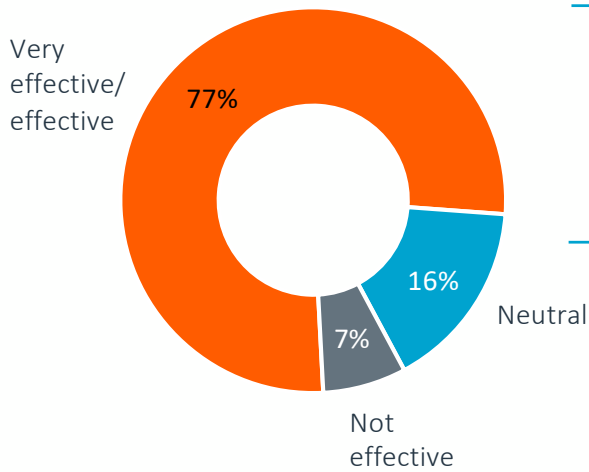# CompTIA Spark Impact Study:
An Analysis of the TechGirlz Program

Evaluation of CompTIA Spark TechGirlz Program

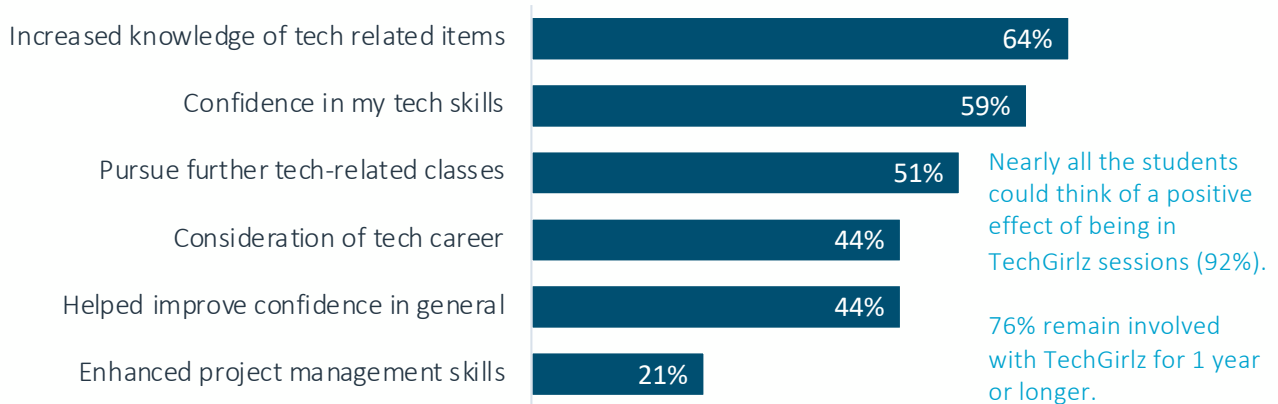## Effectiveness in increasing knowledge/interest in tech

Very effective/effective **77%**

16% Neutral

7% Not effective

The great majority of participants going through the CompTIA Spark TechGirlz program benefit in some way. For instance, more than 3 in 4 students note that the TechGirlz workshops are effective overall in increasing their knowledge of or interest in tech. This includes nearly a third who rate it very effective (32%).

More specifically, there are many positives of the TechGirlz experience. About 6 in 10 students claim that participation in the program improved their confidence in their tech skills/abilities (59%). And with nearly half stating it helped to improve their confidence in general (44%), it's a worthy avenue for addressing the confidence gap which is a perceived barrier to considering a career in tech for too many. (See page 6 for more on this topic and the CompTIA Spark Student Perspectives of Technology and Careers study.)

Areas of positive influence

Area	Percentage
Increased knowledge of tech related items	64%
Confidence in my tech skills	59%
Pursue further tech-related classes	51%
Consideration of tech career	44%
Helped improve confidence in general	44%
Enhanced project management skills	21%

Nearly all the students could think of a positive effect of being in TechGirlz sessions (92%).

76% remain involved with TechGirlz for 1 year or longer.
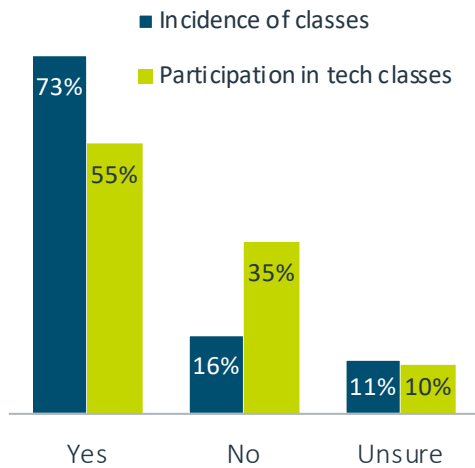
What TechGirlz say about their experience

Positive Experiences with TechGirlz: Many participants express their enjoyment and satisfaction with the TechGirlz program. They appreciate the opportunity to learn about technology and coding in a supportive and fun environment.

Interest in Technology and Coding: Several respondents indicate that their participation in TechGirlz sparked or enhanced their interest in technology, coding, and computer science. Some even mention that they are considering or have chosen a career in the tech field because of their experiences with TechGirlz.

Desire for More Advanced and Diverse Programs: Some students express a desire for more advanced classes and programs, especially for older students. They also suggested more diverse topics, such as robotics, AI, and video game creation. Some would like to have more in-person classes.

Confidence and Empowerment: Several participants note that TechGirlz boosted their confidence, particularly in a field that is often male-dominated. They felt empowered to pursue their interests in tech.

Appreciation for TechGirlz: Many students express gratitude for the opportunities provided by TechGirlz. They appreciate the exposure to different tech fields and the skills they gained.

"Being able to experience coding and learning in a fun way how to code was interesting and fun."

Tech Education and TechGirlz Participants

Incidence of tech education and participation in classes

- Incidence of classes
- Participation in tech classes

	Yes	No	Unsure
Incidence of classes	73%	16%	11%
Participation in tech classes	55%	35%	10%

Almost 3 out of 4 middle and high school students responding to this study are in schools that offer tech/digital literacy classes. This is in line with what the more general US student population report in the CompTIA Spark <u>Student Perspectives of Technology and Careers</u> international study.
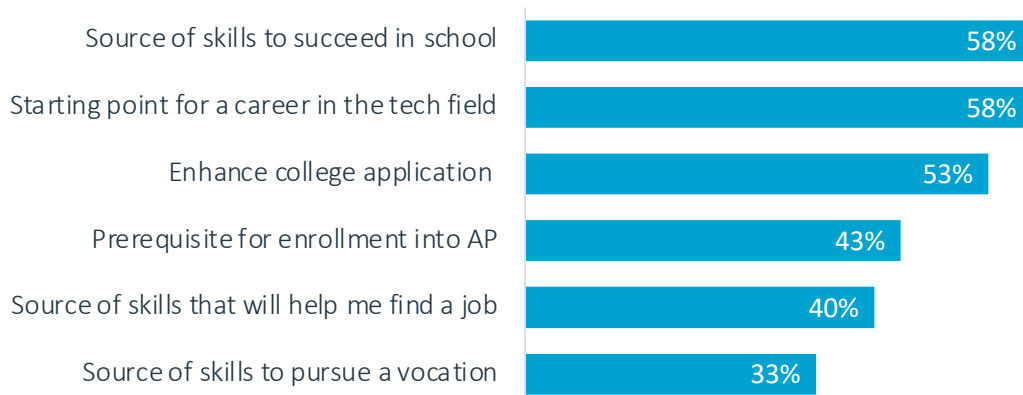
A little over half of these middle and high school students report they are currently taking a technology or digital skills class (55%).

56%

Most indicate that tech classes are classified as electives. There is a difference by grade level – tech classes are electives more in high school (70%) versus middle school (40%). Whereas these classes are more of a requirement at the middle school level.
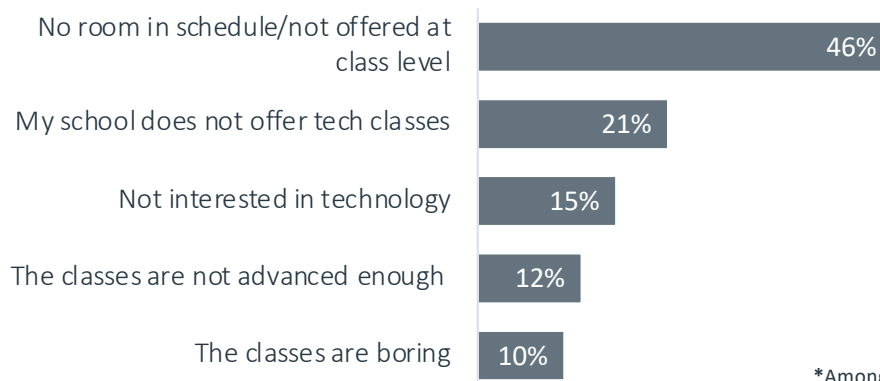
"I really enjoyed the skills I gained and am certain they will be very useful to me in my future career and life experience."

Benefits of taking tech classes in high school*

Source of skills to succeed in school	58%
Starting point for a career in the tech field	58%
Enhance college application	53%
Prerequisite for enrollment into AP	43%
Source of skills that will help me find a job	40%
Source of skills to pursue a vocation	33%

"I would say that TechGirlz has introduced me to tech. Though I am not currently actively doing things with TechGirlz it gave me the push to pursue a career in tech."
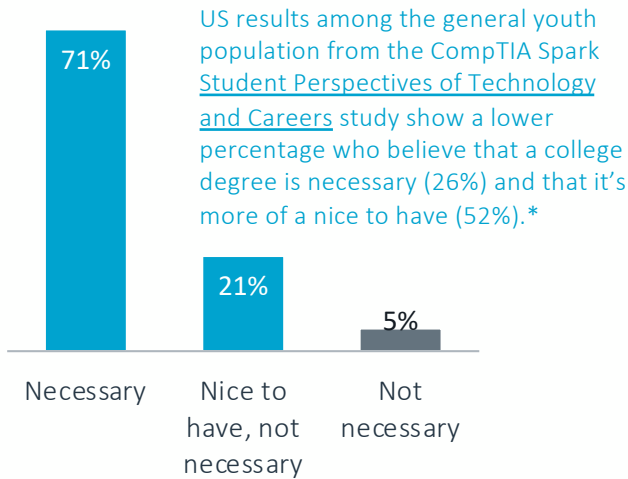
Reasons for not taking tech classes in school*

No room in schedule/not offered at class level	46%
My school does not offer tech classes	21%
Not interested in technology	15%
The classes are not advanced enough	12%
The classes are boring	10%

*Among those in high school or not currently taking tech classes in school.
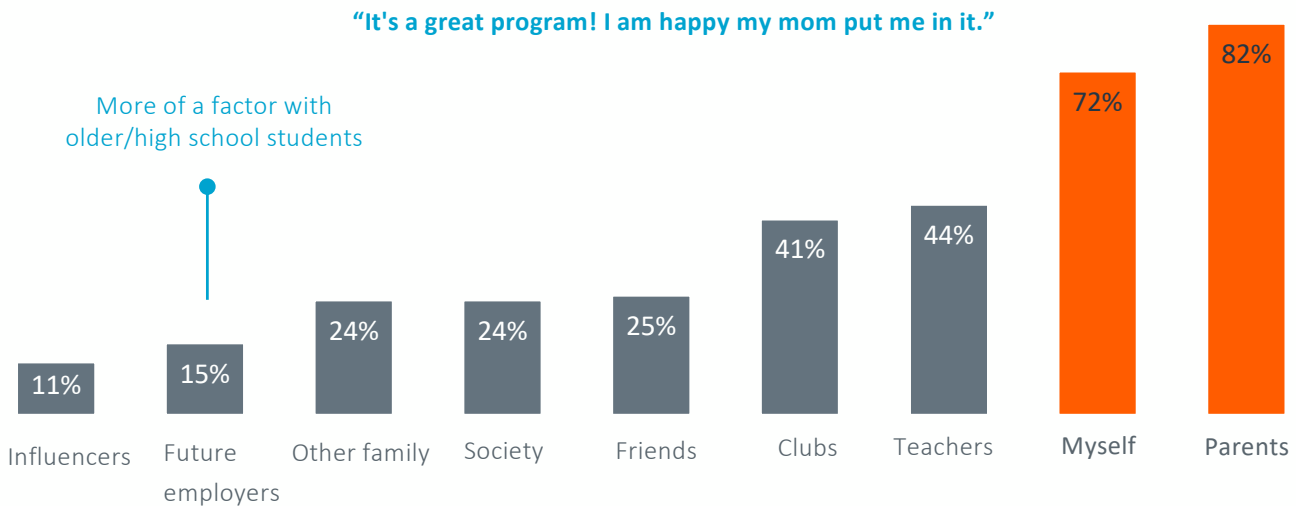
Career Aspirations and Views on 4-year College

Most of these students see a 4-year college degree as necessary for future career

US results among the general youth population from the CompTIA Spark Student Perspectives of Technology and Careers study show a lower percentage who believe that a college degree is necessary (26%) and that it's more of a nice to have (52%).*

- 71% Necessary
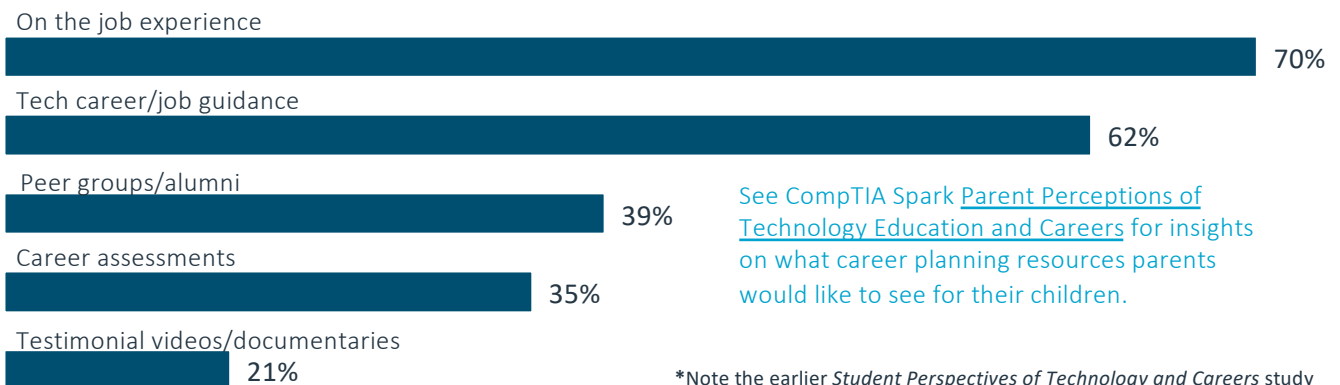- 21% Nice to have, not necessary
- 5% Not necessary

Top factors TechGirlz think may contribute to shifting perceptions on the necessity of college

1. Cost of attending 4-year college
2. Alternatives such as certifications/credentials
3. Opportunities for entrepreneurship
4. Alternatives such as 2-year college
5. Difficulty of getting into school of choice
6. Difficulty of completing degree

Influences on choosing career/education path

"It's a great program! I am happy my mom put me in it."

More of a factor with older/high school students

- Influencers 11%
- Future employers 15%
- Other family 24%
- Society 24%
- Friends 25%
- Clubs 41%
- Teachers 44%
- Myself 72%
- Parents 82%

Resources students will consider for tech education/career

- On the job experience — 70%
- Tech career/job guidance — 62%
- Peer groups/alumni — 39%
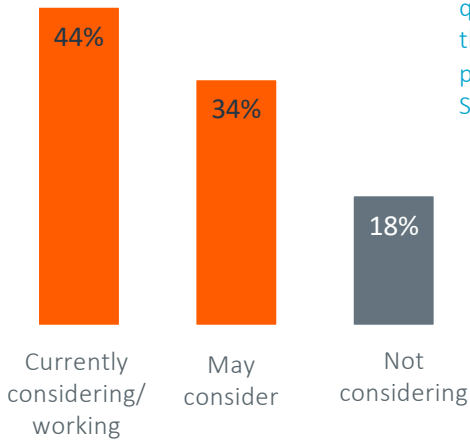- Career assessments — 35%
- Testimonial videos/documentaries — 21%

See CompTIA Spark Parent Perceptions of Technology Education and Careers for insights on what career planning resources parents would like to see for their children.

*Note the earlier Student Perspectives of Technology and Careers study was among youth 13-18 years of age who weren't necessarily in any tech classes/workshops, and included an even mix of females and males.

Interest in a Career in Technology

Tech career consideration

44% Currently considering/working

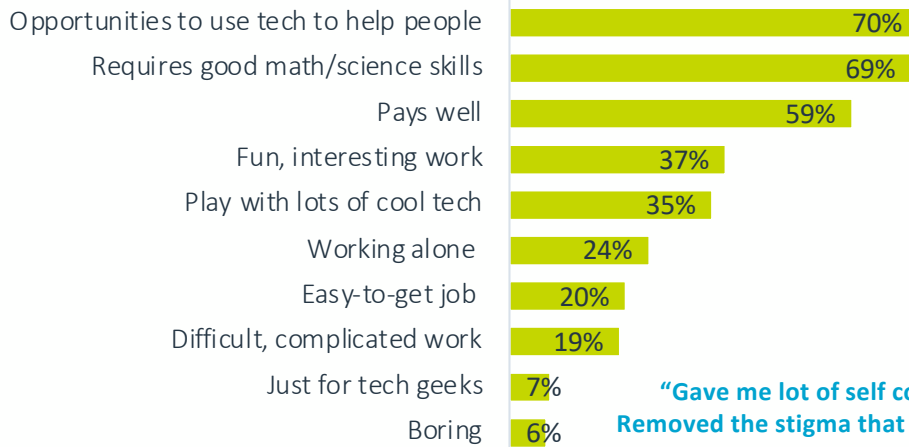**34%** May consider

18% Not considering

A career in some facet of technology is something more than three-quarters of TechGirlz participants are considering or may consider in the future (78% net). This percentage is notably greater than the proportion of general population youth surveyed for the CompTIA Spark Student Perspectives of Technology and Careers study (48% net).

56% Most TechGirlz students/alumni have decided (definitely/somewhat) the career they would like to pursue. About a third (35%) are still considering a number of options. There are no differences between middle and high school students on this matter.

What TechGirlz think about a job in tech

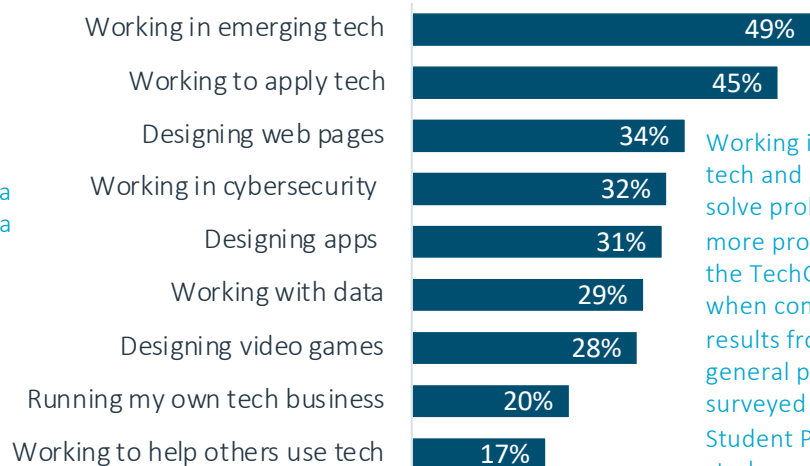|	
Opportunities to use tech to help people	70%
Requires good math/science skills	69%
Pays well	59%
Fun, interesting work	37%
Play with lots of cool tech	35%
Working alone	24%
Easy-to-get job	20%
Difficult, complicated work	19%
Just for tech geeks	7%
Boring	6%

7 in 10 personally know someone who works in the tech sector – previous CompTIA studies have highlighted the importance of students actually knowing someone who works in the field.

"Gave me lot of self confidence. Removed the stigma that it's geek job."

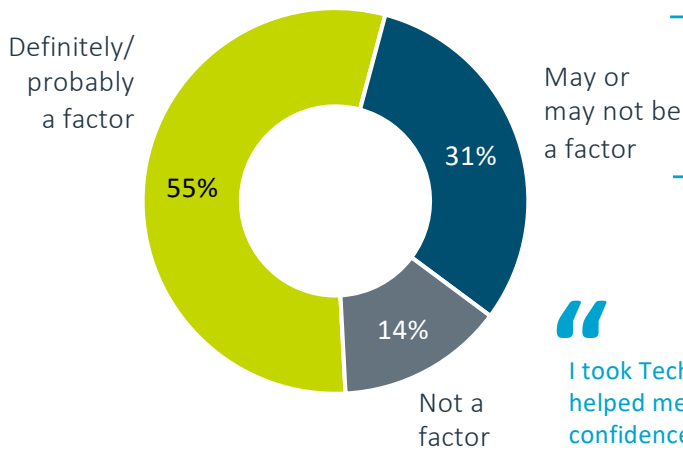## Areas that students might work in

8 in 10 TechGirlz participants have been encouraged to pursue a career in technology. This is a far greater proportion than the broader youth population covered in the aforementioned Student Perspectives of Technology and Careers report.

Working in emerging tech	49%
Working to apply tech	45%
Designing web pages	34%
Working in cybersecurity	32%
Designing apps	31%
Working with data	29%
Designing video games	28%
Running my own tech business	20%
Working to help others use tech	17%

Working in emerging tech and using tech to solve problems is more prominent with the TechGirlz sample when compared to results from the more general population surveyed in the Student Perspectives study.

"I got to learn about many different kinds of tech like AI and other kinds of tech besides just coding."

The 'Confidence Gap' and Other Perceived Barriers to Pursuing a Career in Technology

Definitely/ probably a factor 55%

May or may not be a factor 31%

Not a factor 14%

The confidence gap can be described as the often mistaken belief that working in tech is not accessible or there are other real or perceived barriers that discourage consideration of a career in tech.

The matter of a confidence gap is more of an issue for older respondents – 43% of college or older students think it is definitely a factor when compared to only 18% of middle schoolers who feel the same way.
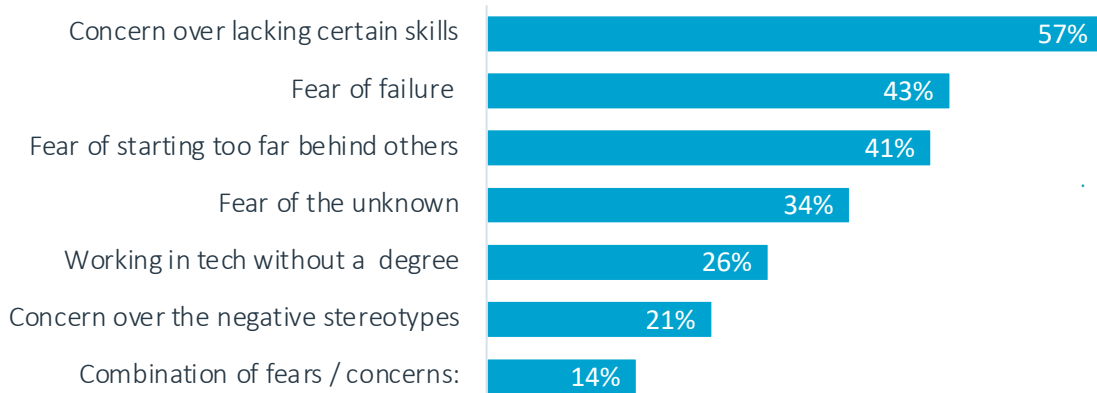
" I took TechGirlz classes, camps and workshops from 6th-8th grade. It helped me learn lots of skills with like-minded girls. It gave me confidence in programming and to discover how much I like it. I definitely want to work in a tech field because of everything I learned through my time taking TechGirlz classes."

Challenges TechGirlz think one may face in pursuing a tech career

1. Cost/lack of affordable training (47%)
2. Lack of mentors/guidance (44%)
3. Lack of prep/exposure to tech in high school (43%)
4. Gender stereotypes (38%)
5. Lack of confidence to pursue tech career (35%)

6. Difficult to enter tech field (30%)
7. Balancing work or school and life (27%)
8. Biased/limited curriculum (19%)
9. Societal norms and pressures (18%)
10. Limited job opportunities in local area (14%)

"I liked the program because it uplifts females that would like to pursue a field that is male dominated. I love to network and meet new people."

Elements of the confidence gap that hinder participation in technology

Concern over lacking certain skills	57%
Fear of failure	43%
Fear of starting too far behind others	41%
Fear of the unknown	34%
Working in tech without a degree	26%
Concern over the negative stereotypes	21%
Combination of fears / concerns:	14%

"I think we need more organizations like TechGirlz that give exposure to tech in a friendly way! TechGirlz has boosted my confidence!"

Profiling and Methodology

Methodology

The CompTIA Spark Impact Study among alumni helps the group gain a better understanding how the TechGirlz program may have influenced their education or career choices. The child who attended the TechGirlz programs was asked to take the survey.

The quantitative study consisted of an online survey fielded to Tech Girlz alumni from the past 5 years during July-August 2023. A total of 177 respondents participated in the survey, yielding an overall margin of sampling error at 95% confidence of +/- 7.3 percentage points. This survey was fielded in the United States.

As with any survey, sampling error is only one source of possible error. While non-sampling error cannot be accurately calculated, precautionary steps were taken in all phases of the survey design, collection and processing of the data to minimize its influence.

CompTIA is responsible for all content and analysis. Any questions regarding the study should be directed to CompTIA Research and Market Intelligence staff at research@comptia.org.

CompTIA is a member of the market research industry's Insights Association and adheres to its internationally respected Code of Standards and Ethics.

About CompTIA Spark and TechGirlz

CompTIA Spark, a registered 501 (c)(3) nonprofit, is a social impact organization that works to unlock people's potential in technology. It aims to bring high quality tech education to youth – whatever their background – making tech exciting, accessible and inclusive while building skills and confidence for life. CompTIA spark was founded in 1998 by CompTIA, the nonprofit association for the IT industry and workforce. Learn more at https://comptiaspark.org.

Powered by CompTIA Spark, TechGirlz inspires middle school girls to explore the possibilities of technology – giving them new skills, empowering them to solve real-world challenges, and opening their minds to new opportunities. Learn more at https://techgirlz.org.

Respondent Age

8%	11 years or younger
17%	12
16%	13
19%	14
12%	15
10%	16
18%	17+ years

Respondent Race/Ethnicity

18%	African American/Black
4%	American Indian/Alaskan Native
28%	Asian/Pacific Islander
8%	Hispanic/Latino
31%	White
10%	Two or more
2%	Other

Type of School

61%	Public school
12%	Charter school
14%	Private school
6%	Magnet/alternate/online
7%	Other

Grade in September 2023

10%	6th
14%	7th
17%	8th
19%	9th
11%	10th
15%	11th (11%) or 12th (4%)
11%	College/university
3%	Not currently a student

Respondent Gender

95%	Female
4%	Male
1%	Non-binary/third gender