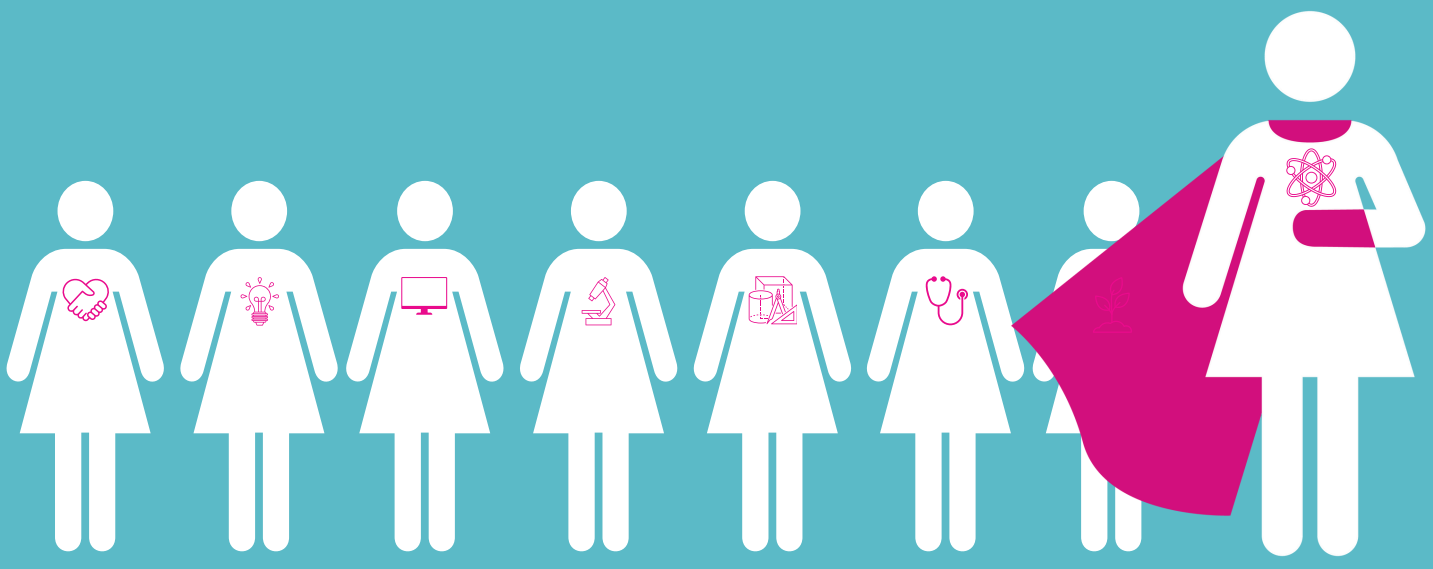
RULING OUR EXPERIENCES

2024

IMPACT REPORT

# THE GIRLS' INDEX:™ GIRLS & STEM

BY RULING OUR EXPERIENCES (ROX)



The Girls' Index™: Girls & STEM Impact Report was made possible by the STEM champions at:



# Foreword

As the President and CEO of Battelle, I am honored to introduce "The Girls' Index™: Girls & STEM Impact Report." This groundbreaking study, conducted by Ruling Our eXperiences (ROX), offers critical insights into the experiences, perceptions and aspirations of girls in STEM fields. At Battelle, we recognize that fostering diversity and inclusion in STEM is not just a moral imperative but a strategic necessity for driving innovation and solving global challenges.

The findings of this report are both encouraging and sobering. On one hand, we see a significant increase in girls' interest in STEM careers, with 55% now considering this path compared to 45% in 2017. This progress is a testament to the collective efforts of educators, advocates, and industry leaders who have worked tirelessly to inspire and engage young women in STEM.

However, the report also reveals persistent barriers that we must address. The decline in girls' confidence in their STEM abilities, despite their growing interest, is particularly concerning. When only 59% of girls believe they are good at math and science – down from 73% in 2017 – we know we have more work to do. This gap between interest and self-belief underscores the need for targeted interventions that boost both skills and confidence.

As a leader in science and technology, Battelle is committed to breaking down these barriers. We believe that every girl with an interest in STEM should have the opportunity to pursue her dreams, regardless of background or circumstances. This report provides us with a roadmap for action, highlighting the need to reframe STEM careers as pathways for making a difference in the world, nurturing confidence alongside competence and dismantling persistent stereotypes.

The future of innovation depends on our ability to tap into the full spectrum of talent and perspectives. By supporting girls in STEM, we're not just filling a pipeline – we're unleashing a wave of creativity, problem-solving, and leadership that will shape our world for generations to come.

I want to thank ROX for their rigorous research and commitment to empowering girls. This report is more than just data; it's a call to action for all of us in the STEM community. At Battelle, we're proud to support this important work and we're dedicated to turning these insights into meaningful change.

Together, let's build a future where every girl sees herself as a potential STEM leader, innovator, and world-changer. The challenges we face as a society are great, but so is the potential of the young women who will help us solve them.

Lewis Von Thaer
President and CEO, Battelle

# Introduction

I am thrilled to present The Girls' Index™: Girls & STEM Impact Report 2024. As the founder and CEO of Ruling Our eXperiences (ROX), I have dedicated nearly two decades to understanding and empowering girls through research, programming, and advocacy.

This report represents a significant milestone in our ongoing mission to create generations of confident girls who control their own relationships, experiences, decisions, and futures. Building on our groundbreaking 2017 Girls' Index™ study, which surveyed over 10,000 girls, we have expanded both our survey and sample size to gain deeper insights into girls' perceptions, aspirations, and challenges in STEM fields.

The data presented in this report paints a nuanced picture of girls' experiences with STEM. On one hand, we see tremendous potential and readiness among girls to embrace STEM opportunities. Their interest in these fields has grown significantly since our initial study. On the other hand, we observe concerning trends in girls' confidence levels, particularly during the critical middle school years, which can profoundly impact their perceptions of their abilities in math and science.

This report is more than just numbers and statistics. It is a call to action for educators, parents, policymakers, and all those invested in nurturing the next generation of female STEM leaders. By understanding where girls need our support, we can develop targeted strategies to bolster their confidence, challenge stereotypes, and create pathways for success in STEM careers.

It is my sincere hope that the insights gleaned from this research will inform, inspire, and mobilize efforts to create a more equitable and supportive environment for girls in STEM. Together, we can empower girls to pursue their interests, realize their potential, and shape the future of innovation and discovery.

For the good of girls everywhere,



Lisa Hinkelman, Ph.D., LPC
Founder and CEO, Ruling Our eXperiences (ROX)

**The Girls' Index™: Girls & STEM Impact Report presents key findings on personal experiences, school life, and STEM-related topics from The Girls' Index™ – our comprehensive national survey of 17,502 U.S. girls.**

The Girls' Index™ is the
**FIRST-OF-ITS-KIND**
and
**LARGEST**
national survey designed to develop a deeper understanding of the thoughts, experiences, perceptions, beliefs and behaviors of girls throughout the United States.

The Girls' Index™: Girls & STEM Impact Report examines girls' interest in and affinity toward STEM subjects and careers, their connection to school and their beliefs about their own abilities and opportunities.

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THE GIRLS' INDEX™: GIRLS & STEM

# Table of Contents


OVERALL KEY FINDINGS ..... 07

PARTICIPANTS ..... 08

CONFIDENCE ..... 11

STEM INTEREST & ABILITY ..... 15

PERCEPTIONS & STEREOTYPES ..... 19

SCHOOL & SUPPORT ..... 23

RECOMMENDATIONS ..... 27

ABOUT THE GIRLS' INDEX™ ..... 31


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# Overall Key Findings

Ruling Our eXperiences (ROX) partnered with schools across the United States to survey 17,502 girls in 5th through 12th grade. The following key findings relate to girls' perceptions, beliefs and abilities on interpersonal, academic and STEM-related concepts.

## 1 Girls' interest in pursuing a career in STEM is increasing

Since the 2017 Girls' Index™, overall rates of girls' interest in STEM increased from 45% to 55%. The greatest gains in STEM interest were among 5th and 6th grade girls – with nearly a 20% gain.

## 2 Girls' perceptions of their abilities in STEM subjects are declining

Since 2017, girls are less likely to believe they are good at STEM subjects such as math and science. Currently, 59% of girls believe they are good in math and science, down from 73% in 2017.

## 3 86% of girls want a career that helps others

Girls overwhelmingly report that they want a career that helps others, however far fewer (49%) report that they are considering a STEM career AND a career that helps others.

## 4 Race and income level do not impact STEM interest; confidence does

STEM interest did not vary markedly across race or socioeconomic status. There is a 3% variance in STEM interest across income levels and 8% between racial categories (i.e. 55% of white girls report they are considering a STEM career vs. 63% of Asian girls). Confident girls were nearly 20% more likely to report STEM interest.

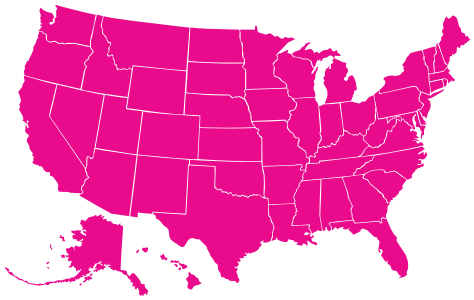
## 5 Girls do not believe they are smart enough for their dream job

58% of 9th-12th grade girls report that they do not believe they are smart enough for their dream job, up from 46% in 2017. Among 5th and 6th grade girls, it is 52% – up from 23% in 2017.

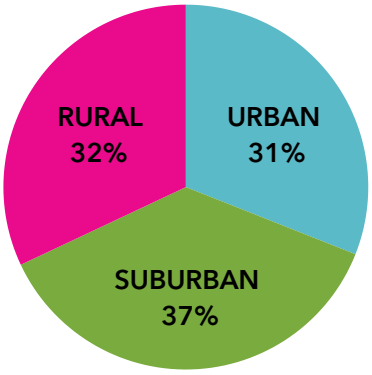
## 6 89% of girls are under pressure to fit into specific roles or stereotypes

The majority of girls report feeling pressured to fit into the specific stereotypes that are thought to be appropriate and expected for girls and women.

# THE GIRLS' INDEX™ PARTICIPANTS



ROX partnered with K-12 schools throughout the United States to survey 17,502 girls in grades 5 through 12 during 2022 and 2023.

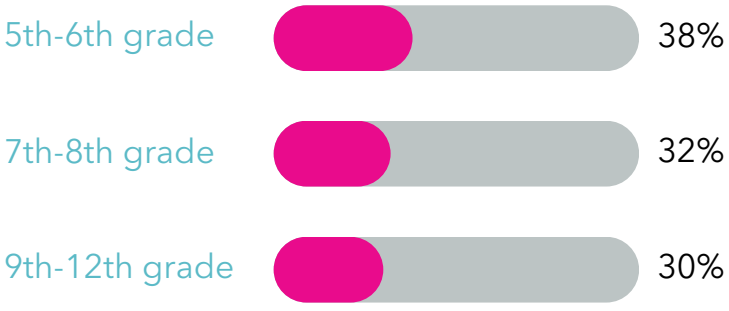



## Geographic Regions

The schools that girls attended were categorized as urban, suburban or rural. Thirty-seven percent of participants attend suburban schools, 32% rural and 31% urban.

## Age

Girls in grades 5-12 participated in The Girls' Index™ with 38% of participants in grades 5 and 6; 32% in grades 7 and 8; and 30% in grades 9-12.



# THE GIRLS' INDEX™ PARTICIPANTS

## The majority of The 2023 Girls' Index™ participants attend public schools.

While girls in all types of schools participated in The Girls' Index™, most (90%) attend public schools. 7% attend charter schools and 3% attend private or parochial schools.

### Socioeconomic Status of Schools

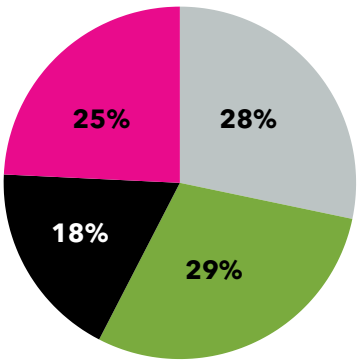
% of participants in The 2023 Girls' Index™ who attend the following schools:

**High Poverty**
76% or more students receive free or reduced-cost lunch

**Mid-High Poverty**
51-75% of students receive free or reduced-cost lunch

**Medium Poverty**
26-50% of students receive free or reduced-cost lunch

**Low Poverty**
0-25% of students receive free or reduced-cost lunch




| Ethnicity | The Girls' Index™ | The 2020 U.S. Census |
|---|---|---|
| Asian | 4.9% | 5.9% |
| Black or African American | 18.6% | 12.1% |
| Hawaiian Native/Pacific Islander | 0.3% | 0.2% |
| Hispanic/Latina | 16% | 18.7% |
| Multiracial | 3.2% | 3% |
| Native American or American Indian | 2.8% | 1.3% |
| White/Caucasian | 53.7% | 57.8% |
| Other | 0.4% | N/A |

In the
United States,
women comprise

**35%**

of the
STEM workforce.

The Society of Women Engineers, 2023.

# CONFIDENCE
## KEY FINDINGS

### 1 Overall, girls' confidence has declined since 2017

13% fewer girls described themselves as confident in this research compared to 2017. 5th grade girls experienced the steepest decline, dropping from 86% to 68%.

### 2 Confident girls are more likely to consider a STEM career

Confidence connects to STEM interest for girls. Across age groups, confident girls were 20% more likely to be interested in a STEM occupation than their less confident peers.

### 3 Girls do not believe they are smart enough for their dream job

58% of 9th-12th grade girls report that they do not believe they are smart enough for their dream job, up from 46% in 2017. Among 5th and 6th grade girls, it is 52%, up from 23% in 2017.

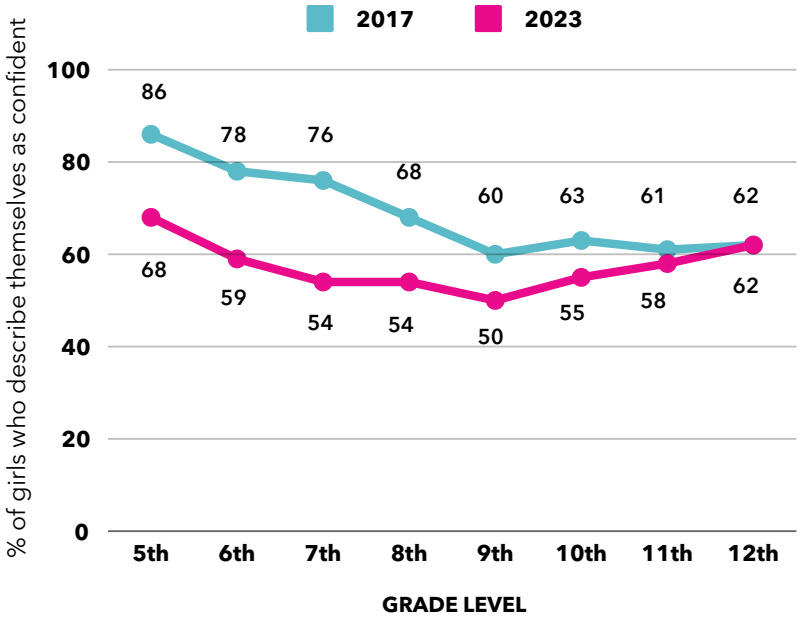
### 4 School belonging and acceptance bolsters girls' confidence

Girls who feel like they belong at school are seven times more likely to also describe themselves as confident. Also, girls who "feel like they can be their true self around people at school" report higher confidence.

GIRLS' CONFIDENCE DECLINES AS THEY GET OLDER, and their belief in their own abilities and opportunities shifts as well. While most girls believe that they are "good at a lot of things" (75%), they don't see themselves as smart enough for their dream career. Confidence is connected to girls' perceptions of their own abilities and their individual decision making. Support and belonging help bolster girls' confidence.

# CONFIDENCE

The percentage of girls who rate themselves as confident is significantly less than it was in 2017, particularly for girls in 5th through 8th grade.



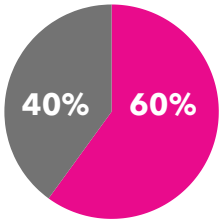

**Girls' confidence drops significantly from 5th to 9th grade and does not fully rebound during high school.**

**5th grade girls' confidence declined 18% since 2017**

GIRLS' PERCEPTIONS OF THEIR OWN CONFIDENCE IS RELATED TO THEIR STEM INTEREST. Girls who report that they are a "confident person" are also more likely to report that they are considering a career in STEM.

Across age groups, confident girls were 20% more likely to be interested in a STEM occupation, indicating a need to bolster girls' confidence alongside efforts to increase STEM interest and STEM identity development.

**Confident girls are 20% more likely to be considering a STEM career.**

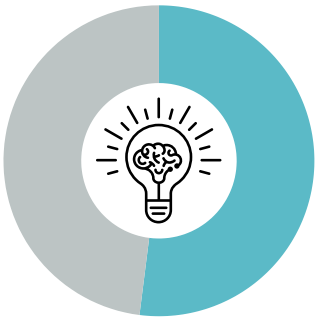



Among girls who are considering a career in STEM, 60% describe themselves as confident.

# CONFIDENCE

AS GIRLS PROGRESS THROUGH ADOLESCENCE there is a concerning trend in how they perceive their own abilities and potential. This shift goes beyond mere self-confidence ("how I think about myself") and delves into the realm of self-efficacy ("what I believe I am capable of.")

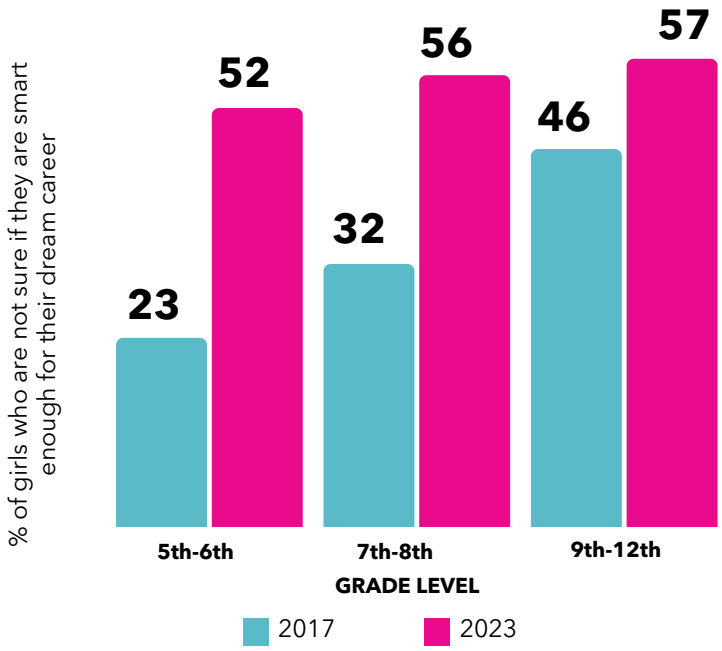
Since 2017, there has been a significant decline in both self-confidence and self-efficacy among girls as reported by The Girls' Index™. The trend was the most pronounced amongst the youngest girls, where the percentage of 5th-6th grade girls who question whether they are smart enough for their dream job nearly doubled. This data indicates that girls begin to doubt their capacity to succeed in certain disciplines or occupations early in their educational pursuits, not just doubt their current performance or worth.



**52%**

**% of 5th - 6th grade girls who are not sure if they are smart enough for their dream job, up from 23% in 2017.**

**Since 2017, there has been a significant decline in both self-confidence and self-efficacy among girls.**




Overall, the majority of girls surveyed in The Girls' Index™ report that they are unsure if they are smart enough for their dream job.

Among every age group surveyed, the percentage of girls who question their abilities has increased since 2017, with the steepest increases among the 5th and 6th grade girls.

Women hold

**25%**

of computer & mathematical sciences jobs and

**16%**

of engineering jobs in the United States.

PEW Research Center, 2021.

# STEM INTEREST & ABILITY

## KEY FINDINGS

### 1 Girls' STEM interest is increasing and persists as girls get older

Since The 2017 Girls' Index™, girls are 10% more likely to report that they are considering a career in STEM. Their STEM interest is staying consistently high throughout 5th-12th grade.

### 2 Girls' perceptions of their abilities in STEM subjects are declining

Girls' overall perceptions of their abilities in math and science have declined since 2017. Currently 59% of girls report that they are good at math and science, down from 73%.

### 3 Socioeconomic status (SES) does not impact STEM interest

Girls of all SES backgrounds report high STEM interest. 55% of girls at the most affluent schools are considering a STEM career vs. 52% of girls who attend schools with the highest levels of poverty.

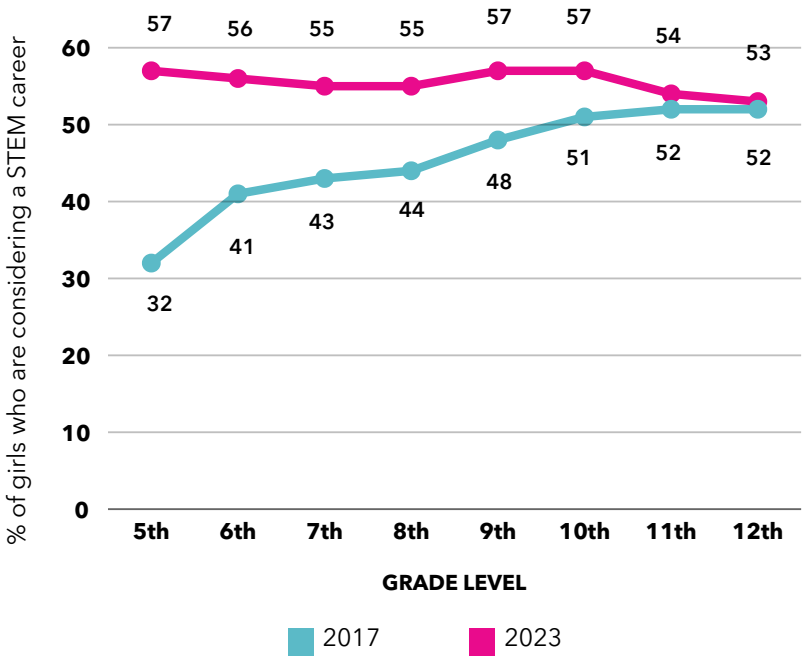
### 4 Girls of color report higher STEM interest than their white peers

Across demographics, White/Caucasian girls were the least likely to report that they are considering a STEM career (55%) and Asian girls were the most likely (63%). Hispanic/Latina (59%), Black/African American (56%) and Multiracial (56%).

OVERALL GIRLS REPORT HIGH LEVELS OF INTEREST IN STEM CAREERS. The Girls' Index™ shows that girls' enthusiasm for STEM does not fade as they move through middle and high school, contrary to previous assumptions. Girls from different economic backgrounds and racial groups are highly interested in STEM, challenging ideas about who tends to like science and technology fields. However, even though girls stay interested in STEM, they become less confident about how good they are at subjects such as math and science as time goes on. So while their curiosity stays strong, their belief in their own abilities declines.

# STEM INTEREST & ABILITY

Girls' interest in STEM remains consistent as they progress through school with an average of 55% of girls reporting that they are considering a career in a STEM field, up from 45% in 2017.

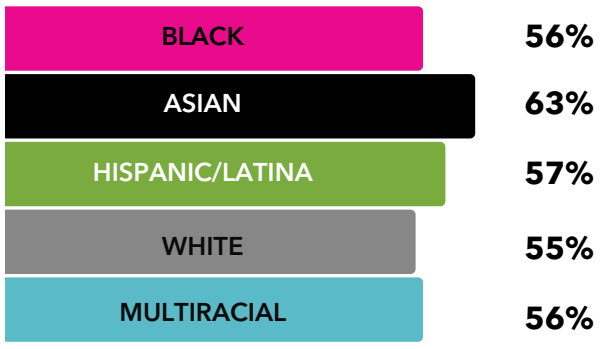



**Since 2017, 10% more girls reported that they are considering a STEM career.**

**5th grade girls showed the most significant rise in STEM interest, with a 25% increase according to The Girls' Index™.**

Girls' interest in STEM fields is high and is rising. The Girls' Index™ found minimal differences in STEM enthusiasm across socioeconomic groups (~3% variance) and small variance among racial categories (~8%). Notably, the youngest girls surveyed showed the most significant increases in STEM interest, with 5th graders leading the way with a 25% increase since 2017.

**Overall, girls reported high interest in pursuing a career in a STEM field.**

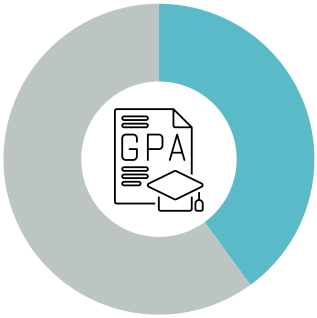



% of girls who are considering a STEM career

# STEM INTEREST & ABILITY

THE GIRLS' INDEX™ DATA REVEALS A DECLINE IN GIRLS' CONFIDENCE IN BEING 'SMART ENOUGH' FOR THEIR DREAM CAREERS. This drop in self-assurance is mirrored in their attitudes towards math and science, subjects generally considered essential for STEM fields.

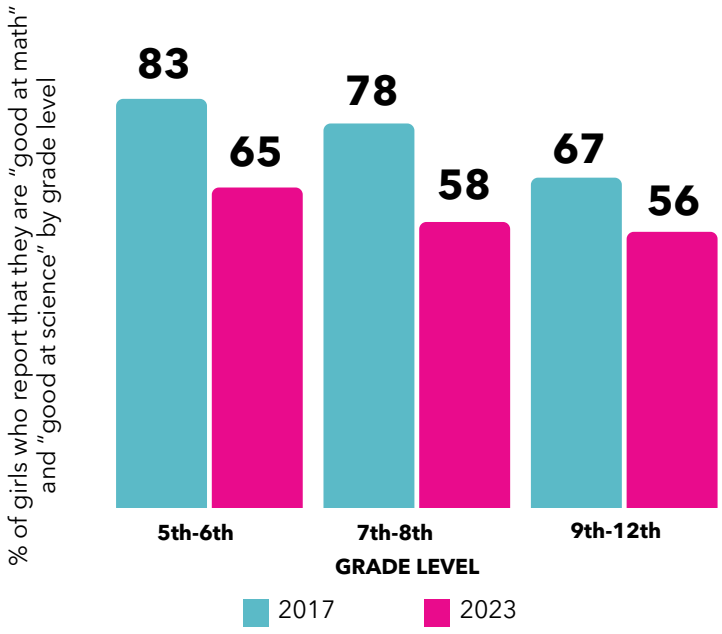
This decline in confidence occurs across the board, affecting even the highest-achieving girls. Despite demonstrating strong academic performance, many girls increasingly doubt their capabilities in math and science as they advance through middle and high school. This disconnect between actual ability and perceived competence suggests that factors beyond academic performance are influencing girls' self-assessment in STEM-related subjects, potentially impacting their future career choices and aspirations in these fields.




**40%**

**% of girls with a 4.0 grade point average who are not sure if they are smart enough for their dream career.**

**While girls' interest in STEM is increasing, their perceptions of their abilities in math & science are declining rapidly.**




Girls' overall perceptions of their abilities in math and science have declined since the initial Girls' Index™ research. In 2017, 73% of girls, on average, reported they were good at math and science. Now, the figure is 59%.

“Girls at my school constantly have to prove themselves way more than the boys do.

It’s like they don’t think we can do the same things that boys can.”

- 8th grade girl, Ohio

# PERCEPTIONS & STEREOTYPES

## KEY FINDINGS

### 1 Most girls are under pressure to fit into specific roles

89% of girls report that they feel pressure to fit into specific roles and stereotypes, and 79% of girls report that they are under so much pressure that they feel like they are "going to explode."

### 2 86% of girls report that they want a career that helps others

Most girls report a desire to help others through their career pursuits. Among girls who want to help others, 49% are also considering a career in STEM indicating a need to demonstrate the helping aspects of STEM careers.

### 3 Possessing a growth mindset is correlated with STEM interest

Girls who believe that they can increase their intelligence, a key indicator of possessing a growth mindset, are more than twice as likely to be interested in pursuing a STEM career.

### 4 28% of high school girls avoid classes with low female enrollment

The perception of the gender composition of high school classes impacts 1 in 4 girls' course selections. When girls do not see themselves represented in specific classes, they may be less likely to enroll.

GIRLS FACE SIGNIFICANT PRESSURE TO CONFORM TO SOCIETAL EXPECTATIONS, WHICH CAN INFLUENCE THEIR ACADEMIC AND CAREER CHOICES. A vast majority – 86% – of girls express a desire for careers that help others, reflecting a strong altruistic motivation. This aspiration, however, may be at odds with perceived stereotypes about STEM fields. Stereotypes also impact course selection, with more than a quarter of high school girls avoiding classes where female representation is low. The research reveals a positive correlation between having a growth mindset and interest in STEM subjects, suggesting that fostering adaptable thinking could boost girls' engagement in these areas.



# PERCEPTIONS & STEREOTYPES

86% OF GIRLS WANT CAREERS THAT HELP OTHERS, BUT MAY NOT SEE STEM JOBS AS FITTING THAT DESCRIPTION. This gap may exist partly because of the stereotype that women are natural caregivers, steering girls towards traditional helping professions. However, STEM fields offer numerous ways to make a positive impact – from developing new medicines to solving environmental issues. By showing girls how STEM careers align with their desire to help, more diverse talent could be attracted to these fields. This shift in perception could help bridge the gender gap in STEM and bring fresh perspectives to tackling global challenges.

**OVERWHELMINGLY, GIRLS REPORT THAT THEY WANT A CAREER THAT HELPS OTHERS**



Girls who believe that they can increase their intelligence are
**TWICE AS LIKELY**
to be considering a STEM career.

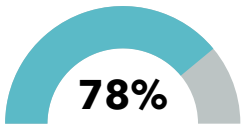
## GROWTH MINDSET

Overall, girls reported that they like trying new things and they believe they can increase their intelligence. These are characteristics of possessing a growth mindset. However, a high percentage of girls also actively avoid messing up or failing.

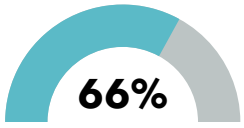





% of girls who report that they like trying new things




% of girls who do everything they can to avoid messing up or failing at something




% of girls who believe that they can increase their intelligence

# PERCEPTIONS & STEREOTYPES

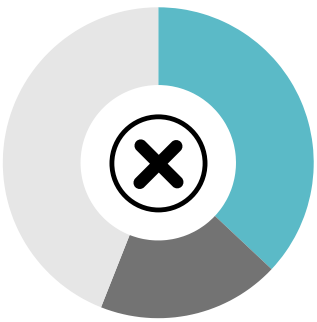
SOCIETAL EXPECTATIONS CAN SIGNIFICANTLY INFLUENCE GIRLS' PERCEPTIONS AND BEHAVIORS. The Girls' Index™ data shows 67% of girls avoid expressing their thoughts in order to be liked and 55% refrain from taking charge for fear of being labeled bossy. Additionally, more than half of girls report experiencing exclusion based solely on their gender. This data reveals the challenges girls face in navigating social expectations while developing their sense of self, illustrating the complex pressures they encounter during their formative years.

## % OF GIRLS WHO REPORT:




**Girls are aware of the social expectations and stereotypes that exist regarding their appearance, abilities, behaviors and opportunities.**

## 56% OF GIRLS REPORT THAT THEY ARE 'ONCE IN A WHILE' OR 'OFTEN' EXCLUDED BECAUSE THEY ARE A GIRL



**37%** % of girls who say they are excluded because they are a girl **ONCE IN A WHILE**

**19%** % of girls who say they are excluded because they are a girl **OFTEN**

“We need to be supported in the things we have interest in or want to do, so that we aren't afraid to be successful.”

- 9th grade girl, Georgia

# SCHOOL & SUPPORT
## KEY FINDINGS

### 1 Post-secondary support increases STEM interest

When girls have someone at their school who is helping them plan for their life after high school, they are 19% more likely to consider a STEM career.

### 2 Girls who enjoy school are more likely to consider STEM

While the percentage of girls who enjoy school has declined sharply, those who do enjoy school are also more likely to express interest in a STEM field.

### 3 Most girls do not feel like people at their school care about them

Fifty-seven percent of girls do not feel like people at their school really care about them and just 39% feel like they can be themselves at school.

### 4 1 in 4 girls believe that boys outnumber girls in AP math & science

While actual statistics vary by school, many girls hold the perception that more boys than girls are taking Advanced Placement (AP) math and science courses.

GIRLS' SCHOOL EXPERIENCES INFLUENCE THEIR INTEREST IN STEM. Most girls (57%) don't feel cared for at school and only 39% feel they can be themselves there. This disconnection likely contributes to declining school enjoyment. However, girls who do enjoy school are more likely to consider STEM careers. Support matters: girls with post-secondary planning help are 19% more likely to consider STEM. Perceptions also play a role, with 1 in 4 girls holding the belief that boys outnumber girls in advanced math and science classes.

# SCHOOL & SUPPORT

## THE GIRLS' INDEX™ EXAMINED GIRLS' SENSE OF BELONGING, AUTHENTICITY AND CONNECTION TO SCHOOL



**39%**

% of girls who feel like they belong at their school



**39%**

% of girls who feel like they can really be themselves at school



**43%**

% of girls who feel like people at their school really care about them



**75%**

% of girls who feel like their teachers treat them like they are smart

**87%**

OF
**5th GRADE**
GIRLS LIKED GOING TO SCHOOL IN 2017

**68%**

LIKE GOING TO SCHOOL IN 2023

**6x**

### AUTHENTICITY

Girls who feel they can be themselves at school are six times more likely to like going to school

**65%**

### CARE

Girls who have adults at school who care about them are 65% more likely to enjoy going to school

**70%**

### BELONGING

Girls who feel like school is a place where they belong are 70% more likely to enjoy going to school

# SCHOOL & SUPPORT

**Girls who have teachers who treat them like they are smart are**

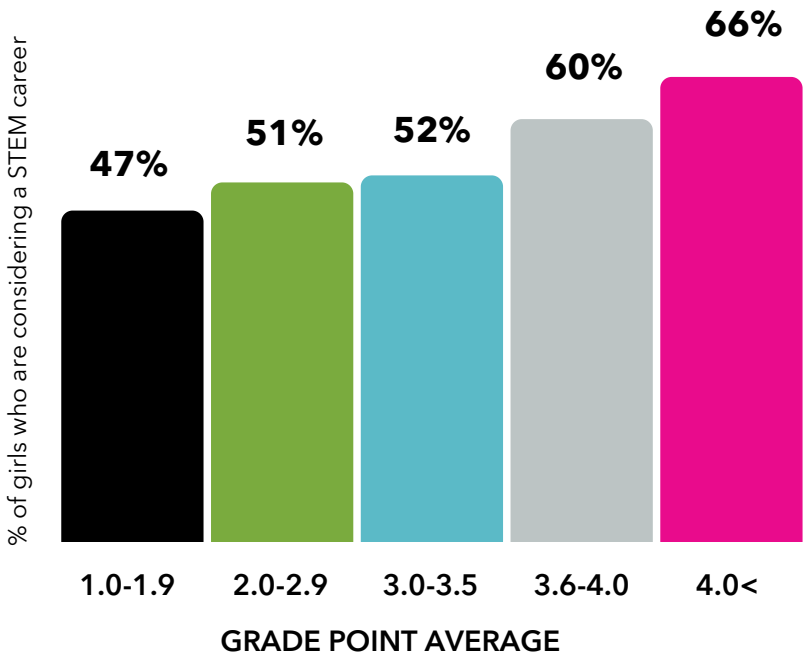
**56%**

**more likely to have interest in pursuing a STEM occupation.**



SCHOOL CLIMATE FACTORS INFLUENCE GIRLS' INTEREST IN EDUCATION AND STEM CAREERS. More than half of girls report not feeling cared for at school, while only about two-fifths feel they can be their authentic selves in their school environment. However, girls' interest in STEM careers increases significantly when they have teachers who treat them as intellectually capable – boosting interest by over 50%. This disconnect highlights the complex relationship between teacher support, school climate and the impact on girls' academic and career interests.

## GIRLS WITH HIGHER GRADE POINT AVERAGES ARE MORE LIKELY TO CONSIDER STEM CAREERS




**Girls who feel connected to school, have teachers who believe they are smart, and who experience success at school are more likely to be interested in pursuing STEM.**

At the current pace, we will not see **EQUAL** representation in STEM until the year **2070.**

Women in STEM, 2023.

# RECOMMENDATIONS

As we delve into the findings of The Girls' Index™ research report on Girls & STEM, we uncover a landscape rich with potential yet fraught with challenges. Girls are on the brink of incredible STEM opportunities, their interest is high and their aspirations are strong. Yet, we also see them grappling with declining confidence, persistent stereotypes and a disconnect between their desire to help others and their perception of STEM careers. It is our responsibility – as educators, STEM professionals and members of the community – to bridge these gaps and pave the way for girls to thrive in STEM fields.

## 1. Reframe STEM as a Path to Making a Difference

Our research reveals a striking statistic: 86% of girls express a desire for careers that help others, yet only 49% of these altruistically minded young women are considering STEM careers. This disconnect may point to a crucial misunderstanding about the nature and impact of STEM fields.

To address this, we must fundamentally reframe the narrative around STEM careers. It's not enough to speak of technological advances or scientific breakthroughs in abstract terms. We need to paint a vivid picture of how STEM professionals are at the forefront of solving real-world problems and improving lives.

Imagine a biology lesson that doesn't just cover cell structure but explores how cellular research is paving the way for new cancer treatments.

Picture a computer science class where students don't just learn to code, but use their skills to design apps that help people with disabilities navigate their communities more easily. By consistently connecting STEM subjects to their real-world applications, we can help girls see these fields as powerful avenues for making a positive impact on the world.

Moreover, we should actively seek out and showcase diverse role models in STEM who are making a difference. This could take the form of campaigns that focus on “STEM for Good,” “STEM for Social Good” and “STEM Makes an Impact” in schools and communities, highlighting how STEM solutions address societal needs. By partnering with local STEM-focused companies and organizations, we can create immersive experiences – like "Day in the Life" video series and job shadowing opportunities – that allow girls to witness firsthand how STEM careers contribute to helping others and solving global challenges.

## 2. Nurture Confidence Alongside Competence

Our findings paint a concerning picture of girls' confidence as they progress through adolescence. The stark reality that 58% of 9th-12th grade girls don't believe they're smart enough for their dream job is a call to action.

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# RECOMMENDATIONS

This decline in confidence, coupled with the finding that confident girls are 20% more likely to consider STEM careers, underscores the critical need to bolster girls' self-assurance alongside their STEM skills.

This task requires a multi-faceted approach that goes beyond academic instruction. It involves creating an ecosystem of support that nurtures girls' overall confidence and self-efficacy while simultaneously cultivating their STEM interest and identity. This means rethinking how we approach STEM education, career guidance and social-emotional support in our schools and communities.

For starters, we need to equip our school counselors and academic advisors with a deep understanding of the social and interpersonal challenges facing adolescent girls. This isn't just about scheduling classes or discussing college applications. It's about understanding how a girl's self-concept influences her course selections and career interests. It's about recognizing the signs of diminishing confidence and having the tools to address it effectively.

We should consider implementing regular "Confidence in STEM" check-ins, where girls can discuss their experiences, challenges and aspirations in a supportive environment. These sessions could be complemented by mentorship programs that pair high school girls with successful women in STEM fields, providing living proof that they, too, can overcome doubts and succeed in these areas.

In our STEM classrooms and extra-curricular programs, we need to intentionally integrate confidence-building activities. This could take the form of a "STEM Confidence Challenge" program where girls set personal goals, track their progress and celebrate their achievements. We must create safe spaces for girls to experiment, fail and learn from their mistakes and develop a growth mindset. Regular "Failure Fridays," where students share their missteps and what they learned from them, can help normalize the process of trial and error that is so central to scientific inquiry and innovation.

### 3. Dismantle Stereotypes and Build Belonging

The weight of societal expectations bears heavily on our girls, with 89% reporting pressure to fit into specific roles and stereotypes. This pressure doesn't exist in a vacuum — it permeates our classrooms, our media and our everyday interactions. To truly support girls in STEM, we must actively work to dismantle these limiting stereotypes and create environments where girls feel they truly belong.

This work starts with fostering a deeper understanding of how societal expectations and ingrained assumptions shape our perceptions of who "belongs" in STEM fields. We need to implement comprehensive training programs for educators, students and parents that illuminate these often subtle, yet powerful influences on girls' career choices.

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# RECOMMENDATIONS

These programs should encourage self-reflection and provide strategies to recognize and counteract limiting beliefs about gender roles in STEM.

However, raising awareness is just the first step. We must couple this newfound understanding with concrete action. This includes developing robust media literacy programs that empower girls to critically analyze and challenge stereotypical representations of STEM professionals in various forms of media. By honing these analytical skills, we equip girls to question and resist the narrow portrayals they often encounter, enabling them to envision a broader, more inclusive picture of who can succeed in STEM careers.

In our schools and classrooms, we should strive to create a visual landscape that reflects the true diversity of STEM fields. This means carefully curating the images, posters and examples we use in our teaching materials to showcase a wide range of STEM professionals – people of different genders, races, backgrounds and abilities. Campaigns such as "This is what a scientist looks like" feature a diverse array of STEM professionals, helping to expand girls' vision of who belongs in these fields.

Building a sense of belonging goes beyond representation. It's about creating communities where girls feel valued, supported and free to be themselves. The fact that only 39% of girls feel they can be themselves at school is a stark reminder of how much work we have to do in this area.

We should consider creating STEM-focused clubs and groups that provide a supportive environment for girls to explore their interests, share their challenges and celebrate their successes.

These "STEM Squads" could serve as safe havens where girls build confidence, develop leadership skills and form lasting friendships with like-minded peers. By fostering these communities, we not only support girls' STEM interests but also contribute to their overall sense of belonging and confidence – factors our research shows are strongly linked.

### 4. Ensure Equitable Access and Support

One of the most encouraging findings from our research is that STEM interest is high across all racial and socioeconomic backgrounds. This interest, however, must be met with equal opportunity. As we work to support girls in STEM, we must ensure that our efforts reach all girls, regardless of their background or economic circumstances.

This means taking a hard look at our current STEM programs and opportunities to identify and address any access barriers that may exist. We should develop targeted outreach programs for underrecognized groups in STEM, partnering with community organizations to bring STEM activities and resources to underserved areas.

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# RECOMMENDATIONS

Consider implementing a "STEM for All" initiative that ensures all schools, regardless of location or funding, have access to quality STEM resources and programs. This could involve creating mobile STEM labs that travel to different schools and communities, providing hands-on STEM experiences to girls who might otherwise lack access to such opportunities.

In our digital world, we should also leverage technology to break down geographical and economic barriers. Developing online STEM enrichment programs accessible to all girls, regardless of location or economic status, can help level the playing field and ensure that every girl with an interest in STEM has the opportunity to pursue it.

## Conclusion: A Call to Action

Let us remember that supporting girls in STEM is not just about filling a pipeline or closing a gender gap. It's about empowering half of our population to contribute their unique perspectives, creativity and problem-solving skills to fields that shape our world and our future.

The challenges we've outlined – from reframing STEM careers to building confidence, dismantling stereotypes and ensuring equitable access – are significant. But so too is the opportunity before us. By implementing these recommendations, we can create environments where girls don't just participate in STEM, but thrive and lead in these fields.

This work requires commitment, creativity and collaboration from all of us – educators, professionals, policymakers, parents and community members. It demands that we examine our own biases, challenge long-held assumptions and reimagine what STEM education and careers can look like.

The girls in our lives – in our schools, our communities and our homes – are watching. They're brilliant, they're capable and they're ready to change the world. Let's make sure they have every opportunity to do so. The future of STEM, and indeed our world, will be brighter for it.

# ABOUT THE GIRLS' INDEX™

The Girls' Index™ is a proprietary, anonymous, voluntary survey that girls were invited to complete at their school, during the school day, in 2022 and 2023.

School leaders authorized their school's participation, and the ROX Research Team supported school officials to administer their survey. The survey administrators were given an administration protocol, including a script to read to students regarding the voluntary nature of their participation. Girls self-identified and opted in to complete the survey, and adults remained with them as they completed the 75-item survey, which included open-ended and scaling questions.

A third-party, independent data partner developed the secure, electronic survey interface and compiled the aggregate survey responses, which were then further analyzed and reported by Ruling Our eXperiences (ROX).

To ensure the anonymous nature of the survey and to remain in compliance with the Protection of Pupil Rights Amendment, girls were not asked sensitive, personally identifying information and were free to skip any questions in the survey.

Each school that participated received a custom data report of their school's findings and met with a member of the ROX Research Team for a data review.

## Topics addressed in The Girls' Index™:

- Confidence
- Social Media
- Stress & Well-Being
- School
- Leadership
- Career Interest
- Relationships

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