreement that the practice helped engage girls in STEM, engage underrepresented girls, and increased girls' confidence in their ability to be successful in STEM.

- Mini-grantees who **provided positive feedback** to girls were more likely to agree that it helped engage girls in STEM.

- Mini-grantees who **provided encouragement to girls to think critically** indicated it increased the likelihood that girls would pursue additional STEM opportunities.
- Mini-grant projects that included the **opportunity for girls to collaborate** had significantly higher ratings of success of project overall as well as higher agreement that it increased girls' confidence in their abilities to succeed in STEM[41].

There were no other significant differences between the practices used and ratings of overall success or level of impact on girls. There was also no variation on the ratings of exemplary practices and the percentage of youth from underrepresented, ethnic groups participating in projects.

Mini-grantees elaborated on the impacts of using exemplary practices in open-ended responses.

- *The youth attendees had the opportunity to experience, first hand, success within the world of engineering and computer programming while also learning a better understanding of the trial and error principals behind science and engineering.*
- *The participants came to understand the process of collecting data and how messy it can be. They also learned to think critically and creatively to answer research questions. The project gave students an opportunity to work on something authentic which increased their motivation and purpose for doing good work.*
- *Students were never wrong because all pathways leading to success (or failure) were validated as part of the science and engineering cycle.*

Many responses referred to increases in the participants' confidence and learning of STEM content, which could also lead them to be more interested in pursuing STEM:

- *Participants completed the program with increased confidence in possible higher education pathways in computer science, robotics and other engineering disciplines.*
- *The impact is that the project participants know first-hand that robotics is not just for boys. They also gained confidence in their ability to be successful in STEM.*

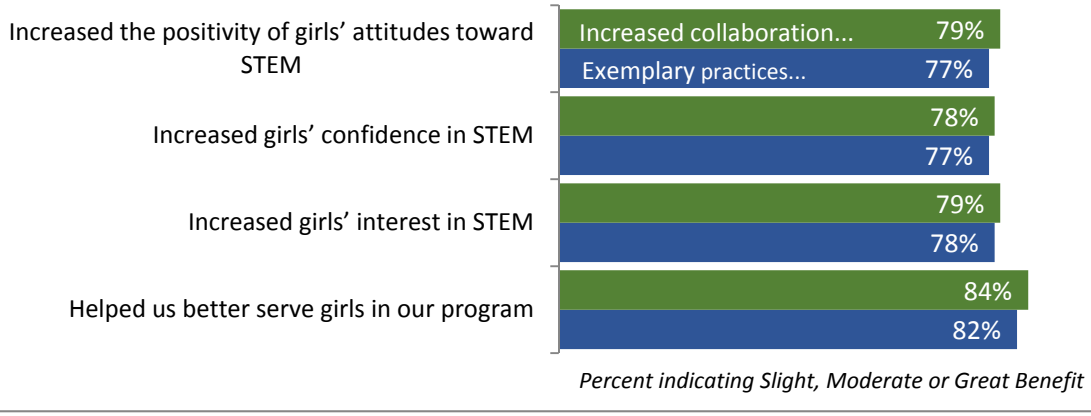
[41] *Independent sample t-test, p<.05 (for all items)*

## 5. How does NGCP impact the girls served by the programs participating in the project?

### 5a) Are programs participating in NGCP serving more girls or serving girls more effectively?

**The majority of Participant Survey respondents indicated benefits of increased collaboration and exemplary practices related to more effectively engaging girls in STEM.** They believed girls were better served overall and had more positive attitudes, more confidence, and more interest in STEM.

**Figure 63. Approximately 80% of respondents indicated benefits related to girls from increased collaboration and exemplary practices**.




The percentage experiencing these benefits were higher depending on respondents' level of participation in NGCP, pointing to the effectiveness of the project in leading to these outcomes.

Survey respondents shared examples of how collaboration and/or exemplary practices affected how they served girls. A few wrote about doing more targeted recruitment of girls to their programs. They were revising their outreach materials to reflect an inclusive environment or changing their programming to better appeal to girls. For example:

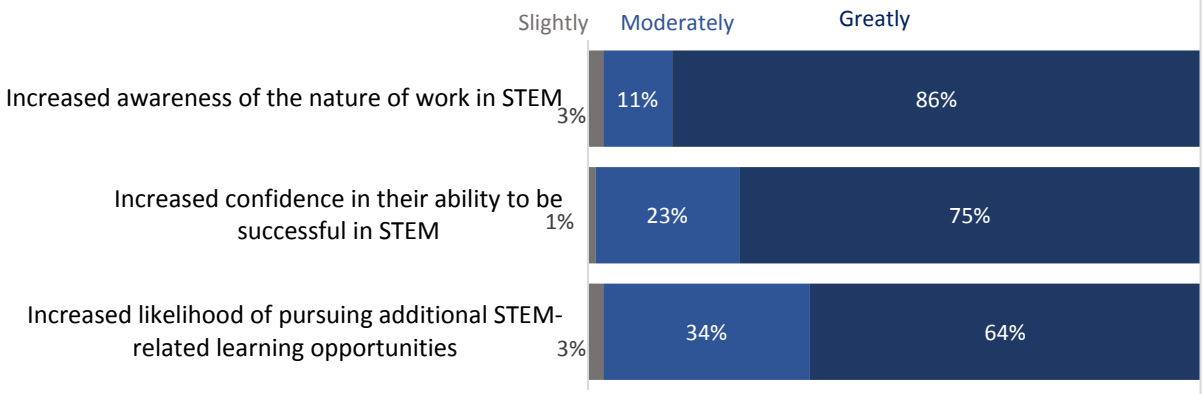
- *We were able to reach out to a large group of young girls with our message that engineering is not only fun, but it is necessary for our society*
- *I modified the publicity for my program to include both male and female scientists on the flyers.*

Respondents commented that they gained ideas and felt supported and encouraged to provide STEM opportunities to girls due to resources disseminated by NGCP, *"I think NGCP has done a remarkable job collecting all these resources and making them accessible to all. The newsletter is helpful not just for resources but also for inspiration on new program ideas for girls."* Another person wrote, "*I think NGCP's newsletters, Program Directory, and mini-grant opportunities help organizations to continue or develop*

*STEM programs that focus on girls and keep up the awareness of the need for gender equality in STEM fields."*

The mini-grant data show how girls participating in mini-grant projects are being effectively served in STEM through exposure to exemplary practices and the impacts discussed in the previous question. Mini-grant project leads noted that their participants were likely to attend almost all of the project sessions (72% of respondents) and remained very engaged (79%) or mostly engaged (21%) throughout activities. There were a number of benefits to girls stemming from their mini-grant experiences. Mini-grant leads believed their female participants to be more aware of the nature of work in STEM (86% indicated a Great impact (4) in this area), increased confidence in their ability to be successful in STEM (75% indicated Great (4)) and more likely to pursue STEM opportunities (64% indicated Great).

**Figure 64. Mini-grantees felt girls were greatly impacted by their participation, especially in their awareness of the nature of work in STEM.**




**Mini-grantees shared examples of how their girls were impacted by their participation in the STEM projects.** Higher levels of confidence was communicated in many responses:

- *Increased confidence and am increased understanding of practical applications of STEM concepts.*
- *Students participating in this program grow tremendously, not only in their math abilities, but in their vision of themselves as skilled learners with great potential. The greatest impact they receive is a belief in their own abilities.*
- *The girls now have an idea of what it is like to be a woman in a STEM career and that it is possible regardless of intial income and race.*

Mini-grant leads also commented on girls' career understanding and motivation to pursue more STEM learning opportunities:

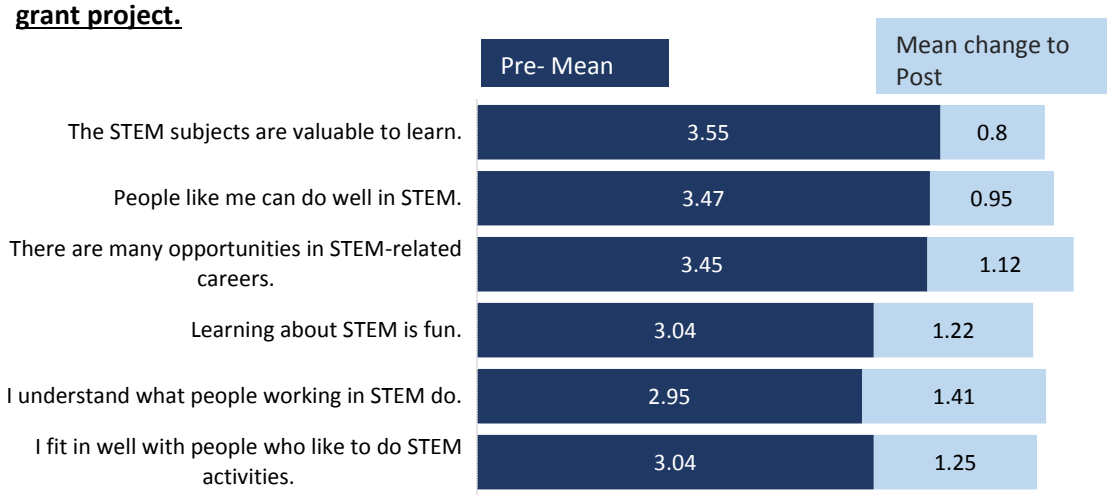
- *They enjoy STEM and pursue the study of STEM with passion and intensity. They have confidence pursuing STEM in an educational setting as well as information settings. They will become leaders in their personal life.*

- *A greater understanding of options in STEM, connections to diverse role models in STEM, excitement about STEM possibilities in college and beyond.*
- *Overall, I feel the girls were able to see that more females are needed and utilized in STEM careers. They met with females in technological careers and were able to see first hand their relevance to the workforce. It opened their eyes to see technologyin a whole different light, which increased their willingness to pursue a path related to a STEM career.*

Data from a sample of mini-grant participants showed that most enjoyed the activities in the project and that the level of content was "just right"(93% agreed with both statements). On three scales with items related to awareness, confidence and interest STEM, youth responding had signficant increases on all items[42].

The level of change across the scales was very similar. Overall, the highest increases from pre- to post-responses were in participants' understanding of what people working in STEM do, agreement that they fit in with others who like to do STEM, that they are sure of themselves when they do STEM, could do advanced work in STEM, and that learning about STEM is fun. Post-ratings were highest on participants' agreement that there are many opportunities in STEM careers and that they could get good grades in STEM classes.

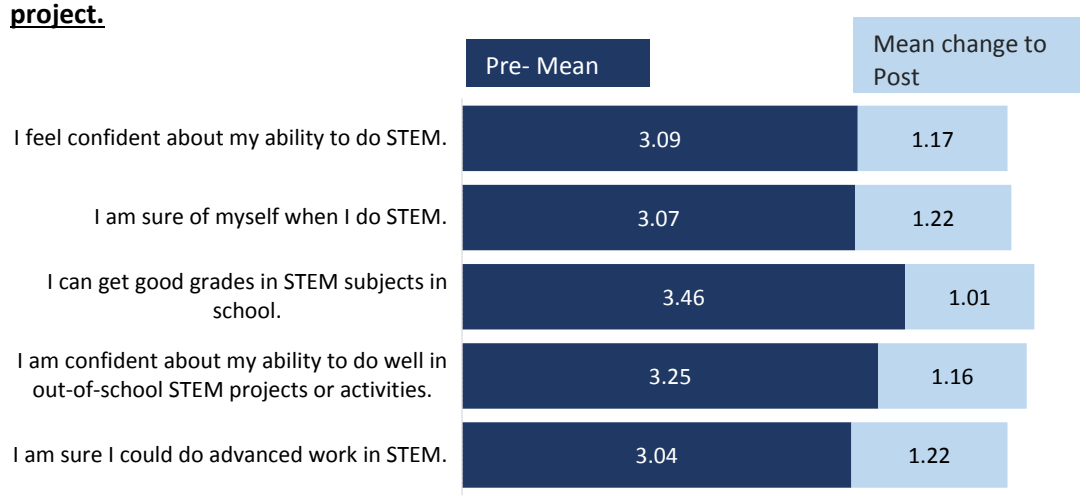
**Mini-grant participants had more positive attitudes about STEM after the mini-grant project.**




*Scale: Strongly Disagree (1) to Strongly Agree (5)*

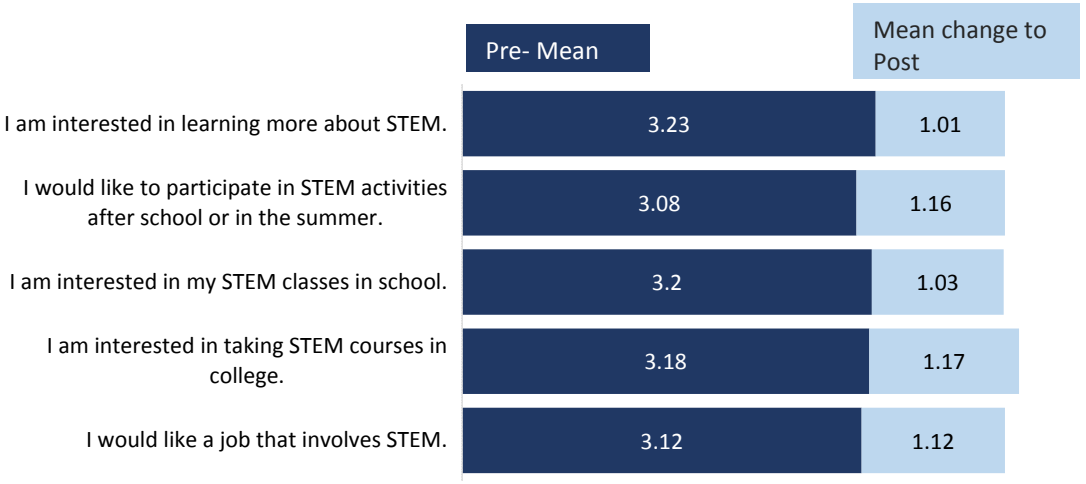
[42] *Matched pair t-test, n=84, p<.05*

**Mini-grant participants had more confidence in STEM after the mini-grant project.**




*Scale: Strongly Disagree (1) to Strongly Agree (5)*

**Mini-grant participants had more interest in STEM after the mini-grant project.**




*Scale: Strongly Disagree (1) to Strongly Agree (5)*

The youth mini-grant participants who were from underrepresented ethnic groups did not have significantly different levels of change compared to other respondents, though their "pre" mean rating was significantly lower on the interest scale and "post-" mean ratings for the scales were significantly lower in all three scales[43].

[43] Independent samples t-test, p<.05

**5b) To what extent do participating programs increase the number of underrepresented girls they serve?**

*"NGCP has been invaluable in highlighting STEM and the importance of attracting diverse girls to the STEM fields. The NGCP reputation, dissemination and coordination of activities and resources is of tremendous help when planning and executing programs and in fostering collaboration within our region and throughout the nation."*

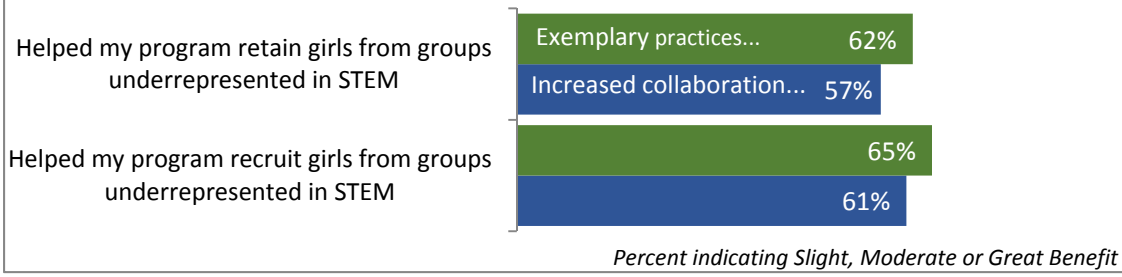
– 2013 Annual Survey Respondent

NGCP helped participants increase the number of underrepresented girl participating in their program by providing exemplary practices for recruiting and retaining girls from underrepresented groups. The NGCP network and encouragement for collaboration also encourages programs to diversify their participants they are serving by learning from each other and making connections to better reach communities with higher percentages of targeted groups. As one participant described, "*Through my Collaborative, I have been able to connect to some fabulous resources for girls in STEM (e.g., SciGirls, NCWIT, etc.), to others around the country working in this area (who I can tap into for great ideas and support), as well as to community groups working with underserved girls. By connecting with these partners, we are able to recruit more diverse girls to our programs and are better able to continue an ongoing relationship with them."*

**Despite growth and positive responses related to better engaging underrepresented girls, there was comparatively less impact in this area compared to other areas measured by NGCP** (such as increased commitment to serving girls in STEM, knowledge of shared resources, interest in collaborating, and knowledge of exemplary practices in general).

Programs experienced lower levels of impact in their ability for their program to recruit and retain girls from underrepresented groups, compared with other areas. However, at least 6 out of every 10 respondents indicated a slight, moderate or high level of impact in these areas, with slightly higher impacts from exemplary practices rather than higher collaboration.

**Figure 65. Exemplary practicees were slightly more likely to help programs recruit and retain girls from underrepresented groups in STEM.**




*Percent indicating Slight, Moderate or Great Benefit*

The Participant Survey provided data about the ethnic composition of the youth participating in STEM programs. It shows:

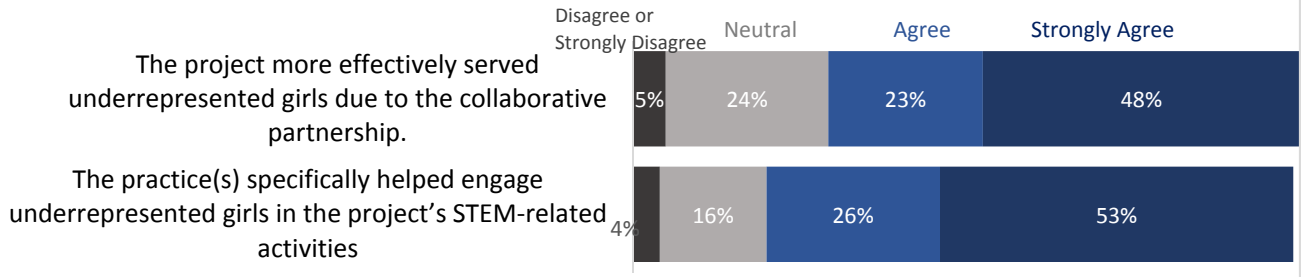
- 42% of respondents indicated that at least a quarter of participants in their program were from underrepresented ethnic groups.
- 26% of respondents indicated at least three-quarters of their participants were from underrepresented ethnic groups
- On average, 43% of participants in programs were from underrepresented ethnic groups

There is room for improvement in the number of youth with disabilities being served in STEM programs. Respondents indicated that an average of 7% of their participants were youth with a disability. Seventeen percent of programs did not include any youth participants with a disability.

Mini-grant projects served a total of at least 1,560 youth from underrepresented ethnic groups (32% out of a total of 4,897 total youth participants in 85 projects)[44]. Mini-grant participants included 167 youth that were American Indian/Native American, 677 black/African American, and 717 Hispanic/Latino.

**The collaborative aspect of mini-grant projects resulted in stronger projects for engaging girls in STEM:** Mini-grant project leads indicated they more effectively served underrepresented girls (71% agreed) due to the collaboration among mini-grant partners. One mini-grantee noted that, as a result of the collaboration of the mini-grant partners, *"We were able to serve more underrepresented girls with high quality STEM programming."* The use of exemplary practices was thought to have slightly more impact on the project's ability to serve underrepresented girls, with 79% of respondents agreeing.

**Figure 66. The collaboration and the exemplary practices helped mini-grant projects better serve underrepresented girls.**




**Mini-grant project leads described recruitment techniques, including strategic partnerships, to increase the number of black, Hispanic, and/or Native American girls participating in their mini-grant project.**

[44] *Number of each ethnicity served calculated based on mini-grantee estimate of percentage of total participants in each ethnicity group.*

In one example, a counselor helped spread the word about the project to girls and especially girls from underrepresented groups and to support their participation. The lead described how these students benefited:

- *In this low-income, largely Hispanic community, the percentage of underrepresented students enrolled in college prep/STEM courses is unacceptably low. The percentage of underrepresented girls is even lower. Our first win was raising participation to 46% girls; the second win was giving girls the support to demonstrate their success to their peers, offering them role models and giving them opportunities to collaborate. The girls completing the summer program see themselves as competent, college-bound students. The growth in their confidence and their persistence during the school year is strong evidence that the model is working.*

Programs that already served a high percentage of underrepresented girls found partners with STEM curriculum, expertise, and/or role models to increase their girls' exposure to STEM, and vice-versa.

- *Our partner had expertise in delivering STEM programs to girls. Our program serves a population of middle and high school girls that benefitted from the STEM activities offered by our partner*
- *We had a better location and reach towards economically troubled families because of collaboration.*
- *[A girl-serving organization] was able to link [this] training to a new population of adult volunteers and girls, thus expanding their program's reach and impact on a wider and more diverse population of girls and volunteers.*
- *They more effectively served underrepresented girls (71% agreed) due to the collaboration among mini-grant partners.*

In another projects, barriers such as language and transportation were considered when recruiting girls:

- *We had bilingual promotional materials and volunteers on help connect with girls who were Spanish speaking. We collaborated with educators to coordinate transportation and this helped us recruit girls who would normally not be able to attend because of a lack of transportation.*

After NGCP events, attendees were asked how they would apply what they learned at the event and a few responses referred specifically to engaging underrepresented youth in STEM. One respondent wrote about how s/he would recruit a diverse group of participants, "*[I will] improve effort to reach out to young women and specifically those of color just to get to know them and not always with a motive to get them to participate in any specific activity. Giving the teaching staff at the high school where I work more opportunities to engage girls in STEM by making sure they are aware of field trips, collaborations activities, etc.*"

Another respondent wrote about plans to connect underrepresented girls with mentors. *"First, along with my career specialist, I will identify the girls in our 'target' market of underrepresented girls of color at our high school. Secondly, I will meet with these girls and find out what their aspirations and career goals are. Third, the career specialist will try to match each of these girls with a mentor from the network of mentors we met and heard about at the conference yesterday."*

## Areas of Consideration

Areas of consideration are based on based on the analysis of the evaluation data and meant to be useful to help inform future work.

- **Provide more support for Collaboratives in their sustainability efforts, especially as this grant comes to a close.** Collaboratives have been less involved in sustainability work compared to other NGCP activities, despite attention on this topic from the beginning of this grant. Continue to provide prompting, examples, and resources to increase the sustainability of Collaboratives.

- **Offer Collaboratives continual assistance in managing the function and roles of Collaborative Leadership Team and Collaborative Champions Boards.** A common challenge across Collaboratives and throughout the grant has been organizing Collaborative Leadership Teams and Collaborative Champions Board. Many Collaboratives have struggled with setting up a shared leadership model, especially when a strong Lead has been identified as a factor in the success of a Collaborative. Offering resources or setting up processes for dealing with issues such as recruitment, training and turnover on leadership teams and boards would be helpful. Pooling together examples and best-practices from other Collaboratives who have experienced these issues may also be an effective strategy.
- **Increase the number of people involved in NGCP in a role similar to Collaborative Leadership Team member.** Collaborative Leadership Team members consistently have a high level of participation in the project activities. Through their training and work, they become highly familiar with STEM programs and resources in their area as well as research findings and exemplary practices. Evaluation findings show Collaborative Leadership Team members experience a very high level of impact of NGCP. Consider how to increase the number of people who serve on Collaborative Leadership Teams, perhaps with a reduced or temporary role.

- **Continue to provide opportunities for programs to connect with one another.** A major function of NGCP is to connect those interested in collaborating to each other. Through events and the Program Directory (and also through the Collaborative Leadership Teams), people are able to find out about local and national programs and shared resources available. These connections provide the potential for collaborative partnerships to develop. Increasing networking

opportunities at in-person events or making virtual introductions could help increase collaboration in the network.

- **Although participating K-12 counselors experienced benefits as a result of their involvement with NGCP, the project could reach more counselors through events and webinars.** Compared to other sectors, K-12 counselors were not highly involved in NGCP through events, webinars, or in mini-grants. Out of the nine sectors, respondents were the least likely to indicate they had connected with K-12 counselors through NGCP (selected by 7% of respondents).

- **Consider how to help those connecting through NGCP collaborate at higher levels.** NGCP has been very effective at creating awareness of what programs and resources are available and building a network and connecting people to each other, to other programs and organizations and shared resources. This is a step towards higher levels of collaboration and a pooling of resources towards "the tipping point" in gender equity in STEM. For example, mini-grants have proven to be effective at increasing collaboration, but there may be other strategies that are not dependent on funding.

- **Provide more support to help participants apply exemplary practices to their work.** Event and webinar attendees were likely to agree that they learned exemplary practices to engage girls in STEM and that they planned to apply what they learned to their work. However, according to Participant Survey findings, actual levels of implementation are low and more detailed examples or additional follow-up support could be useful. Encouraging the use of exemplary findings is especially important given their strong link to positive outcomes.

- **Continue to offer resources related to engaging girls from underrepresented groups in STEM.** Overall, the means related to participants' knowledge and use of practices to help engage girls from underrepresented groups in STEM were not as high as in other areas. Many mini-grant projects have examples of effective collaborations that involved girls from underrepresented groups in high-quality STEM opportunities.

- **Find more ways to leverage the unique position of NGCP to make more progress toward gender equity in STEM fields.** NGCP connects participants representing a diverse set of programs, organizations and institutions who, in turn, serve an incredible number of girls. This large reach and high levels of commitment to gender equity in STEM could be leveraged by NGCP and/or in strategic partnerships to affect policy changes at the state and national levels to provide support for girls in STEM.

- **Continue to maintain virtual resources such a**s an online directory of programs, website, and webinars. These are highly valuable for the project as a cost-effective method to effectively reach a high number of participants that might not be served by local Collaboratives. Webinar

data, especially, show high impact on participants in increasing knowledge of exemplary practices, awareness of shared resources, and even interest in collaborating.

- **Continue to provide mini-grant funding to encourage people to work together to start new relationships and/or new STEM activities.** Mini-grant projects were considered effective overall and in collaboration between partners. Mini-grant projects used of exemplary practices and were effective at engaging girls in STEM. Of all components, mini-grants seem to make the most headway in engaging girls from underrepresented in STEM: on average, 40% of participants in a project were from underrepresented ethnic groups and 79% agreed that they used exemplary practices that were effective at engaging underrepresented girls. In addition, data show a long-lasting impact of these projects, as most partners continue to work together and continue their initially funded activities.

- **Provide more targeted information or different modes of dissemination for different types of NGCP participants.** Directing tailored messages or resources to participants based on characteristics such as sector, areas of interest, or previous involvement in NGCP could increase the relevance and usefulness of the information. For example, participants could receive reminders of the exemplary practices that were presented a few weeks following a webinar. Different versions of the e-newsletter could be available for businesses or programs interested in engaging families that are shorter and more relevant. NGCP could also play a more direct role in making connections between different programs depending on needs and resources.

## Summary

At the completion of this five-year grant period, NGCP has a network of 32 Collaboratives across 40 states. Throughout each year, NGCP continued to increase the number of programs and practitioners participating in the project components. NGCP reached these programs with resources and opportunities for collaboration to provide better STEM access and programming for all youth, especially girls and girls from groups underrepresented in STEM fields. NGCP increased awareness of gender equity issues and inspired people to commit to engaging girls in STEM. The reach of NGCP and the diversity of the participants in its activities makes it a strong partner for projects seeking access to their strong network and structure of communication and dissemination opportunities.

Data show that NGCP has been highly effective at creating a network and connecting people and programs interested in engaging girls in STEM. Participants represented a diversity of sectors, with K-12 teachers, informal education and had or developed a high interest in collaborating. Through NGCP activities, especially events (in which they praised the networking as most valuable and 91% of attendees indicated they met somebody with whom they would like to collaborate) and the Program Directory (which was most frequently used to look for programs in their area), participants became

more aware of existing STEM programs and resources. Participants had the highest increases in their knowledge of other programs related to serving girls in STEM and knowledge of shared resources available.

Participants cited relationships and partnerships that had started under NGCP and benefited their work. They credited NGCP with increasing their knowledge of collaborative opportunities, increasing their interest in finding collaborative partners, and making the connections to others to work with. Collaboration levels of NGCP participants have increased over time and survey respondents indicate a higher level of impact on their collaboration depending on how they participate in the project. Collaborative Leadership Team members and mini-grantees indicate the highest level of impact of NGCP on their collaboration levels. Participants indicated that they better served girls due to increased levels collaboration.

Exemplary practices disseminated through NGCP were perceived as highly relevant and effective in engaging girls in STEM. Both events and webinars increase participants' knowledge of exemplary practices and, to a lesser extent, knowledge of exemplary practices to engage girls from underrepresented groups. The use of exemplary practices was higher for mini-grantees and event and webinar participants compared to all survey respondents. Positive outcomes were experienced by almost all programs who used exemplary practices, especially in improving girls' engagement, interest and confidence in STEM.

The different methods of participating in NGCP offer unique benefits. For example, webinar participants are more likely to learn exemplary practices for engaging girls in STEM, event attendees are more likely to be aware of STEM programs and resources, and mini-grant participants are more likely to increase their levels collaboration, use of exemplary practices, and improve how well they serve girls. Different components also reach distinct groups. For example, webinars offer professional development opportunities for those in rural locales as well as K-12 teachers or counselors who would not often able to attend in-person events.

Mini-grant projects were successful in terms of engaging girls in STEM as well as the collaboration between partners. Ninety-one percent of mini-grant Leads agreed the collaboration among partners made the project more effective overall. They also felt successful at engaging girls in STEM, with especially high ratings on the participating girls' awareness of the nature of work in STEM, growth in girls' confidence in their ability to be successful in STEM, and increased likelihood of pursuing additional STEM learning opportunities. Data from girls support this, with high gains in awareness, confidence and interest.

Evaluation findings show a high impact of NGCP on Collaborative Leadership Team members. Collaborative Leadership Team members had the highest increases in their knowledge of STEM programs, awareness of shared resources, and knowledge and use of exemplary benefits, and they experienced high benefits to their programs as a result.

NGCP serves as a convening organization for those with high level of interest in collaborating and strong commitment to engaging girls in STEM. By also disseminating and supporting the use of exemplary practices to engage girls in STEM, NGCP attracts a wider range of participants that may not include STEM activities, might not serve girls, and may not be interested in collaborating. Through their involvement in NGCP, participants increase their commitment to gender equity in STEM, increase their interest in collaborating, and have more knowledge of practices to effectively engage all youth in STEM.

In summary, NGCP has helped programs by increasing levels of collaboration and supporting the use of exemplary practices. This growth has helped programs improve and engage more girls in STEM. These outcomes are tied to improvements in girls' attitudes and increased interest in STEM which should, eventually, lead to more girls entering and being retained in STEM educational and career pathways.

# Appendix A: NGCP Evaluation Questions and Methodology

# Methodology

The external evaluation of NGCP was conducted by Education Development Center (EDC), formerly Evaluation & Research Associates, who investigated the effectiveness of the project by focusing on the implementation of the model, the outcomes of participation, and the impact on girl-serving STEM programs. EDC evaluators worked closely with the NGCP National Leadership Team to plan and implement the evaluation. Data were collected to answer the following evaluation questions about the implementation and impact of the project.

## NGCP Evaluation Questions

**1. How is NGCP being implemented?**

- Who is participating in NGCP—what is the reach of the project and what types of programs and organizations are represented in the Program Directory, at events and at webinars?
- How does NGCP affect attention to gender equity in STEM in Collaborative regions and nationally? Is the project viewed as a trusted source and/or a key partner for gender equity in STEM?
- How do National and Collaborative Champions Board members contribute to the success of the project?
- What types of partnerships and collaborations are funded with mini-grants? What youth are participating in NGCP mini-grants?
- How and to what extent does NGCP engage K-12 school counselors in the project activities, nationally and through Collaboratives?

**2. How effective and sustainable is the work of NGCP Collaborative Leadership Teams?**

- How and to what extent do Collaborative Team Members have increased knowledge of, and demonstrate the ability to create a network, disseminate resources, and encourage collaboration?
- To what extent are Collaboratives diverse in terms of the organizations represented by Leadership Team members? To what extent do Collaboratives develop and follow a shared leadership model and distribute work among members?
- To what extent do Collaborative Leadership Team members increase their knowledge of strategies to sustain their work?
- What types of partnerships and assistance have Collaboratives obtained to support their work?
- What are Collaboratives long-term plans to be sustainable?

**3. To what extent and how does NGCP impact collaboration between those supporting the involvement of girls in STEM?**

- To what extent do NGCP participants increase their understanding of the value of collaboration?
- Are NGCP participants more interested or more likely to collaborate?
- To what extent and how do NGCP participants increase the number of STEM programs and organizations in their professional network?
- How does participation in NGCP affect levels of collaboration with STEM programs and organizations?

**4. To what extent do programs serving K-12 girls participating in NGCP have increased access to and use of exemplary practices related to serving girls in STEM?**

- NGCP participants consider exemplary practices disseminated by NGCP to be relevant?
- To what extent do youth-serving programs apply exemplary practices to their work?
- What exemplary practices are utilized by mini-grant recipients?
- Are programs more aware of and do they utilize exemplary practices and resources on serving underrepresented girls?
- Are the exemplary practices perceived to be effective at engaging youth in STEM, especially girls and underrepresented girls?

**5. How does NGCP impact the girls served by the programs participating in the project?**

- Are programs participating in NGCP serving more girls or serving girls more effectively?
- To what extent do participating programs increase the number of underrepresented girls they serve?

The methodology for the external evaluation of NGCP included survey administration, collection of project metrics, interviews, and observation. The table below shows the project's activities, related evaluation instruments, and response rates.

**Table 2. Evaluation Instruments and Response Rates**

| NGCP Activity | Administration | Participation and Response Rates |
|---|---|---|
| **Collaborative Leadership Team Reports** | Online survey administered to current Collaborative Leads and Team members | January 2012: 79/270<br>June 2012: 57 team members responding<br>December 2012: 160 team members responding<br>June 2013: 132/258 (51%) team members<br>December 2013: 158/250 (63%) team members<br>January 2015: 149/317 (47%) team members |
| **Collaboration Institute Post-Survey** | Survey administered immediately after Collaboration Institutes to Collaborative Leadership Team members attending | Y1: 26/28 responses received<br>Y2: 26/31 responses received<br>Y4: 35/41 responses received<br>Y5: National team evaluated the Institute |
| **NGCP Webinars** | Online survey link sent immediately after each webinar | A total of 459/1,585 (29%) webinar participants in 28 webinars[1] |
| **Collaborative Event** | Online survey link sent 1-3 days after Collaborative Kick-offs, forums, and conferences | A total of 436/997 (44%) event participants at 94 events[2] |
| **National Champions Board Meetings** | Survey administered after board meetings to attendees | April 2012: Surveys completed by 15 attendees<br>December 2012: Surveys completed by 7 attendees<br>June 2013: Surveys completed by 6 attendees |

[1] *Webinars were not evaluated in the last year of the grant. The last webinar evaluated was on November 11, 2014.*

[2] *Beginning in Year 4, evaluators collected data from only Kick-off Conferences and Collaboration Conferences (not Professional Development Forums)*

| NGCP Activity | Administration | Participation and Response Rates |
|---|---|---|
| | | November 2013: A total of 13/19 respondents (68%)<br>September 2014: 5 responses |
| **NGCP Participant Survey** | Online survey to programs and users listed in the NGCP Program Directory and registrants of past NGCP events or webinars | Y2 - A total of 550/6,240 respondents (9% response rate)<br>Y3 - A total of 871/9,655 respondents (9% response rate)<br>Y4 - February 2015: A total of 871/9,655 respondents (9% response rate) |
| **Collaborative Champions Board Webinar Survey** | Online survey to current Collaborative Champions Board members from Collaboratives with boards | Y3 - A total of 110/184 respondents (60% response rate)<br>Y4 - May 2014: A total of 9/62 (15%) respondents |
| **Case Study** | interviews with Collaborative Lead and Leadership Team members; SNA survey with participating programs in the region | Y2 - Pre-surveys administered in 2 out of 3 sites; 7 interviews conducted in 2 sites<br>Y3 - Pre-survey administered in 1 site; 3 pre- and 4 post interviews conducted in 1 site<br>Y4 - February 2014: A total of 4 interviews conducted in 1 site |
| **Mini-grant Report** | Online report administered to mini-grantees that completed their grant activities | A total of 85/95 mini-grantee respondents (89% response rate) |
| **Online Resources** | Gathered metrics about the use of the NGCP Program Directory, website, newsletter, and social media | Gathered annually in February |
| **NGCP National Leadership Team Project Meetings** | Observed and participated in National Leadership Team Meetings, Support calls with Collaborative Leadership Teams, and Evaluation Check-in Meetings | Years 1-5 |

# Appendix B: NGCP Overarching Logic Model

# National Girls Collaborative Project - Overarching Logic Model

| Resources | Program Activities | Outputs | Outcomes | Impact |
|---|---|---|---|---|
| Proven NGCP Model designed to maximize access to shared resources across girl-serving STEM programs, strengthen the capacity of programs, and build collaboration across programs<br><br>National Leadership Team and National Champions Board<br><br>Collaborative Leadership Teams and Collaborative Champions Boards including individuals and organizations, currently in 29 states, plus a focus on organizational development to maximize their effectiveness<br><br>Resources for implementing the NGCP components, including the "Collaboration Guide" handbook and software for project communication and document sharing, webinar software and expertise<br><br>NGCP's current network of girl-serving STEM programs and organizations, and other individuals, institutions, and organizations interested in supporting girls in STEM (including business/industry partners, higher education institutions, government representatives, K-12 counselors, etc.)<br><br>NGCP technology tools and resources including a website, an archive of NGCP webinars, a national listserv currently reaching 19,000 subscribers and a Program Directory with over 2,200 entries<br><br>Organizational partners, content area experts, resources, and up-to-date research related to engaging girls in STEM, specifically focused on informal learning, evaluation/assessment, organizational capacity, and reaching underrepresented girls | **Goal 1: Develop and support sustainable Collaboratives**<br>• Create Collaboratives in new regions across the U.S.<br>• Train and provide resources and support to Collaboratives on outreach efforts to involve participants from a diversity of sectors related to engaging girls in STEM in NGCP<br>• Provide strategies and resources for Collaboratives to help them support STEM programs to better reach and serve girls, particularly underrepresented girls<br>• Train Collaboratives in strategies of organizational effectiveness and sustainability<br><br>**Goal 2: Disseminate exemplary practices and resources**<br>• Identify existing research and partners with resources on exemplary practices, program models, and current research for engaging girls in STEM<br>• Provide training and resources to Collaboratives on disseminating and supporting the use of exemplary practices and resources<br>• Disseminate and support program's implementation of exemplary practices via the NGCP website, national listserv, NGCP webinars and archive, in-person events, NGCP Collaborative and partner networks, and social media<br>• Offer mini-grants to collaborative projects that use exemplary practices<br>• Focus on disseminating resources, exemplary practices and information on informal education, evaluation/assessment, organizational capacity and engaging girls, particularly underrepresented girls, to STEM programs<br><br>**Goal 3: Increase collaboration and resource sharing**<br>• Train and provide resources and support to Collaboratives on encouraging collaboration among a diversity of NGCP participants<br>• Connect formal and informal K-12 programs, community-based organizations, professional organizations, higher-education, government, industry partners, and researchers through the Program Directory; in-person events/networking opportunities; and the NGCP listserv<br>• Provide training on collaboration and collaboration resources to NGCP participants at events and webcasts<br>• Encourage collaboration by providing mini- grants to programs/organizations for collaborative projects that engage girls in STEM | An increasing number of NGCP Collaboratives doing outreach, offering events, and disseminating resources to those interested in engaging girls in STEM within their region<br><br>Collaborative Leadership Teams that are likely to continue the work of NGCP<br><br>Updated Collaboration Guide, resources, and exemplary practices on implementing NGCP<br><br>A network of NGCP participants, such as informal and formal K-12 educators and counselors, higher education institutions, government representatives, professional organizations who are better equipped to effectively support and encourage girls in STEM<br><br>Resources and research-based exemplary practices for STEM programs on engaging girls, particularly underrepresented girls, including archived webinars and other Web resources<br><br>Established collaborative partnerships and new projects developed with mini-grant funding<br><br>A searchable online Program Directory with an increasing number of programs, organizations, and people supporting girls in STEM | **Collaboratives:**<br>• engage a diversity of programs, organizations, institutions and individuals in NGCP including programs already serving underrepresented girls and K-12 counselors<br>• increase their knowledge and demonstrate the ability to create a network, disseminate resources, and encourage collaboration<br>• offer events and distribute resources on how to recruit and better serve girls, particularly underrepresented girls, and on how to collaborate<br>• have increased knowledge on strategies to sustain the work<br>• NGCP (and each Collaborative) are viewed as a trusted source and a key partner on work related to gender equity in STEM nationally and regionally<br>**Participants in NGCP:**<br>• increase the number of STEM programs and organizations in their professional network<br>• increase their understanding of the value of collaboration, increase their levels of collaboration, and are more likely to seek and share resources and ideas<br>• are more aware of, and more likely to apply, resources and strategies for engaging girls, particularly underrepresented girls, in STEM<br>• More effectively serve girls in STEM<br>**K-12 Counselors** are more knowledgeable about issues related to in engaging girls in STEM and more likely to support and encourage girls to pursue STEM<br>**Mini-grant partners:**<br>• effectively collaborate to offer a new STEM activity<br>• utilize exemplary practices to engage girls in STEM<br>**Girls being served by mini-grants and participating programs:**<br>• have positive experiences in programs utilizing exemplary practices<br>• are more aware of STEM activities, courses and careers and the nature of work in STEM.<br>• are interested in pursuing STEM activities, courses, or careers | STEM programs are more likely to be sustained<br><br>Efforts to engage girls in STEM are coordinated throughout the pipeline<br><br>More girls participate in STEM activities and are more scientifically literate<br><br>More girls (particularly underrepresented girls) pursue and persist in STEM education and career paths<br><br>The network of girl-serving STEM programs creates the tipping point for gender equity in STEM<br><br>The STEM workforce is more equitable<br><br>Society benefits from increased diversity in the STEM workforce |

# Appendix C: Evaluation Instruments

***In- Person Events***

NGCP Participant Survey
Collaborative In-person Event Post-Survey
NGCP Webinar Post-Survey
Collaborative Leadership Team Reports/Survey
Site Visit Collaborative Leadership Team Meetings Post-Survey
Site Visit Information Meetings
Collaboration Institute Post-Survey
National Champions Board Meeting Post-Survey
Collaborative Champions Board Webinar Survey

***Mini-Grants***

Mini-grant Report
Mini-grant Participant Report

***Case Studies***

SNA Pre Survey
Interview

# National Girls Collaborative Project
# 2015 Survey to Project Participants

The National Girls Collaborative Project (NGCP) brings together organizations committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).

External evaluators from Education Development Center (EDC) are working with NGCP leadership to investigate the reach and impact of the project. As part of the study, we are asking all individuals who have registered to attend an NGCP event or webinar, or who are listed in the online NGCP Program Directory to please respond to this survey.

Responses are kept confidential and will only be reported in aggregate to the project leadership and the National Science Foundation. Please contact cliston@edc.org if you experience technical difficulties or have any questions.

**Unique code to match surveys**

We are asking you to provide information to create a unique "personal code." This code will allow us to match the answers you give on this survey with other surveys without needing your name. Individual responses will remain confidential.

**Please provide the first letters of your initials, the month and day of your birth, and the number of siblings you have.**

first letter of first name: ____
first letter of middle name; leave blank if you don't have middle name ____
MM; month of birth ____
DD; day of birth: ____
total number of sisters and brothers you have ____

**What best describes the sector in which you work?** (Choose one).

- ❍ **K-12** Teacher/staff
- ❍ **K-12** Counselor
- ❍ **K-12** Administrator
- ❍ **Higher Education** Faculty/staff
- ❍ **Higher Education** Administrator
- ❍ **Informal Education/Community-Based or Non-profit Organization**
- ❍ **Informal Education** Museum/Science Center
- ❍ **Business/Industry**
- ❍ **Professional Organization**
- ❍ **Government Representative**
- ❍ **Researcher/Evaluator**
- ❍ **Other,** please specify: _____

**Where are you located?** _____(Drop-down list of states)

**Do you represent an after school or summer program?**

- ❍ Yes
- ❍ No

**To what extent are your program's typical activities related to STEM?**

Almost all activities are related to STEM
Most of our activities are related to STEM
About half of our activities are related to STEM
A few of our activities are related to STEM
None of our activities are related to STEM

**Does your program/organization directly serve K-12 youth?**

Yes
No

[if yes]

**In one year, how many youth participants do you typically serve?**
**Please estimate the percentage of your program's participants that are male and female.** *(Numbers should total 100%).*

Male:
Female:

**Please estimate the <u>percentage</u> of youth participants you serve from ethnic groups typically underrepresented in STEM, including youth who are American Indian or Alaskan Native, Black/African-American, or Hispanic/Latino.**

___%

**Approximately what percentage of the K-12 youth that you serve has a disability?** ___%

**<u>Please indicate the ways you have participated in NGCP.</u>**

| | |
|---|---|
| My program or organization is **listed in the online Program Directory** | Yes<br>No<br>Not sure |
| I have **browsed or searched the online Program Directory** | |
| I have **accessed the NGCP website** | |
| I am subscribed to the **National NGCP e-newsletter** | |
| I am subscribed to my **Collaborative's regional listserv or e-newsletter** *(such as the Texas Girls Collaborative e-newsletter)* | |
| I have attended a **live NGCP webinar** | |
| I have accessed an **archived NGCP webinar** audio or slides | |
| I have attended a **National Collaboration Conference (***held October 2010 in D.C. and April 2012 in Arlington, Virginia)* | |
| I have attended a **Collaborative in-person event** (Kick-off Conference, Forums, or Annual Conferences) | |
| I have **applied** for a **NGCP mini-grant** | |
| I have **received or been part** of a **NGCP mini-grant** | |
| I am a National or Collaborative **Champions Board** member | |
| I am a **Collaborative Lead or Collaborative Leadership Team** member | |

**<u>Online Tools</u>**

This section asks about your use of the online tools used by the project to maximize access to shared resources and disseminate exemplary practices to expand girls' participation in STEM. The tools include the website, Program Directory, and the e-newsletter.

**How do you use the NGCP Program Directory?** *Select all that apply.*

I do not use the Program Directory
Find programs to collaborate with
Locate other programs in my region
Make others aware of my program/organization
Attract program participants
Find resources or ideas from other programs or organizations
Share our program resources
Other, please specify: _____

**What types of shared resources have you looked for from other programs through the Program Directory?** *Select all that apply.*

Computers/technology equipment
Curriculum or activity ideas
Information/strategies related to engaging girls in STEM
Evaluation/Assessment examples or services
Facilities
Funding or grants
Internships/Job shadowing
STEM professionals to serve as mentors or role models
Other speakers or volunteers
Participants/girls
Professional development/workshops/training
Research or statistics
Volunteers
Other, please specify: _____
**None—I have not looked for resources in the Program Directory**

**Did you find the shared resource(s) you were looking for through the NGCP Program Directory?**
Yes
No
**Did the use of a shared resource identified through NGCP lead to a positive outcome or outcomes in your program?**
Yes
No

**Please explain your answer:**

Other strategies to help NGCP maximize access to shared resources and disseminate exemplary practices include in-person events, online webinars, and mini-grant funding. The following sections will ask about your experiences with these project components.

**Webinars and Events**

**In total, how many NGCP webinars have you ever accessed "live" or via the archive on the NGCP website?**
0
1-2
3-5
6-10
11 or more

**How many in-person NGCP events (Kick-off Conferences, Forums, or Annual Conferences) have you ever attended, in total?**
- ❍ 0
- ❍ 1-2
- ❍ 3-5
- ❍ 6-10
- ❍ 11 or more

*[those attending an event]*

**Have you ever followed-up with a contact you met at a NGCP event?**
- ❍ Yes
- ❍ No

**If yes, what was your intention when you followed-up with the person you met at the event? *Select all that apply.***
Discuss ideas for collaboration
Plan a NGCP mini-grant proposal
Share or exchange resources
Continue a topical discussion
Form a professional relationship/Network
Seek in-kind support (such as volunteers or financial)
Other, please specify: _____

**Mini-Grants**
This section asks questions regarding the NGCP mini-grants awarded to programs for collaborative projects.

**Have you *ever* been a lead or partner on an application for a NGCP mini-grant project?**
Yes, but the mini-grant project was not funded
Yes, and the mini-grant project received funding
No

*(if EVER rec'd mini-grant)*

**How many years ago was your mini-grant project?**
Within the last year
About one to two years ago
About two to three years ago
About three to five years ago

**Did the activities originally funded by the NGCP mini-grant project continue past the mini-grant?**
Yes
No

**Did you or your organization continue to work with your mini-grant partner(s) in another capacity?**
Yes
No

**Collaboration**
NGCP aims to build a network and increase collaboration among girl-serving STEM programs and other supporters. This section asks questions regarding your level of collaboration with others involved in STEM.

**Check the types of individuals, programs or organizations that you have made contact with and/or collaborated with through the NGCP activities or resources, including the Program Directory webinars, and events during the past year.** *Select all that apply.*
**K-12** Teacher/staff
**K-12** Counselor
**K-12** Administrator
**Higher Education** Faculty/staff
**Higher Education** Administrator
**Informal Education/Community-Based or Non-profit Organization**
**Informal Education** Museum/Science Center
**Business/Industry**
**Professional Organization**
**Government Representative**
**Researcher/Evaluator**
**Other,** please specify: _____

**Approximately, how many different people, in total, have you connected with through NGCP activities or resources in the past year?** *Enter as a whole number only:* _____

Think of a collaborative partner or partners you have worked with during the last one or two years that was somehow impacted by NGCP. You may have become initially connected with the partner(s) through NGCP or NGCP may have impacted your level or type of collaboration with the partner(s).

**Do you have an example of a collaboration influenced by NGCP from the last few years?**
Yes
No

**Did you connect to this partner through an NGCP activity or component?** *(Check all that apply)*
Yes, via the NGCP Program Directory
Yes, through an NGCP in-person event
Yes, through a NGCP webinar
Yes, upon recommendation of a NGCP Collaborative Leadership Team member or Champions Board member
Yes, I learned about them through a NGCP newsletter, listserv post, or NGCP email
Yes, through another NGCP activity. Please specify: _____
No, we connected through other means

**What sector did the person or their organization best represent?**
K-12
Higher Education
Informal Education/Community-Based or Non-profit Organization
Business/Industry
Professional Organization
Government
Researcher/Evaluator
Other, please specify: _____

**Please indicate your highest level of collaboration with this partner BEFORE you became involved in NGCP and AFTER you became involved in NGCP.**

| | |
|---|---|
| **Before participating in NGCP,**<br>**After participating in NGCP** | **No interaction**<br>**Networking:** *Aware of organization; Loosely defined roles; Little communication; All decisions are made independently*<br>**Cooperation:** *Provide information to each other; Somewhat defined roles; Formal communication; All decisions are made independently*<br>**Coordination:** *Share information; Share resources; Defined roles; Frequent communication; Some shared decision making*<br>**Coalition:** *Share ideas; Share resources; Frequent and prioritized communication; All members have a vote in decision making*<br>**Collaboration:** *Members belong to one system; Frequent communication characterized by mutual trust; Consensus is reached on all decisions* |

**Overall, to what extent has NGCP impacted the collaboration between your program and other programs or organizations?**

- ❍ No impact
- ❍ Low impact
- ❍ Moderate impact
- ❍ High impact

**3) Please indicate the highest level of collaboration between you or your program and other groups supporting girls in STEM.** *Use the following definitions:*

**Networking:** *Aware of organization; Loosely defined roles; Little communication; All decisions are made independently*

**Cooperation:** *Provide information to each other; Somewhat defined roles; Formal communication; All decisions are made independently*

**Coordination:** *Share information; Share resources; Defined roles; Frequent communication; Some shared decision making*

**Coalition:** *Share ideas; Share resources; Frequent and prioritized communication; All members have a vote in decision making*

**Collaboration:** *Members belong to one system; Frequent communication characterized by mutual trust; Consensus is reached on all decisions*

*Levels of collaboration scale adapted from the work of Hogue, 1993; and Borden and Perkins, 1998, 1999, Frey, 2004.*

| | No Interaction | **Networking:** *Aware of organization; Loosely defined roles; Little communication; Decisions made independently* | **Cooperation:** *Provide information to each other; Somewhat defined roles; Formal communication; Decisions made independently* | **Coordination:** *Share information; Share resources; Defined roles; Frequent communication; Some shared decision making* | **Coalition:** *Share ideas; Share resources; Frequent and prioritized communication; All members have a vote in decision making* | **Collaboration:** *One system; Frequent communication characterized by mutual trust; Consensus is reached on all decisions* |
|---|---|---|---|---|---|---|
| **K-12** | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| **Higher Education** | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| **Informal Education/Community-Based or Non-profit Organization** | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| **Business/Industry** | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| **Professional Organization** | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| **Government Representative** | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| **Researcher/Evaluator** | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |

**How has NGCP increased your level of collaboration with others?**

## Dissemination of Exemplary Practices and Resources

The NGCP works to strengthen capacity of girl-serving STEM organizations and programs by sharing exemplary practices based on research. This is done through the NGCP website, webinars, e-newsletter, and in-person events.

Examples of exemplary practices disseminated through NGCP include:

- effective strategies for engaging girls in STEM, such as making content personally relevant and meaningful effective strategies for incorporating role models into your program, such as having them share that struggling and eventually succeeding are normal
- effective strategies for collaboration, such as clarifying the specific roles and responsibilities of each partner, based on strengths and organizational capacity

**Have you, or do you plan to, apply exemplary practices disseminated by NGCP (such as through the e-newsletter, from a NGCP webinar, or at an in-person event) to your work?**

Yes, I have applied an exemplary practice
I have not yet applied exemplary practice, but plan to in the future
No

*(those who have used practices so far)*

**What topic(s) was the practice you applied related to?**

Collaboration
Evaluation/Assessment
Resources for K-12 counselors
Strategies and resources to engage girls in STEM
Strategies and resources to engage underrepresented girls (such as African American girls in STEM or girls with disabilities) in STEM

**Did the use of an exemplary practices lead to a positive outcome or outcomes in your program?**

Yes
No

**Please explain your answer:**

**NGCP Impact**

**Please rate your knowledge of the following items BEFORE participating in NGCP** (left side of the table) **and AFTER participating in NGCP** (right side of the table). *(Select one BEFORE response and one AFTER response).*

| My level of knowledge on this topic **BEFORE** participating in NGCP: | | | | | | My level of knowledge on this topic **AFTER** participating in NGCP | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Poor (1)** | **Fair (2)** | **Average (3)** | **Good (4)** | **Excellent (5)** | **Statement** | **Poor (1)** | **Fair (2)** | **Average (3)** | **Good (4)** | **Excellent (5)** |
| 1 | 2 | 3 | 4 | 5 | Knowledge of programs/organizations involved in STEM in my area | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Knowledge of shared resources available from other programs related to serving girls in STEM | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Interest in sharing my program resources with others | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Knowledge of strategies for effective collaborations | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Interest in collaborating with others | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Knowledge of exemplary practices related to serving girls in STEM | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Knowledge of strategies to recruit and engage underrepresented girls in STEM (including African-American, Hispanic/Latina, Native American, and girls with disabilities) | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Commitment to engaging girls in STEM | 1 | 2 | 3 | 4 | 5 |

**Did the use of a shared resource identified through NGCP lead to a positive outcome or outcomes in your program?**

**Please indicate the degree NGCP affected the following aspects of your program or work through increased collaboration and/or exemplary practices.** *Select N/A if the statement does not apply to your work.*

| | **Effect of NGCP due to Increased Collaboration** | **Effect of NGCP due to Dissemination of Exemplary Practices** |
|---|---|---|
| Helped us better serve girls in our program<br>Helped my program recruit girls from groups underrepresented in STEM (including African-American, Hispanic/Latina, Native American, and girls with disabilities)<br>Helped my program retain girls from groups underrepresented in STEM (including African-American, Hispanic/Latina, Native American, and girls with disabilities)<br>Increased the STEM content or STEM activities in our program<br>Helped my work or program be more effective at meeting our goals<br>Helped my work or program be more efficient<br>Reduced feelings of organizational isolation<br>Improved my program's sustainability<br>Increased girls' interest in STEM<br>Increased girls' confidence in STEM<br>Increased the positivity of girls' attitudes toward STEM | Not at all<br>Slightly<br>Moderately<br>A Great Deal<br>N/A | Not at all<br>Slightly<br>Moderately<br>A Great Deal<br>N/A |

**Please share a specific example of how NGCP has impacted your program or work.**

_____
_____
_____

**Please add any other comments you have regarding NGCP:**

_____
_____
_____

# National Girls Collaborative Project
# Event Post-Survey

**This survey will be administered online.** All event registrants will receive a link to the online version from Evaluation & Research Associates within two days of the event. Please do not submit your responses on this paper version unless you did not register for this event, do not have Internet access, or would not otherwise respond to the survey.

Please take a few minutes to answer the following questions about your experiences at the recent event of the National Girls Collaborative Project (NGCP). This survey is administered by Evaluation & Research Associates, the evaluators of NGCP. Your responses are anonymous and reported in aggregate form to project leadership to inform their work. Thank you in advance for your participation.

**Location of the NGCP event *** *(required)*: _____

**Date of the NGCP event*** *(required):* _____

**What was your familiarity or involvement with NGCP prior to attending this event?** *Select all that apply.*

I was already familiar with the goals of the project

I had participated in at least one webinar (live or via archive)

I had attended at least one previous NGCP in-person event

I learned about the project at a non-NGCP event

My program/organization was listed in the NGCP Program Directory

I received the NGCP e-newsletter

I had accessed the NGCP website
I had applied for a NGCP mini-grant
None of the above

**What best describes the sector you represent?** *Select the best response.*

**K-12** Teacher/staff
**K-12** Counselor
**K-12** Administrator
**Higher Education** Faculty/staff
**Higher Education** Administrator
**Informal Education/Community-Based Organization**
**Informal Education** Museum/Science Center
**Business/Industry**
**Professional Organization**
**Government Representative**
**Researcher/Evaluator**
**Other**, please specify: _____

**Please rate the following components of this NGCP event on a scale from Poor to Excellent.** *Select N/A for "Not applicable" if you did not experience the component.*

| | N/A | Poor | Fair | Satisfactory | Good | Excellent |
|---|---|---|---|---|---|---|
| Overall event | | | | | | |
| Location and facilities | | | | | | |
| Speakers/Keynote | | | | | | |
| Professional development sessions | | | | | | |
| Collaboration/Networking opportunities | | | | | | |

EVALUATION & Research Associates

# National Girls Collaborative Project
# Event Post-Survey

**Please indicate your level of agreement to the following statements about the event.** *Select N/A for "Not applicable."*

| | N/A | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| I understand how NGCP could benefit me and my work. | | | | | | |
| The content was relevant to my work | | | | | | |
| Speakers presented the content effectively. | | | | | | |
| The materials provided were useful. | | | | | | |
| I learned practices or strategies to engage girls in STEM. | | | | | | |
| I specifically learned practices or strategies to engage underrepresented girls (African-American, Hispanic/Latina, Native American, and girls with disabilities) in STEM. | | | | | | |
| I met people with whom I would like to collaborate. | | | | | | |
| I learned strategies for collaborating effectively. | | | | | | |
| I am leaving with ideas of potential collaborative partners or for collaborative projects. | | | | | | |
| I plan to apply or implement information I learned at this event in my work. | | | | | | |

**If you agreed you would apply what you learned at this event in your work, please describe what you might use and how:**

**Did you bring information or resources from your own program or work to share with others?** *Examples include program flyers, curriculum, activity ideas, or practices utilized by your program.* **Yes No**

**Please describe information or a resource that you accessed that was shared by another program at this event:**

**How many new people did you connect with at this event?** (enter as a whole number): **_____**

**Who was missing from this event?** *You may list specific or categories of people, programs or organizations doing work related to STEM and/or gender equity in your region.*

**What was the most valuable aspect of the event for you?**

**Do you have any other feedback or suggestions to improve this event or NGCP overall?**

**Would you like to participate in future NGPC events or activities? Yes No**

## NGCP Webinar Post-Survey

Thank you for participating in a National Girls Collaborative Project (NGCP) webinar. The vision of NGCP is to bring together organizations that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).

This survey is being administered by Evaluation & Research Associates (ERA). Your responses are anonymous and will be reported in aggregate form. Findings are used to inform project decisions and measure the project's impact. Please contact ngcpevaluation@eraeval.org if you have any questions.

**What was the date of the webinar you recently attended? _____**
**Webinar topic: _____**

**How did you hear about the webinar?** *Select all that apply.*

- ❑ NGCP e-newsletter or listserv
- ❑ NGCP website
- ❑ NGCP Facebook/Twitter
- ❑ From a friend/colleague
- ❑ Other listserv or newsletter (please specify): _____
- ❑ Other source (please specify): _____

**What motivated you to attend the webinar?** *Select all that apply.*

- ❑ Relevant topic
- ❑ Convenient format
- ❑ Notable presenter(s)
- ❑ Stay up-to-date on research
- ❑ Learn more about NGCP
- ❑ Learn more about programs
- ❑ To gather resources/strategies
- ❑ Other (please specify): _____

**Please indicate your familiarity/involvement with NGCP prior to this webinar.** *Select all that apply.*

- ❑ I was already familiar with the goals of the project
- ❑ I had participated in at least one previous webinar (live or via archive)
- ❑ I had attended at least one NGCP in-person event
- ❑ My program/organization was already listed in the NGCP Program Directory
- ❑ I subscribed to the NGCP e-newsletter
- ❑ I had accessed the NGCP website

**How many National Girls Collaborative Project (NGCP) webinars have you participated in** (including this one)?

- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6-10
- ❍ More than 10

**Please rate the following aspects of the webinar on a scale from Poor to Excellent.**

| | Poor | Fair | Satisfactory | Good | Excellent |
|---|---|---|---|---|---|
| Webinar quality overall | ❍ | ❍ | ❍ | ❍ | ❍ |
| Quality of materials and resources provided | ❍ | ❍ | ❍ | ❍ | ❍ |
| Introduction to the National Girls Collaborative Project | ❍ | ❍ | ❍ | ❍ | ❍ |
| Technical aspects (connecting, audio, etc.) | ❍ | ❍ | ❍ | ❍ | ❍ |

**Please respond to the following statements about the webinar content on a scale from Strongly Disagree to Strongly Agree.**

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| Overall, I enjoyed the webinar. | ❍ | ❍ | ❍ | ❍ | ❍ |
| Speakers presented the content clearly. | ❍ | ❍ | ❍ | ❍ | ❍ |
| The content was relevant to my work. | ❍ | ❍ | ❍ | ❍ | ❍ |
| The content was interesting to me. | ❍ | ❍ | ❍ | ❍ | ❍ |
| I learned exemplary practices to engage girls in science, technology, engineering and mathematics (STEM). | ❍ | ❍ | ❍ | ❍ | ❍ |
| I learned about resources to help engage underrepresented girls in STEM. | ❍ | ❍ | ❍ | ❍ | ❍ |
| I learned strategies for collaborating with others. | ❍ | ❍ | ❍ | ❍ | ❍ |
| I plan to apply or implement what I learned in this webinar in my work. | ❍ | ❍ | ❍ | ❍ | ❍ |

**What are possible barriers to applying what you learned in the webinar to your work?** *Select all that apply.*

- ❑ Content was not applicable to my work
- ❑ Did not get sufficient information to apply the webinar content
- ❑ No opportunities in my work, i.e. do not have access to youth
- ❑ Do not believe content would be effective in my work
- ❑ Not enough funding to apply content
- ❑ Not enough time to apply content
- ❑ Other (please specify): _____

**For each item, please indicate your level of knowledge or commitment to serving girls in STEM and to collaboration prior to and after this webinar.** *Select "N/A" if the webinar did not address the topic and skip to the next item.*

**<u>Prior</u> to this webinar**

| | N/A | Low | Medium | High |
|---|---|---|---|---|
| Awareness of resources related to engaging girls in STEM | ❍ | ❍ | ❍ | ❍ |
| Knowledge of effective practices to engage girls in STEM | ❍ | ❍ | ❍ | ❍ |
| Knowledge of effective practices to engage underrepresented girls in STEM | ❍ | ❍ | ❍ | ❍ |
| Commitment to engaging girls in STEM | ❍ | ❍ | ❍ | ❍ |
| Interest in collaborating with others | ❍ | ❍ | ❍ | ❍ |
| Knowledge of how to effectively collaborate with others | ❍ | ❍ | ❍ | ❍ |

**<u>After</u> this webinar**

| | Low | Medium | High |
|---|---|---|---|
| Awareness of resources related to engaging girls in STEM | ❍ | ❍ | ❍ |
| Knowledge of effective practices to engage girls in STEM | ❍ | ❍ | ❍ |
| Knowledge of effective practices to engage underrepresented girls in STEM | ❍ | ❍ | ❍ |
| Commitment to engaging girls in STEM | ❍ | ❍ | ❍ |
| Interest in collaborating with others | ❍ | ❍ | ❍ |
| Knowledge of how to effectively collaborate with others | ❍ | ❍ | ❍ |

**What information presented in the webinar was most helpful for you?**

_____
_____
_____

**Please list any suggestions for future webinar topics relevant to programs serving girls in science, technology, engineering, and/or mathematics.**

_____
_____
_____

**Do you have any suggestions about how this or future NGCP webinars could be improved?**

_____
_____
_____

**What state do you live in? _____**

**In what capacity were you attending this event?** *Select the best choice.*

- ❍ **K-12** Teacher/staff
- ❍ **K-12** Counselor
- ❍ **K-12** Administrator
- ❍ **Higher Education** Faculty/staff
- ❍ **Higher Education** Administrator
- ❍ **Informal Education/Community-Based Organization**
- ❍ **Informal Education** Museum/Science Center
- ❍ **Business/Industry**
- ❍ **Professional Organization**
- ❍ **Government Representative**
- ❍ **Researcher/Evaluator**
- ❍ **Other**, please specify**: _____**

# NGCP Collaborative Leadership Team Member Report

The external evaluators of the National Girls Collaborative Project (NGCP) from Education Development Center (EDC) are asking Collaborative Leadership Team members to report on their experiences in the project. This survey takes about 20 minutes, but you may complete it in multiple sittings by clicking "Save" at the end of any page and using the URL in your e-mail invitation to re-access your survey.

**Your individual responses are confidential.** Data will be reported in aggregate form by Collaborative and shared with each Collaborative Lead. Identifying information will be removed from any open-ended responses. Findings are also shared with NGCP Leadership to help them make project decisions and used in reports to the National Science Foundation. **We are so grateful for your time in helping us understand what is happening in NGCP across the country.**

Please contact Carrie Liston, cliston@edc.org, if you have technical difficulties or questions.

## Project Implementation and Support

**Your state*** (required): _____

**Have you ever attended a NGCP Collaboration Institute (a multi-day in-person training for Collaborative team members by NGCP National Leadership Team)?**

- ❍ Yes
- ❍ No
- ❍ Not sure

**Please indicate how you have participated in support opportunities offered from the National Leadership Team during the past year.** *Check all that apply.*

- ❑ Read the e-mail updates from the National Leadership Team
- ❑ Attended the online meetings for Collaboratives led by the National Leadership Team
- ❑ Accessed archived Collaborative Leadership Team versions of the online meetings
- ❑ Accessed pre-recorded how-to videos on topics such as how to update your Collaborative web pages, use SharePoint, or set-up an NGCP event on the web site *(Videos are available at: http://www.ngcproject.org/overview-online-tools-and-technical-assistance-collaboratives)*
- ❑ Received individual Collaborative support or technical assistance from the National Leadership Team
- ❑ Accessed NGCP SharePoint to download templates, resources, handouts, graphics, and other files
- ❑ Other, please specify: _____

**Have you reached out to Leadership Team members from other Collaboratives for ideas or support or technical assistance during the past year?**

- ❍ Yes
- ❍ No

**What type of assistance would be helpful to support the work of your Collaborative?** You might include topics you would you like more information about or other types of support to help your work.

_____
_____
_____

## Outreach

*Please note that these data are shared with your Collaborative Lead, in aggregate with other respondents from your Collaborative, to help them gauge the reach of your Collaborative.*

**How many events, conferences, or meetings did you attend in person where you promoted NGCP or your Collaborative during the past year?**

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5 or more, please specify the number: of events _____

**How many presentations that mentioned NGCP did you give to small groups (fewer than 15 people), such as at a board meeting, during the previous year?**

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5 or more, please specify the number: _____

**How many presentations that mentioned NGCP did you give to large groups (15 people or more), such as at a conference, during the previous year?**

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5 or more, please specify the number: _____

**If you presented about NGCP during the past year, what was the intention(s) of your presentation(s) as related to NGCP?** *Check all that apply.*

- ❑ Informing others about the NGCP
- ❑ Promoting the NGCP Program Directory
- ❑ Promoting Collaborative in-person events
- ❑ Promoting NGCP mini-grants
- ❑ Disseminating exemplary practices
- ❑ Disseminating materials/resources related to serving girls in STEM
- ❑ Other, please specify: _____

**Please estimate how many people from each sector you communicated with about NGCP during the previous year** (including individual contacts, presentations, event attendance, etc.)? *Enter estimates in whole numbers only.*

People from K-12 (teachers/staff/counselors/administrators): _____
People from Higher Education (faculty/staff/administrators): _____
People from Informal education/Community-based organizations (Non-profits/ museums/science centers): _____
People from Business/Industry: _____
People from Professional Organizations (i.e., SWE): _____
People from Government: _____
People from Research/Evaluation: _____
Others, please specify sector and number of people: _____

*Hang in there! We appreciate your time answering all of these questions.*

*We would like one Lead per Collaborative to complete the "Leads-only" section. If your Collaborative has more than one Lead, please talk with your Co-Lead(s) to decide who will respond and indicate that decision in the question below.*

**Please indicate your role in the project.**

- ❍ NGCP Collaborative Team Lead or Co-Lead (designated respondent for the Collaborative)
- ❍ NGCP Collaborative Team Co-Lead (but not the designated respondent for the Collaborative)
- ❍ NGCP Collaborative Team Member
- ❍ Other, please specify: _____

## Leads-only

*You indicated you were a Collaborative Lead. Please respond to the following questions about your Collaborative.*

**Approximately how many times has your Collaborative Leadership Team met <u>during the previous year</u>, in-person or via phone or Web conference?** (Enter as whole number only): ____

**Did your Collaborative distribute an e-newsletter, an e-mail or listserv message to the girl-serving STEM community in your region during the previous year?**

- ❍ Yes, please note the approximate number of recipients (whole number): _____
- ❍ No

**Please indicate what resources or exemplary practices related to engaging girls in STEM you shared within your Collaborative via event presentation or handouts, e-newsletters or e-mails, or other means**. *Check all that apply.*

- ❑ Exemplary practices or strategies to engage girls in STEM
- ❑ Exemplary practices or strategies to specifically engage girls from underrepresented ethnic groups in STEM
- ❑ Exemplary practices or strategies to specifically engage girls with disabilities in STEM
- ❑ Examples of effective program models, activities, or curriculum
- ❑ Information on local programs or organizations relevant to serving girls in STEM
- ❑ Statistics, research, or references, related to girls in STEM
- ❑ Information or resources related to collaboration
- ❑ Evaluation or assessment tools
- ❑ Other resources or materials relevant to serving girls in STEM

**Please share an example of a collaboration or exchange of resources that occurred or was aided by the NGCP network** (for example, observing two programs meeting at an event and deciding to plan an event together, apply for a mini-grant, or share an activity idea).

_____
_____
_____

**What were activities related to your Collaborative Champions Board, including Board recruitment, meetings, engagement and support, during the previous year?** *Check all that apply.*

- ❑ Recruitment of new Champions Board member(s)
- ❑ Planning or hosting Champions Board meeting(s)
- ❑ Sharing project updates with Champions Board members
- ❑ Gathering input or advice from Champions Board members
- ❑ Champions Board assistance with outreach efforts
- ❑ Disseminating resources through Champions Board members' networks
- ❑ Gathering resources related to engaging girls in STEM from Champions Board members
- ❑ Securing financial support or in-kind resources from Champions Board members
- ❑ Other, please specify: _____

**What financial or in-kind support has your Collaborative received from individuals, programs, and organizations in your region?** Support might include becoming a Collaborative partner or sponsor, or offering assistance in the form of funding, in-kind resources, event co-planning, etc. *Please describe the support and the source.*

Funding
Sponsorship
Volunteers
Assistance with components, such as co-planning an event or awarding mini-grants

Advertising/marketing
Facilities/space
Office supplies (printing, paper, folders, etc.)
STEM materials or resources
Other types of support, please specify:

_____
_____
_____

**What efforts related to building the sustainability of your Collaborative have been completed during the previous year?** *Check all that apply.*

- ❑ Discussion and planning among Collaborative Leadership Team members or Champions Board members (i.e. discussions about a long-term plan for sustainability, creating a shared vision)
- ❑ Building the diversity of the Collaborative Leadership Team (diversity in terms of sectors or regions represented)
- ❑ Distributing the workload among the Collaborative Leadership Team
- ❑ Grant-writing, fundraising, or creating a fundraising plan
- ❑ Building or maintaining partnerships to support Collaborative's work
- ❑ Securing in-kind donations
- ❑ Professional development opportunities related to building sustainability
- ❑ Other activities, please specify: _____

**What are some factors that increase your Collaborative's sustainability?**

_____
_____

**What are challenges to the sustainability of your Collaborative?**

_____
_____

## Your Collaborative

*We are very interested in responses to these questions, so please stick with the survey just a bit longer. This is the final section!*

**Describe a highlight or success of your Collaborative during the previous year:**

_____
_____
_____

**What were the key issues or challenges you faced in your NGCP work during the previous year?**

_____
_____
_____

**Please indicate how successful your Collaborative has been to-date in implementing the following components of NGCP.**

| | Not at all successful | Slightly successful | Moderately successful | Very successful | N/A |
|---|---|---|---|---|---|
| Overall implementation of the NGCP model | ❍ | ❍ | ❍ | ❍ | ❍ |
| Overall effectiveness of how the Collaborative Leadership Team works together | ❍ | ❍ | ❍ | ❍ | ❍ |
| Programs or organizations involved in the Collaborative represent a diversity of sectors | ❍ | ❍ | ❍ | ❍ | ❍ |
| Local programs or organizations that serve mainly girls from underrepresented groups or have expertise related to reaching girls from underrepresented groups in STEM (including | ❍ | ❍ | ❍ | ❍ | ❍ |

| | | | | | |
|---|---|---|---|---|---|
| Hispanic/Latino girls, African American girls, Native American girls, and girls with disabilities) are involved in the Collaborative | | | | | |
| Collaborative Leadership Team has received financial or in-kind assistance from local sources | ❍ | ❍ | ❍ | ❍ | ❍ |

**How has being part of an NGCP Collaborative Leadership Team impacted you professionally? Consider the impact on your network, knowledge, and skills.**

**What, if any, additional information would you like to share about NGCP or your Collaborative?**

_____
_____
_____

**What best describes the type of work or organization you represent?**

- ❍ K-12
- ❍ Higher Education
- ❍ Informal Education/Community-Based Organization/Not-for-Profit
- ❍ Business/Industry
- ❍ Professional Organization
- ❍ Government Representative
- ❍ Researcher/Evaluator
- ❍ Other, please specify: _____

**From your perspective, what has been the impact of NGCP on the state(s) served by your Collaborative?**

_____
_____
_____

*Thank you!*

# Site Visit Collaborative Leadership Team Survey

Please reflect on your experience with the National Girls Collaborative Project site visit when answering the following questions. This survey is being administered by Evaluation & Research Associates (ERA). Your responses are anonymous and will be reported in aggregate form. Your input will help the team prepare for future site visits and follow-up activities.

**Unique code to match surveys**

We are asking you to provide information to create a unique "personal code." This code will allow ERA to match the answers you give on this survey to responses on other surveys without needing your name. Individual responses will remain anonymous and confidential.

___ (first letter of your high school's name)
___ (last letter of your first name)
__ __ (DD; day of birth)
___ (number of siblings you have)

**In what state was this meeting held?** _____

**Please indicate your level of agreement with each statement about the site visit.**

| | Strongly Disagree | Disagree | Unsure | Agree | Strongly Agree |
|---|---|---|---|---|---|
| The material was presented clearly. | | | | | |
| The NCGP Team answered questions I had about the project. | | | | | |
| Based on meeting attendees, our Collaborative Team is diverse in terms of the types of organizations and work represented. | | | | | |
| As a result of the visit, I am prepared for the NGCP Collaboration Institute. | | | | | |
| As a result of the visit, I am ready to prepare for my role on a Collaborative team. | | | | | |

**Please indicate your level of understanding of the following aspects related to NGCP.**

| | Poor 1 | Fair 2 | Average 3 | Good 4 | Excellent 5 |
|---|---|---|---|---|---|
| NGCP model | | | | | |
| Goals of the NGCP | | | | | |
| How collaboration plays a role in the the NGCP | | | | | |
| Role of the Collaborative Leadership Team | | | | | |
| Resources or personnel available to answer my questions about NGCP | | | | | |

**(Continued on the back)**

# Site Visit Collaborative Leadership Team Survey

**How can NGCP benefit your region?**

**What are questions you have or additional information would you like to know about NGCP?**

**What would you suggest to improve the site visit?**

**Please rate your current level of knowledge in the following areas related to NGCP.**

| Topic | Poor 1 | Fair 2 | Average 3 | Good 4 | Excellent 5 |
|---|---|---|---|---|---|
| Knowledge of strategies for effective collaborations | | | | | |
| Knowledge of strategies to encourage others to collaborate | | | | | |
| Knowledge of programs/organizations involved in STEM in this region | | | | | |
| Knowledge of programs/organizations in the region serving mainly underrepresented girls | | | | | |
| Knowledge of curriculum or other resources related to serving girls in STEM | | | | | |
| Knowledge of research-based practices related to serving girls in STEM | | | | | |
| Knowledge of practices related to recruiting and engaging underrepresented girls in STEM | | | | | |
| How to build the capacity of programs to increase diversity in STEM | | | | | |

**Additional comments:**

# Information Meeting Survey

Please reflect on your experience with the National Girls Collaborative Project (NGCP) information meeting when answering the following questions. This survey is being administered by Evaluation & Research Associates (ERA). Your responses are anonymous and will be reported in aggregate form. Your input will help the team prepare for future site visits and follow-up activities.

**Unique code to match surveys**

We are asking you to provide information to create a unique "personal code." This code will allow ERA to match the answers you give on this survey to responses on other surveys without needing your name. Individual responses will remain anonymous and confidential.

___ (first letter of your high school's name)
___ (last letter of your first name)
__ __ (DD; day of birth)
___ (number of siblings you have)

**What best describes the capacity of your work? (Select the best choice).**

**K-12 Schools**
- O Teacher/Staff
- O Academic Counselor
- O Administrator

**Higher Education**
- O Faculty
- O Academic Counselor
- O Staff/Program Manager/Administrator

**Informal Education/Community-Based Organization/Not-for-profit**
- O Museum/Science Center
- O After school/Summer program
- O Other informal education/ community-based program/organization (e.g. AAUW, Girl Scouts)

**Business/Industry**
- O Industry-based education/outreach staff
- O Professional Organization, e.g. Society of Women Engineers
- O Working STEM professional/Other Corporate/Business/Industry Representative

O **Government Representative**
O **Researcher/Evaluator**
O **Other, please specify:** _____

**Please indicate your level of agreement with each statement about the information meeting.**

| | Strongly Disagree | Disagree | Unsure | Agree | Strongly Agree |
|---|---|---|---|---|---|
| The material was presented clearly. | | | | | |
| A diverse group of STEM programs and organizations were represented. | | | | | |
| Attending this meeting was a valuable use of my time. | | | | | |

**(continued on the back)**

# Information Meeting Survey

**Please indicate your level of understanding of the following aspects related to the NGCP.**

| | Poor 1 | Fair 2 | Average 3 | Good 4 | Excellent 5 |
|---|---|---|---|---|---|
| NGCP model | | | | | |
| Goals of the NGCP | | | | | |
| How collaboration plays a role in the the NGCP | | | | | |
| How I can be involved in the project | | | | | |

**How could NGCP benefit your work or your program?**

**What are questions you have or additional information would you like to know about NGCP?**

**Please rate your current level of knowledge in the following areas related to NGCP.**

| Topic | Poor 1 | Fair 2 | Average 3 | Good 4 | Excellent 5 |
|---|---|---|---|---|---|
| Knowledge of programs/organizations involved in STEM in this region | | | | | |
| Knowledge of strategies for effective collaborations | | | | | |
| Knowledge of curriculum or other resources related to serving girls in STEM | | | | | |
| Knowledge of research-based practices related to serving girls in STEM | | | | | |
| Knowledge of strategies to recruit and engage underrepresented girls in STEM | | | | | |

**Additional comments:**

# NGCP Institute Post-Survey

*Administration notes: Invitation-only survey administered online to Institute attendees (not including Institute Trainers or National Leadership Team members).*

Please reflect on your experience at the 2014 National Girls Collaborative Project (NGCP) Collaboration Institute in Kansas City, Missouri when answering the following questions. Your input will help the NGCP National Leadership Team prepare for follow-up support activities and future Collaboration Institutes. This survey is being administered by Evaluation & Research Associates, the external evaluators of the project. Your responses are confidential and will be reported in aggregate form only.

What is your role in NGCP?

- Collaborative Leadership Team Member
- Collaborative Lead
- Other, Please specify: _____

How many years have you been a Collaborative Lead or Leadership Team member?

- Starting my first year
- One year
- Two years
- Three or more years

Please indicate your current level of understanding of the following components of the NGCP model covered at the Collaboration Institute using the scale below.

| | **I would like more information or support related to this aspect of NGCP** | **I have enough information to understand or implement this aspect of NGCP on my own** | **I can teach somebody else about this aspect of NGCP** |
|---|---|---|---|
| The goals of NGCP | | | |
| How to identify and fill gaps in the composition of your current Collaborative Leadership Team | | | |
| Building an effective Collaborative Leadership Team | | | |
| Engaging a Collaborative Leadership Team | | | |
| Building an effective Collaborative Champions Board | | | |
| Engaging a Collaborative Champions Board | | | |
| Creating an outreach plan to connect programs and individuals to support girls in STEM | | | |
| Promoting the NGCP Program Directory | | | |
| Disseminating exemplary practices for engaging girls in STEM | | | |
| The purpose of NGCP events such as conferences and forums | | | |
| Implementing NGCP events such as conferences and forums | | | |
| Resources available to NGCP participants such as the NGCP website, e-newsletter, and webinars. | | | |
| Where to seek support to implement NGCP components | | | |
| The role of collaboration in NGCP | | | |

What aspect(s) of NGCP do you still have questions about, if any?

What do you foresee as the biggest challenge when implementing NGCP within your role in the project?

Please assess the quality of the following aspects of the Collaboration Institute by indicating how much you agree or disagree with each statement.

| | **1 = Strongly Disagree** | **2 = Disagree** | **3 = Unsure** | **4 = Agree** | **5 = Strongly Agree** |
|---|---|---|---|---|---|
| The NGCP team provided a supportive learning environment. | | | | | |
| The content was clearly presented. | | | | | |
| There was sufficient time for hands-on/ interactive learning opportunities. | | | | | |
| The facilitators answered my questions | | | | | |
| Resources and materials provided are useful. | | | | | |

What was the most valuable aspect of the Collaboration Institute?

Use this space for additional feedback or suggestions to inform future NGCP trainings:

Other comments about the project or the institute:

Thank you for your responses!

**Collaborative Champions Board**
**Meeting Post-Survey**

Thank you for attending this local National Girls Collaborative Project (NGCP) Collaborative Champions Board meeting. Please reflect on your meeting experience and complete the following questions. Your responses will be reviewed by the Collaborative Leadership Team to help inform their work.

**1) Please rate the following items on a scale from Fair to Excellent.**

| | Fair | Satisfactory | Good | Excellent |
|---|---|---|---|---|
| Quality of the meeting overall | ❍ | ❍ | ❍ | ❍ |
| Usefulness of the materials provided | ❍ | ❍ | ❍ | ❍ |
| Your understanding of the structure and activities of the Collaborative | ❍ | ❍ | ❍ | ❍ |
| Your understanding of the purpose of the Collaborative Champions Board | ❍ | ❍ | ❍ | ❍ |
| Opportunity to contribute at this meeting | ❍ | ❍ | ❍ | ❍ |

**2) What questions do you still have, about the NGCP goals, structure, or the role of the Collaborative Champions Board?**

**3) What was the most valuable aspect of today's meeting?**

**4) Please add any other comments or feedback you would like to share about this meeting or the project overall.**

# Introduction to NGCP and the Role and Impact of Collaborative Champions Board Members
# Webinar Post-Survey

Thank you for attending the May 13, 2014 webinar for the National Girls Collaborative Project (NGCP). Please reflect on your experience and complete the following questions. Your responses, will be shared with the National Leadership Team to help inform their work.

**1) Please specify your role in NGCP:**

Current Collaborative Champions Board member
Potential Collaborative Champions Board member
Collaborative Leadership Team member
National Champions Board member

**Please rate the following items on a scale from Fair to Excellent.**

| | Fair | Satisfactory | Good | Excellent |
|---|---|---|---|---|
| Quality of the webinar overall | ❍ | ❍ | ❍ | ❍ |
| Your understanding of the goals of NGCP | ❍ | ❍ | ❍ | ❍ |
| Your understanding of the NGCP components and activities | ❍ | ❍ | ❍ | ❍ |
| Your understanding of the impact of NGCP | ❍ | ❍ | ❍ | ❍ |
| Your understanding of the role of the Collaborative Champions Board | ❍ | ❍ | ❍ | ❍ |
| How you can help support NGCP | ❍ | ❍ | ❍ | ❍ |

**What questions do you still have, about the NGCP goals, structure, or the role of the Collaborative Champions Board?**

**What was the most valuable aspect of today's meeting?**

**What is one action item you plan to complete as a result of attending this webinar?**

**Please add any other comments or feedback you would like to share about this webinar or the project overall.**

# National Girls Collaborative Project
# Mini-Grant Report

*This report is administered online to all mini-grant project leads. The NGCP evaluators from Evaluation & Research Associates will send a unique link to each grantee monthly after the project's estimated end date.*

This NGCP Mini-grant Report should be completed after you have finished all mini-grant activities. It is being administered by Evaluation & Research Associates, the external evaluator for the National Girls Collaborative Project (NGCP). The data you report will be used to gauge the impact of NGCP mini-grants nationwide and help the NGCP Leadership Team make improvements to the mini-grant process. Your responses are confidential and will only be reported in aggregate form.

Please contact cliston@edc.org if you have technical difficulties or any questions. Thank you in advance for your responses.

## Basic Information about your Mini-grant Project

1) What is the title of your mini-grant project?*
(required)_____

2) Where did the majority of the mini-grant activities take place?
City _____
State* (required) _____

3) How many times did participants meet for this activity?
- ❍ One time only
- ❍ 2-3 times total
- ❍ 4-6 times total
- ❍ 7-10 times total
- ❍ more than 10 times
- ❍ Other, please specify

4) What was the average duration of each program meeting?
- ❍ Less than 3 hours
- ❍ Between 3 and 6 hours
- ❍ Longer than 6 hours

5) What STEM content area(s) did your project address? *Check all that apply*
- ❑ Science
- ❑ Technology
- ❑ Engineering
- ❑ Mathematics
- ❑ Other: _____

6) Do you plan to continue to offer the STEM content or activities utilized in this mini-grant project as part of your regular program?

- ❍ Yes, it was already part of our regular programming
- ❍ Yes, as a new part of our regular programming
- ❍ Not sure
- ❍ No. Please briefly describe why not: _____
  _____

## Participants

1) Whom did your project serve?

- ❍ Served youth directly
- ❍ Served only adults/others working with youth
- ❍ Served both youth and adults/others working with youth

2) Did the majority of participants live in rural, suburban, or urban areas?

- ❍ Rural
- ❍ Suburban
- ❍ Urban

3) How many total staff and volunteers were involved in this project? *Please answer in a whole number.*_____

4) What was the overall attendance rate of participants?

- ❍ Almost all participants (about 90-100%) attended every program session
- ❍ The majority of participants (about 75%) attended each program session
- ❍ About half of participants (about 50%) attended each program session
- ❍ Few participants (about 25% or less) attended each program session

5) How engaged were participants in the program and its activities overall?

- ❍ Very engaged
- ❍ Mostly engaged
- ❍ Fairly engaged
- ❍ Somewhat engaged
- ❍ Not at all engaged

## Youth Participants *(If project served youth)*

1) Estimate the number of girls and boys participating in the mini-grant. *Please answer in a whole number.*

Approximately how many girls participated? _____
Approximately how many boys participated? _____

2) Please estimate the ethnicity of your youth participants. *Enter the percentage of each ethnicity (must total 100%).*

American Indian or Alaskan Native _____
Asian _____
Black/African-American _____
Caucasian/European American _____
Hawaiian or Pacific Islander _____
Hispanic/Latino _____
Multi-racial _____
Other _____

3) How old were your youth participants? *Enter the percentage of participants from each grade range (must total 100%).*

K-5$^{th}$ grade (ages 5-11) _____
6$^{th}$-8$^{th}$ grade (ages 12-14) _____
9$^{th}$-12$^{th}$ grade (ages 15-18) _____
Post high school (18 and over) _____

4) If applicable, estimate the number of youth with disabilities who participated in the project. *Enter as a whole number*: _____

5) If applicable, what types of disabilities were present among the youth participants? *Check all that apply*:

- ❑ Attention-Deficit/Hyperactivity Disorders
- ❑ Autism-Spectrum Disorders and Asperger's Syndrome
- ❑ Blindness or Low Vision
- ❑ Brain Injuries
- ❑ Cognitive Disabilities
- ❑ Deafness/Hard-of-Hearing
- ❑ Emotional or Behavioral Disorders
- ❑ Learning Disabilities
- ❑ Mobility/Physical Disabilities
- ❑ Psychiatric/Psychological Disabilities
- ❑ Speech and Language Disabilities
- ❑ Other Disabilities, please specify: _____

## Adult Participants *(If project served adults)*

1) How many adults participated in the project? *Enter as a whole number.* _____

2) What best describes the sectors represented by the adult participants? *Check all that apply*

- ❑ Parents
- ❑ K-12 Teachers
- ❑ K-12 School Counselors
- ❑ Community-based or Not-for Profit Organizations/Informal Educators
- ❑ Higher Education
- ❑ Industry
- ❑ Professional Organizations
- ❑ Government Representative
- ❑ Researchers/Evaluators

3) Approximately how many youth will be reached directly by the adults participating in your project?
Total number of boys: _____
Total number of girls: _____

4) Please briefly describe the youth that are served by the adults participating in your project in terms of age, ethnicity, gender, disabilities, and any other notable characteristics:

_____

_____

_____

## Mini-Grant Partnerships

*The mini-grant funding requires at least two programs or organizations to partner to work together on the project. This section asks about the nature and impact of the collaborative relationship between the partners.*

1) How many different programs or organizations partnered on this project? *Please answer in a whole number.* _____

2) What best describe the sector(s) represented by you and each of your mini-grant partner(s)? *Check all that apply*

- ❑ K-12 Teacher/staff
- ❑ K-12 Counselor
- ❑ K-12 Administrator
- ❑ Higher Education Faculty/staff
- ❑ Higher Education Administrator
- ❑ Informal Education/Community-Based or Not-for-Profit Organization
- ❑ Informal Education Museum/Science Center
- ❑ Business/Industry
- ❑ Professional Organization
- ❑ Government Representative
- ❑ Researcher/Evaluator
- ❑ Other, please specify: _____

3) How did the partners for this mini-grant project meet? *Check all that apply*

- ❑ Through the NGCP Program Directory
- ❑ At a NGCP event (e.g., Kick-off Conference or forum)
- ❑ Knew each other previously
- ❑ Through a mutual contact
- ❑ Open web search
- ❑ Other, please specify: _____

4) What best describes the degree to which you worked with your partner(s)?

- ❍ **Networking:** *Loosely defined roles: Little communication: All decisions are made independently*
- ❍ **Cooperation:** *Provide information to each other; Somewhat defined roles; Formal communication; All decisions are made independently*
- ❍ **Coordination:** *Share information; Share resources; Defined roles; Frequent communication; Some shared decision making*
- ❍ **Coalition:** *Share ideas; Share resources; Frequent and prioritized communication; All members have a vote in decision making*
- ❍ **Collaboration:** *Members belong to one system; Frequent communication characterized by mutual trust; Consensus is reached on all decisions*

5) How did each collaborative partner contribute to the project? For each item, mark whether your program or organization contributed and/or whether another partner contributed. Select "*N/A*" if the item was not implemented in your project.

| | Contributed by my program/organization | Contributed by another partner | N/A (item not implemented) |
|---|---|---|---|
| Planning of the program or event | ❑ | ❑ | ❑ |
| Facilities/location | ❑ | ❑ | ❑ |
| STEM curriculum or activities | ❑ | ❑ | ❑ |
| Physical materials or resources | ❑ | ❑ | ❑ |
| STEM knowledge/content expertise | ❑ | ❑ | ❑ |
| Evaluation/assessment services or knowledge | ❑ | ❑ | ❑ |
| Expertise on serving a specific group of girls (age range, ethnicity group, STEM level) | ❑ | ❑ | ❑ |
| Participants (youth or adults) | ❑ | ❑ | ❑ |
| Role models or mentors in STEM | ❑ | ❑ | ❑ |
| Staff training or professional development | ❑ | ❑ | ❑ |
| Funding or in kind resources | ❑ | ❑ | ❑ |
| Staff or volunteers during the activities | ❑ | ❑ | ❑ |
| Transportation | ❑ | ❑ | ❑ |

6) Other than the items above, how else did partners contribute to the project?

_____

_____

7) Please indicate the factors or strategies that made the collaboration successful. *Select up to three top factors.*

- ❑ Shared vision/Common goals
- ❑ Established norms or expectation for the collaboration
- ❑ Expanded reach (location, or number or type of participants involved)
- ❑ New or stronger content or activities
- ❑ Partners learned from each other
- ❑ Utilized partner's different strengths or expertise
- ❑ Frequent communication
- ❑ Program or planning was more efficient
- ❑ Synergy
- ❑ Sparked innovation
- ❑ Increased impact on participants
- ❑ Other benefits (please specify): _____

8) Please indicate barriers or challenges to the collaboration with your partner(s). *Select up to three top factors.*

- ❑ Different visions
- ❑ Partner(s) did not contribute as expected
- ❑ Partner(s) were not timely or responsive
- ❑ Took more time to coordinate the activities
- ❑ Different schedules
- ❑ Different styles of communication
- ❑ Lack of a leader
- ❑ Lack of resources
- ❑ Partner(s) focused on meeting their own needs
- ❑ Other challenges (please specify): _____

9) How did this project benefit from being a collaborative effort? For example, how did it differ from what each partner could have done individually?

_____

10) Were you already collaborating with your partner(s) before you worked on this mini-grant project?

- ❍ Yes
- ❍ No

11) Will you continue to work with your partner(s) on the program or activities funded under this mini-grant?

- ❍ Yes
- ❍ No
- ❍ Unsure

12) Will you continue to work with your partner(s) on other programs or activities besides those started under this mini-grant?

- ❍ Yes
- ❍ No
- ❍ Unsure

13) Please respond to the following statements about the impact of the mini-grant partnership on a scale from *Strongly Disagree* to *Strongly Agree*. Select "*Not Applicable*" if the question does not apply to your project

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Not Applicable |
|---|---|---|---|---|---|---|
| Overall, the mini-grant project was more effective due to the collaborative partnership. | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| The project more effectively served girls due to the collaborative partnership. | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| The project more effectively served underrepresented girls due to the collaborative partnership. | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |

14) Overall, how would you rate the success of the collaboration between mini-grant project partners?

- ❍ 1 Not successful
- ❍ 2 Slightly successful
- ❍ 3 Fairly successful
- ❍ 4 Moderately successful
- ❍ 5 Very successful

## Exemplary Practices

*NGCP mini-grants are urged to apply exemplary practices in their project, which are research-based effective practices or strategies to expand the participation of girls in STEM. The following questions ask about the use of such practices or strategies and their impact on your project and participants.*

1) What exemplary practices to effectively engage girls in STEM were the main focuses of your project? *Check all that apply*

- ❑ Opportunity for girls to collaborate
- ❑ Making activities or content relevant and meaningful to participants
- ❑ Hands-on, open-ended projects or investigations
- ❑ Opportunity for girls to approach projects in their own way, applying creativity, unique talents, and preferred learning styles
- ❑ Providing positive feedback on girls' effort, strategies and behaviors
- ❑ Providing encouragement to girls to think critically
- ❑ Opportunities to connect with role models and mentors
- ❑ Using culturally competent practices such as valuing diversity and adapting to the populations served
- ❑ Collecting quality evaluation or assessment data
- ❑ Other exemplary practices (please specify): _____

2) Please respond to the following statements about the exemplary practices or strategies you utilized (those specified in the previous question) on a scale from *Strongly Disagree* to *Strongly Agree*. Select *"Not Applicable"* if an item is not relevant for your project.

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Not Applicable |
|---|---|---|---|---|---|---|
| The practice(s) built my program's capacity (e.g. learned something new) | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| The practice(s) helped engage girls in the project's STEM-related activities | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| The practice(s) specifically helped engage underrepresented girls in the project's STEM-related activities | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |
| I would utilize the practice(s) in my program's future programming. | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ |

3) If applicable, please describe how the exemplary practice(s) used in your project helped engage girls, particularly underrepresented girls, in STEM.

_____

_____

_____

## Summary Reflection Questions

1) Overall, what do you perceive as the impact of the project to be <u>on the collaborating partners</u> (including you and your program or organization)?

_____

_____

_____

2) Please indicate the degree to which you perceived the girls participating in this project to be impacted. Select "*Not Applicable"* if an item is not relevant for your project.

| | Not at all | Slightly | Moderately | A Great Deal | Not Applicable |
|---|---|---|---|---|---|
| Increased awareness of the nature of work in STEM | ❍ | ❍ | ❍ | ❍ | ❍ |
| Increased confidence in their ability to be successful in STEM | ❍ | ❍ | ❍ | ❍ | ❍ |
| Increased likelihood of pursuing additional STEM-related learning opportunities | ❍ | ❍ | ❍ | ❍ | ❍ |

2) Overall, what do you perceive as the impact of the project to be <u>on the project participants</u>?

_____

_____

_____

4) Overall, how would you rate the <u>overall success</u> of this project?

- ❍ 1 Not successful
- ❍ 2 Slightly successful
- ❍ 3 Fairly successful
- ❍ 4 Moderately successful
- ❍ 5 Very successful

5) Please note anything else you would like to share about your mini-grant project:

_____

_____

_____

# Mini-grant Participant Post-Survey

### *About this Survey*

This survey should take about 15 minutes to complete and includes questions about your experiences in this program's recent science, technology, engineering, and mathematics (STEM) activities and about your interest and feelings related to STEM. **Your responses are anonymous and will be kept confidential.** This means that your name is not on the survey, we will not know who completed each survey, and your survey is not shared with anybody besides the program staff and researchers. **You can choose not to complete this survey or to skip any item you do not wish to answer.**

The data will be used to provide feedback to program organizers and to look at the impact of this and similar projects on attitudes toward STEM. **Please give honest responses; there are no right or wrong answers to these questions.** Thank you for your participation. *If you have questions, ask program staff or contact Carrie Liston, 206-659-5275, cliston@edc.org*.

**Today's date: _____ Date you started in this program:_____**

## *My Experience in this Program*

Please reflect on your experiences in this program.

**1) Please indicate your level of agreement to the following statements about this program.**

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|---|---|---|---|---|
| I enjoyed the activities in this program. | ○ | ○ | ○ | ○ |
| I found it easy to get to know the other participants in this program. | ○ | ○ | ○ | ○ |
| I felt comfortable learning in this program. | ○ | ○ | ○ | ○ |
| The leaders for this program were knowledgeable. | ○ | ○ | ○ | ○ |

**2) In general, the content presented in this program was:** *(Select one response.)*

○ Too easy ○ Just right ○ Too hard

**3) Briefly, what did you like best about this program?**

**4) If you were in charge, how would you change this program to make it better?**

**5) Would you recommend that your friends participate in this activity?** *(Select one response.)*

○ Yes ○ No



**Please proceed to the next page**

## *Impact of Participating in this Program*

We are interested in your feelings and knowledge related to science, technology, engineering and mathematics (STEM) and how this program may have influenced them.

> ***What is STEM?*** *This survey uses the term "STEM" as an acronym for science, technology, engineering, and mathematics to describe the content of the activities or information you engaged in during this program. STEM could be addressed in a number of different ways depending on the program, including building robots, programming activities, conducting science experiments, meeting professionals working in these fields, visiting a science lab, hearing a presentation, or many others.*

# Attitude toward STEM

Please indicate your level of agreement with the following statements related to your attitude toward science, technology, engineering and mathematics (STEM).

**6) Please circle your level of agreement with each of the following statements BEFORE participating in this program** (left side of the table) **and AFTER participating in this program** (right side of the table).
*(Select one BEFORE response and one AFTER response).*

| My level of agreement with this statement **BEFORE** participating in this program: | | | | | | My current level of agreement with this statement **AFTER** participating in this program**:** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Strongly Disagree (1)** | **Disagree (2)** | **Neither Agree nor Disagree (3)** | **Agree (4)** | **Strongly Agree (5)** | **Statement** | **Strongly Disagree (1)** | **Disagree (2)** | **Neither Agree nor Disagree (3)** | **Agree (4)** | **Strongly Agree (5)** |
| 1 | 2 | 3 | 4 | 5 | The STEM subjects are valuable to learn. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | People like me can do well in STEM. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | There are many opportunities in STEM-related careers. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | Learning about STEM is fun. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I understand what people working in STEM do. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I fit in well with people who like to do STEM activities. | 1 | 2 | 3 | 4 | 5 |


**Please proceed to the next page.**

## Confidence in STEM

Please indicate your level of agreement with the following statements related to your confidence in science, technology, engineering and mathematics (STEM).

**7) Please circle your level of agreement with each of the following statements BEFORE participating in this program** (left side of the table) **and AFTER participating in this program** (right side of the table).

| My level of agreement with this statement **BEFORE** participating in this program: | | | | | | My current level of agreement with this statement **AFTER** participating in this program**:** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Strongly Disagree (1)** | **Disagree (2)** | **Neither Agree nor Disagree (3)** | **Agree (4)** | **Strongly Agree (5)** | **Statement** | **Strongly Disagree (1)** | **Disagree (2)** | **Neither Agree nor Disagree (3)** | **Agree (4)** | **Strongly Agree (5)** |
| 1 | 2 | 3 | 4 | 5 | I feel confident about my ability to do STEM. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I am sure of myself when I do STEM. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I can get good grades in STEM subjects in school. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I am confident about my ability to do well in out-of-school STEM projects or activities. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I am sure I could do advanced work in STEM. | 1 | 2 | 3 | 4 | 5 |

Your survey is **almost** complete. Please proceed to the last page.

*We know some of these items seem similar to what you have been asked already, but there are slight differences, so please stick with us!*



**Please proceed to the next page.**

## Interest in STEM

Please indicate your level of agreement with the following statements related to your interest in science, technology, engineering and mathematics (STEM).

**8) Please circle your level of agreement with each of the following statements BEFORE participating in this program** (left side of the table) **and AFTER participating in this program** (right side of the table).

| My level of agreement with this statement **BEFORE** participating in this program: | | | | | | My current level of agreement with this statement **AFTER** participating in this program**:** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Strongly Disagree (1)** | **Disagree (2)** | **Neither Agree nor Disagree (3)** | **Agree (4)** | **Strongly Agree (5)** | **Statement** | **Strongly Disagree (1)** | **Disagree (2)** | **Neither Agree nor Disagree (3)** | **Agree (4)** | **Strongly Agree (5)** |
| 1 | 2 | 3 | 4 | 5 | I am interested in learning more about STEM. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I would like to participate in STEM activities after school or in the summer. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I am interested in my STEM classes in school. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I am interested in taking STEM courses in college. | 1 | 2 | 3 | 4 | 5 |
| 1 | 2 | 3 | 4 | 5 | I would like a job that involves STEM. | 1 | 2 | 3 | 4 | 5 |

## *Information about You*

Questions in this section ask for some basic information about you.

**9) Your gender**: (*Choose one response.)* ○ Female ○ Male

**10) Do you have a disability, including learning disabilities, attention-deficit/hyperactivity disorder, or a physical disability such as blindness or deafness?** (*Choose one response.)* ○ Yes ○ No ○ Not sure

**11) Your race or ethnicity:** *(You may check more than one response, as appropriate).*

☐ American Indian or Alaskan Native
☐ Asian
☐ Black/African-American
☐ Caucasian/European American/White
☐ Hawaiian or Pacific Islander
☐ Hispanic/Latino(a) (e.g. .my family is from Mexico, Central America, South America, or a Spanish-speaking Caribbean island)
☐ Other, please specify: _____

**12) How old are you?** *(Enter as a whole number*): _____

**13) Please add any additional comments about your experiences in this program:**

**Your survey is complete.**
**Thank you for your responses!**

# Mapping Your Network
# Who do you know in STEM in Arizona?

**Background**

This survey is being administered by Evaluation & Research Associates, the external evaluators of the National Girls Collaborative Project (NGCP). The **Arizona Science, Technology, and Engineering Collaborative (ASTEC) Project for Girls** is your local state-wide Collaborative of NGCP. We are interested in what STEM programs and organizations in your state you are familiar with and what programs or organizations you have worked with within the past three years.

We are mapping the connections between the STEM programs and organizations in your state. Findings will be shared with project leadership, funders, and other interested. This information will also help guide NGCP's outreach and dissemination efforts to improve the project's implementation and increase its impact.

**This Survey**

This survey asks you whether you are familiar or have worked with different STEM-related programs or organizations in your state. At the end of the survey, there are a few demographic questions about your program or organization and your involvement to-date in NGCP. We estimate that the survey will take about 10-20 minutes to complete, depending on your level of familiarity and involvement with other STEM programs or organizations. Responses are anonymous—your name will not be linked to your responses. We would appreciate an honest assessment of your familiarity and collaboration. There is no expectation that you are familiar or have worked with others on this list.

Please contact cliston@eraeval.org if you have any questions. Thank you for your responses.

## Question 1: Your STEM Network in Arizona

Instructions:

1. For each program or organization on the list below check the appropriate box if you:
    a. Are familiar with the program or organization, meaning that you have heard their name or about the work that they do.
    b. Have collaborated with the program or organization in the past three years. Examples might include sharing information or resources, helping each other with program or activities, offering a joint program, or other types of collaborative work.

2. If you have never heard of the program or organization, do not check either box.

3. If you have heard of or collaborated with additional programs or organizations involved in gender equity and/or STEM in Arizona that are not on this list, there is space to add them at the end and indicate whether you have worked with them.

*The list of programs and organizations is organized by the city in which they are located.*

| City | Program or Organization Name | I am familiar with this program or organization | I have collaborated with this program or organization within the past three years |
|---|---|---|---|
| Avondale | STEM Clubs of America | | |
| Avondale | STEMCA - Stem Clubs of America | | |
| Chandler | AZFirst/Microchip | | |
| Chandler | Chandler Unified School District | | |
| Chandler | Embry-Riddle Aeronautical University | | |
| Marana | WSH Group LLC | | |
| Mesa | Brimhall Jr High | | |
| Mesa | DeVry University | | |
| Oro Valley | AAUW | | |
| Phoenix | Arizona Science and Engineering Fair | | |
| Phoenix | Arizona Science Teachers Association | | |
| Phoenix | Arizona State University-COMPUGIRLS | | |
| Phoenix | Arizona's Children Association/NDI | | |
| Phoenix | Expect More Arizona | | |
| Phoenix | Girl Scouts - Arizona Cactus-Pine Council | | |
| phoenix | league for innovation | | |
| Phoenix | Stand for Children | | |
| Phoenix | Xavier | | |
| Phoenix | Xavier College Prep | | |
| Prescott | Yavapai College | | |
| Scottsdale | Arizona State University | | |
| Sierra Vista | University of Arizona South | | |
| Tempe | Association for Women in Science/ASU | | |
| Tucson | Arizona Technology Council - SciTech Festival | | |
| Tucson | Arizona's Children Association | | |
| Tucson | Arizona-Sonora Desert Museum | | |
| Tucson | AZ Dept of Education- 21st Century Community Learning Centers | | |
| Tucson | Blue Marble Institute/C4C Program | | |
| Tucson | Career and Technical Ed.,TUSD | | |
| Tucson | Catalina Magnet High | | |
| Tucson | Children's Museum Tucson | | |
| Tucson | Cholla High Magnet School | | |
| Tucson | College of Optical Sciences, Univ. of Arizona | | |

| | | | |
|---|---|---|---|
| Tucson | Environmental Education Exchange | | |
| Tucson | Flandrau Science Center | | |
| Tucson | Girl Scouts Southern Arizona-Sahuaro Council | | |
| Tucson | Girls Making Media | | |
| Tucson | IBM | | |
| Tucson | International Council on Systems Eng | | |
| Tucson | Mad Science of Pima County | | |
| Tucson | Metropolitn Education Commission | | |
| Tucson | National Optical Astronomy Observatory | | |
| Tucson | Office of the Pima County School Superintendent | | |
| Tucson | Pima Air & Space Museum | | |
| Tucson | Pima County Public Library | | |
| Tucson | SARSEF: SciEnK-12 Foundation | | |
| Tucson | Science Approach | | |
| Tucson | Solar Guild | | |
| Tucson | St. Cyril School | | |
| Tucson | SUSD / Los Ninos Elementary | | |
| Tucson | SWE Tucson (Society of Women Engineers) | | |
| Tucson | Tolson Elementary | | |
| Tucson | Tucson Unified School District | | |
| Tucson | TUSD/CTE | | |
| Tucson | UA College of Science | | |
| Tucson | University of Arizona | | |
| Tucson | Women in Science and Engineering | | |
| Tucson | Women's Chemistry Group, SAZACS | | |
| Vail | Tucson Chamber of Commerce SBG Committee | | |
| | Other, please specify name: | | |
| | Other, please specify name: | | |
| | Other, please specify name: | | |
| | Other, please specify name: | | |
| | | | |

**What is the name of the program or organization you are affiliated with?** If it is not on this list, please specify the name of the program or organization in the next question.

_____

**Other program or organization:** If it is not included on the above drop-down list, please specify the name of your program or organization here: _____

**What best describes the sector in which you work?**

- **K-12** Teacher/staff
- **K-12** Counselor
- **K-12** Administrator
- **Higher Education** Faculty/staff
- **Higher Education** Administrator
- **Informal Education/Community-Based or Non-profit Organization**
- **Informal Education** Museum/Science Center
- **Business/Industry**
- **Professional Organization**
- **Government Representative**
- **Researcher/Evaluator**
- **Other,** please specify: _____

**How many years have you been involved with work related to gender equity and/or STEM in Arizona?** (round to the nearest whole number): **_____ Years**

**Please indicate what NGCP activities you have participated in, to-date:**

- Attended the [DATE] Information Session about the launch of ASTEC
- Attended a previous NGCP Collaborative in-person event or the national NGCP Collaboration Conference in another state
- Participated in a previous NGCP webinar, either live or via the archive on the NGCP website
- Browsed the online NGCP Program Directory
- Entered my program or organization in the NGCP Program Directory
- Received the NGCP e-newsletter

**Do you directly serve girls (or girls and boys) in STEM in your work?**

- Yes
- No

**Please rate your level of knowledge of the following items on a scale from Poor to Excellent.**

| | Poor | Fair | Satisfactory | Good | Excellent |
|---|---|---|---|---|---|
| Knowledge of shared resources available from other programs related to serving girls in STEM | | | | | |
| Knowledge of exemplary or research-based practices related to serving girls in STEM | | | | | |

**Please indicate your level of agreement to the following statement.** *Select N/A if you do not work to engage girls in STEM.*

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | N/A |
|---|---|---|---|---|---|---|
| I feel isolated in my work to engage girls in STEM | | | | | | |

**Please indicate the degree to which there is there room for improvement in the following areas.**

| | No room for improvement | | Moderate room for improvement | | Lots of room for improvement | N/A |
|---|---|---|---|---|---|---|
| The level of impact of your program or organization in engaging girls in STEM | | | | | | |
| The level of efficiency of the work of your program or organization | | | | | | |

Any comments:

# National Girls Collaborative Project Case Study
# Collaborative Lead and Team Member Interview Protocol

**Introduction**: My name is [name] and I am from Evaluation & Research Associates (ERA), the external evaluators for the National Girls Collaborative Project (NGCP). This interview is part of a case study looking at the implementation and effects of NGCP on Collaborative Leadership Team members, participating programs, and your state or region overall. It should take about 30-45 minutes. Your responses are anonymous and confidential—identifying information will not be used in reporting. With your permission, I plan to record the interview so I can accurately capture your responses. Is that ok? [If Y, start recorder].

**Background**

*First, I have a few questions about your Collaborative work.*

1. [Lead only] Tell me, briefly, about the Collaborative Leadership Team: How many members are actively involved, what types of skills and regions are represented, and whether they are any gaps in terms of sectors, skills or geography. [Team member only] What has your role been on the Collaborative Leadership Team?

2. How is the work of the Collaborative Leadership Team distributed?

3. [1st interview] Does your Collaborative Leadership Team have a shared vision for your region?

4. What is the connection, if any, between your work on NGCP and your organization/other work? How has your organization supported your work on NGCP?

**Training and Support for of NGCP**

*The next questions ask about your experiences being trained to implement NGCP.*

1. [Team member only, 1st interview] How were you trained on the NGCP model: what Collaboration Institutes did you attend, or how were you trained from others on your Collaborative Leadership Team, if at all?

2. [2nd and 3rd interviews] What types of training or support on the NGCP model have you participated in since the last interview, such as webinars, support calls, reading the e-mails from the National Team, browsing the Collaboration Guide, accessing/reviewing resources on SharePoint, etc.?

3. What have proved to be the most valuable aspects of the training and support from NGCP?

4. How would you improve the training and ongoing support?

**NGCP Collaborative Activities**

*The next questions ask about your experiences being trained to implement NGCP.*

1. [Lead only] Tell me about your Collaborative Champions Board: Who is on it, how you have engaged them, and how they support the work of the Collaborative.

2. [Lead only, 1st interview] Describe outreach efforts to engage a diversity of participants in NGCP. By diversity, I'm referring to participants from different parts of your state, different types of work or organizations, different various areas of expertise, or those serving diverse youth populations in terms of ages, ethnicity and youth with disabilities. (Follow-up questions: What groups are you having difficulty reaching, if any? What are barriers to getting them involved?)

3. [Lead only, 2nd and 3rd interviews] Who is participating in NGCP in your Collaborative's activities? Consider the composition of the Program Directory entries, attendees at events and mini-grant recipients and their diversity in terms of geography, the work they do, and the populations they serve, such as rural/urban groups, youth with disabilities, ethnic diversity, age, and socio-economic status.

4. What inspires people to participate in the Collaborative?

5. What are the barriers to getting other people or different groups of people involved in Collaborative's activities?

6. [3rd interview] *Consider adding a question related to engaging K-12 counselors.*

7. [1st interview] What have you experienced or what do you foresee as challenges to the success of your implementation of the NGCP model?
8. [2nd and 3rd interviews] What have been challenges or barriers to the success of your implementation of the NGCP model and how have they been addressed?

9. Can you describe efforts related to building the sustainability of your Collaborative? These could include obtaining support via funding, in-kind resources, or partnerships, building the Collaborative Leadership Team, or doing long-term planning.

10. [2nd and 3rd interviews] Does your Collaborative have a plan for long-term sustainability? If not, have you discussed it? If so, briefly describe.

11. What do you see as barriers to the sustainability of your Collaborative?

**Networking, Resource Sharing and Collaboration**

*One goal of the project is to connect programs and those interested in getting girls involved in STEM, increasing collaboration and sharing of resources.*

1. [1st interview] Can you describe the current state of STEM programs and others who could support girls in STEM (such as businesses, professional organizations, and other community groups) and the degree to which they are aware of each other, sharing resources, or collaborating in your region?
2. [1st interview] How do you foresee your Collaborative increasing collaboration to support girls' engagement in STEM? What do you foresee as challenges to increasing collaboration?
3. [2nd and 3rd interviews] How has your Collaborative encouraged or supported collaboration among those interested in engaging girls in STEM?

4. [2nd and 3rd interviews] How have programs been affected by your efforts to increase collaboration? (Are they more aware of the benefits of collaboration/more likely to look for collaborative partners or shared resources/more likely to collaborate)? Can you share any specific examples?

5. [2nd and 3rd interviews] How are participants sharing resources or strategies from their programs with others through NGCP (such as at events or through mini-grants)? Can you share a specific example?

6. [1st interview] What do you hope is the impact of increased collaboration and resource sharing to support girls' engagement in STEM in your region?

7. [2nd and 3rd interviews] What factors, if any, have prevented this goal of increasing collaboration and sharing of resources from being better met?

**Exemplary Practices**

*Another goal of NGCP is to disseminate exemplary practices, based on research, related to engaging girls in STEM, evaluation/assessment, collaboration, and engaging underrepresented groups in STEM. This is done via the NGCP website, webinars, e-newsletter, in-person events, and mini-grants.*

1. [1st interview] How do you foresee this goal of building awareness and knowledge of exemplary practices being accomplished in your Collaborative?

2. [1st interview] What do you hope is the impact of increased awareness and knowledge of exemplary practices to engage girls in STEM?

3. [2nd and 3rd interviews] How has your Collaborative increased awareness and knowledge of exemplary practices in engaging girls in STEM, evaluation/assessment, collaboration, and engaging underrepresented groups in STEM to more effectively engage girls in STEM?

4. [2nd and 3rd interviews] If applicable, what is the impact of increased awareness or knowledge of exemplary practices on program's ability to effectively serve girls in STEM?

5. [2nd and 3rd interviews] What factors, if any, have prevented this goal from being better met?

**Impact**

*Finally, we are curious of other changes you have perceived as a result of being involved in NGCP.*

1. [1st and 3rd interviews] How have your experiences and what you've learned from NGCP affected **your work and/or the work of your organization**? Consider your knowledge in creating a network, disseminating resources, your awareness of existing programs, connections you have made, etc.

2. [3rd interview] How has NGCP affected your own level of knowledge or commitment to **collaboration,** including sharing of resources or ideas?

3. [3rd interview] How has NGCP affected your level of knowledge, commitment or involvement to **gender equity in STEM**?

4. [1st interview] How do you hope to impact girl-serving STEM programs in your state through NGCP?
5. [2nd and 3rd interviews] How have programs involved in NGCP in your region been impacted overall? Have they benefited and, if so, how? How has NGCP affected opportunities for girls and their engagement in STEM?

6. [2nd and 3rd interviews] How do you think the work of NGCP has affected attention to **gender equity issues related to STEM in your state**, if at all? Is NGCP part of a larger effort in your state or has it formed any key partnerships related to gender equity in STEM?

**Wrap-up**

1. Do you have any other comments about your Collaborative or NGCP in general?

# Appendix D:  Webinars

| Webinar Date | Subject | Registered | Attendees | Survey Respondents |
|---|---|---|---|---|
| 4/7/2011 | Engaging and Supporting Latinas in Science, Technology, Engineering, and Mathematics | 141 | 52 | 32 |
| 6/16/2011 | The Society of Women Engineers and 4-H: Resources and Partnerships to enhance girl-focused STEM programming | 111 | 44 | 27 |
| 9/28/2011 | Making Programs More Inclusive and Accessible for Youth with Disabilities | 94 | 35 | 15 |
| 11/9/2011 | Girls RISEnet: Strategies to Build Capacity to Engage Minority Girls | 119 | 63 | 30 |
| 1/26/2012 | Mixing in Math: Enhancing Everyday Activities to Build Confidence and Competence in Mathematics | 83 | 54 | 22 |
| 2/8/2012 | Biology in the Age of Computing: Online Resources for High School Teachers and Students | 45 | 28 | 11 |
| 2/22/2012 | Engaging Underserved Youth: Strategies for Family Involvement | 87 | 37 | 21 |
| 2/27/2012 | Bringing STEM Learning to Public Libraries: Collaboration and Resources for Librarians (STAR-NET) | 225 | 141 | 47 |
| 3/14/2012 | Effective Tools You Can Use to Change the Image of Computing Among Girls | 108 | 50 | 19 |
| 3/28/2012 | Finding Funding and Resources to Support Your Program | 150 | 62 | 19 |
| 6/5/2012 | Is Your Website Accessible? How Do You Find Out? | 123 | 71 | 12 |
| 9/19/2012 | NGCP Extended Webinar Session: Increasing Program Impact: Best Practices in Collaboration | 83 | 59 | 17 |
| 11/28/2012 | Online Resources and Tools: Using the New NGCP Website to Build Program Capacity | 43 | 20 | 9 |
| 1/23/2013 | Recruiting, Training, and Retaining Role Models to Inspire Girls in STEM | 147 | 72 | 34 |
| 6/12/2013 | Mission Solar System: Engaging Girls in Engineering and Space Careers | 58 | 26 | 13 |
| 9/26/2013 | Increasing Equity and Diversity in the STEM Workforce: Understanding the Issues and Strategies for Addressing It | 165 | 77 | 23 |
| 11/14/2013 | Messaging, Marketing and Media to Engage Girls in STEM | 175 | 74 | 20 |
| 1/9/2014 | Ignite Girls' Interest in STEM through Role Models: Stories & Strategies from the NGCP's FabFems Project | 120 | 53 | 19 |
| 3/31/2014 | Inspiring the Next Generation of Manufacturing Leaders | 96 | 52 | 11 |
| 9/5/2014 | STARS: Students Tackling Authentic & Relevant Science | 176 | 78 | 37 |
| 10/2/2014 | An Introduction to the Smithsonian Latino Virtual Museum's Teacher Toolkit | 74 | 37 | 11 |
| 11/19/2014 | STEM Equity in Practice: Reflecting on a Mini-Grant Partnership | 81 | 42 | 10 |
| 1/28/2015 | Breaking Stereotypes: How Role Models and Mentors are Inspiring Girls in STEM | 175 | 75 | Not evaluated |
| 4/23/2015 | Connecting with Community Partners with Click2SciencePD and The Connectory | 199 | 85 | Not evaluated |
| 9/23/2015 | Smithsonian Latino Virtual Museum (LVM) Webinar | 60 | 14 | Not evaluated |

| Webinar Date | Subject | Registered | Attendees | Survey Respondents |
|---|---|---|---|---|
| 9/30/2015 | Using Narrative to Engage Young Women in STEM | 195 | 81 | Not evaluated |
| | | | | |
| 11/2/2015 | Smithsonian Latino Virtual Museum (LVM) Webinar: Celebrating Día de los Muertos | 57 | 28 | Not evaluated |
| 1/13/2016 | National Women's History Month Webinar | 190 | 75 | Not evaluated |