



2023 FEMALE STUDENT AND STEM
CAREER EXPOSURE GAP REPORT

The Future of STEM is Female

Today's female students have the talent to be tomorrow's technology, engineering, and science leaders. They just don't know it yet.



A real-world problem

Parent shares their child's struggle with the overburdened school system

Like many high school students, Maddie had a few minutes with her career counselor to help plan her year and figure out what courses made sense.

She knew her career counselor; her sister had her as well. During the planning, the counselor asked Maddie what she wanted to be when she grew up. Her response was simple, "I think I want to be in healthcare," to which the counselor assumingly replied, "What kind of nurse do you want to be?" Taken aback, Maddie answered confidently, "I want to be a pediatrician."

The counselor lacked the right tools to provide insightful guidance and an awkward silence soon followed.



This is an actual experience, one that may be replicated on a daily basis around the country. It is certainly not shared to reflect poorly on the counselor.

The American School Counselor Association recommends 250 students per school counselor. In actuality, in the 2021-22 school year, the average was 408:1.¹ But the example is important: every student deserves the opportunity to broaden their aperture around future careers without being hampered by real or perceived biases.

Shattering gender barriers: Female students have the skills for STEM

Our career exposure gap data reveals the divide between aptitude and interest in STEM careers for female students.

Female students have a high aptitude for STEM careers, but interest—or exposure—to those opportunities lag far behind. That's according to nationwide research of female middle and high school students who completed YouScience® Aptitude & Career Discovery in 2022.

YouScience® analyzed data from 225,279 female students and found a high level of aptitude fit yet a low level of interest in STEM career clusters, such as Computers & Technology, Advanced Manufacturing, Agriculture & Natural Resources, and Architecture & Construction.

Some of the more surprising findings show that female students have 11.3x more aptitude for Advanced Manufacturing careers than interest and 8x more aptitude for Computers & Technology careers than interest.

The trend continues with Agriculture & Natural Resources careers, where female students have 3.8x more aptitude than interest, and Architecture & Construction careers, where female students have 2.7x more aptitude than interest.

The rise of STEM

According to the **U.S. Department of Labor**, there were nearly 10 million workers in STEM occupations in 2021. That number is likely to increase by almost 11 percent by 2031. Wages in STEM careers are higher too. In May 2021, median annual salaries for STEM occupations were \$95,420, compared to \$40,120 for non-STEM occupations.²

Currently, women only make up 34 percent of all STEM workers.³ These careers are the future, and the data tells us that the workforce of tomorrow has the natural talent to do the job. However, female students have not been as exposed to STEM career opportunities or participated in STEM careers at the same level as their male counterparts; leaving young women with fewer role models and less exposure.

¹ <https://www.schoolcounselor.org/About-School-Counseling/School-Counselor-Roles-Ratios#:~:text=Student%2Dto%2DSchool%2DCounselor,for%20which%20data%20is%20available>

² <https://blog.dol.gov/2022/11/04/stem-day-explore-growing-careers>

³ <https://www.catalyst.org/research/women-in-science-technology-engineering-and-mathematics-stem/#:~:text=Despite%20accounting%20for%20around%20half,44%25%20of%20the%20STEM%20workforce.>

Shining light on the exposure gap for female students

The following chart represents YouScience® Aptitude & Career Discovery results from female students nationwide in 2022. The results were grouped by high fit careers based on the 16 standard career clusters defined in The National Career Clusters Framework in the Career Technical Education (CTE) program. To determine high fit clusters for each student, YouScience ranked each student's top three clusters from a fit perspective, using either aptitude or interest measurements.

Where aptitude outweighs interest

Female students have...

11.3x more aptitude for Advanced Manufacturing careers than interest.

8.0x more aptitude for Computers & Technology careers than interest.

3.8x more aptitude for Agriculture & Natural Resources careers than interest.

2.7x more aptitude for Architecture & Construction careers than interest.

Where interest outweighs aptitude

Female students have...

5.5x more interest in Human Services careers than aptitude.

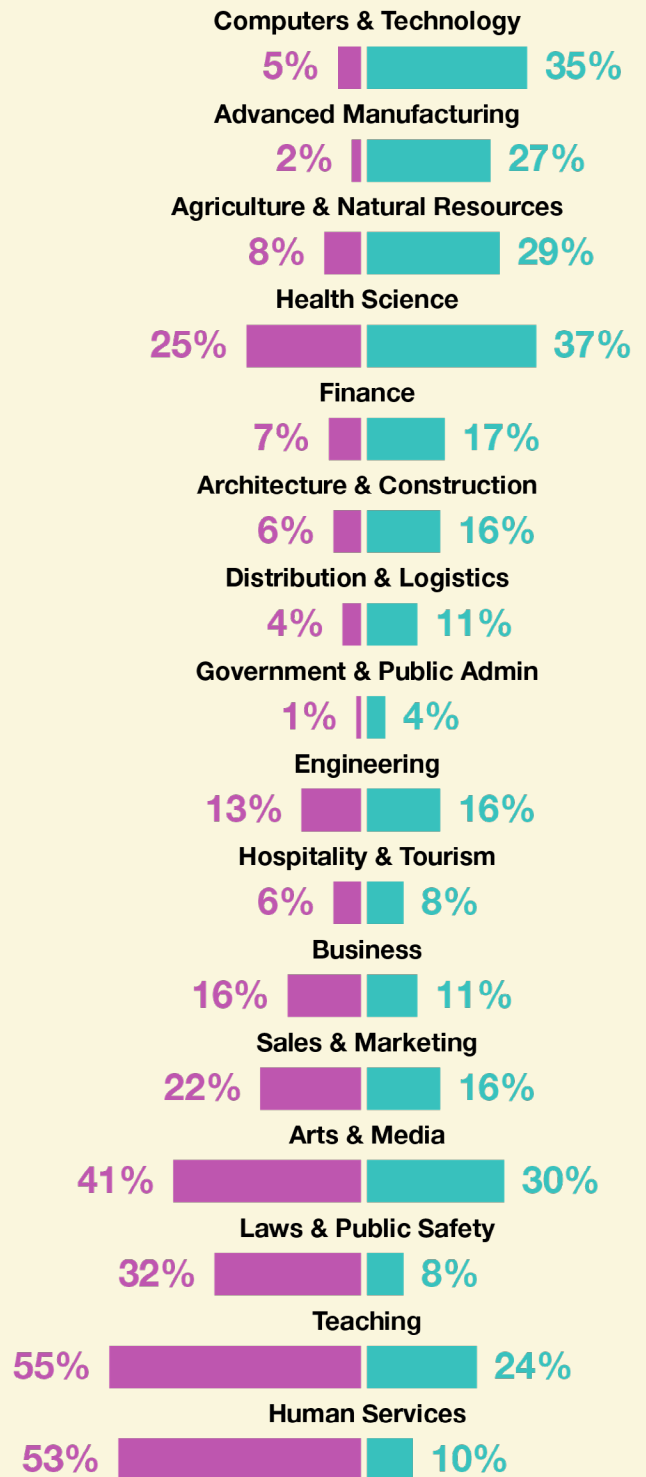
3.8x more interest in Law & Public Safety careers than aptitude.

2.3x more interest in Teaching careers than aptitude.

1.4x more interest in Arts & Media careers than aptitude.

Cluster exposure gaps for female students in 2022:

Interest vs Aptitude



Sample size: 225,279 female students



Bridging the gap between education and industry is vital

The findings in this report highlight the challenge many educators, parents, and students struggle with: how to bridge the gap between education and industry. The data shows that female students have the aptitude for STEM careers but lack exposure. Research says a student's lack of interest is often based on a lack of exposure or a lack of confidence that they could succeed in that career. YouScience Brightpath affirms students' talents and exposes them to careers that they may not have considered—like careers in STEM.⁴

YouScience® Brightpath solves the exposure gap issue by helping students discover their natural talents, providing insights, and reporting based on aptitudes, not just interests. This also empowers educators and parents with the tools to create a personalized pathway to unlock student potential.

There is no question that female students have the talents for in-demand careers, but they need to have opportunities to be exposed to all types of careers, like those in STEM, in order to find their right path. YouScience can help open those doors and give students a clear pathway to continued education and career opportunities.



“YouScience opened manufacturing up to me. I didn’t even know what it was until I was placed in a CTE class. It’s hands-on learning, so I’m not sitting in the classroom the whole time. It gave me choices.”

— Mariana, high school student

⁴ <https://www.youscience.com/student-ability-report-shows-exposure-gap/>



