Methodology of the Gender Scan TM 2021 survey:
The Gender Scan TM 2021 survey was conducted online (in 117 countries) from March to August 2021 on a declarative basis with 30,001 male and female respondents worldwide. The total number of respondents for the United States is of 243 people among which 231 women, 5 men and 7 others, which provides for a 6.3% margin of error.
The total number of students in the STEM fields is of 200, among which 4 men and 196 women. The total number of students in the digital fields is of 36, among which 1 men and 35 women.

The student definition is based on UNESCO's ISCED 2011 and 2013 definitions.
*It therefore includes the following ISCED’s levels:*
students and graduates in higher education from ISCED levels 5 to 8 (i.e.: post-baccalaureate short-cycle education, bachelors, masters and doctorate levels)

*STEM disciplines include the following specializations:*
- Mathematics
- Physics
- Life sciences, biology, chemistry
- Computer science, digital (courses under ISCED 2013 category 6, which includes programming, programming, network creation and administration, software and application development), software and application development).
- Engineers, processing and production industry
- Environment, sustainable development, ecology
- Building, civil engineering, construction
- Agriculture, agronomy, forestry, veterinarians
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discouraging factors</td>
<td>3</td>
</tr>
<tr>
<td>Influencing factors</td>
<td>4</td>
</tr>
<tr>
<td>Discouraging factors</td>
<td>5</td>
</tr>
<tr>
<td>Motivation factors</td>
<td>6</td>
</tr>
<tr>
<td>Interest in STEM/tech: when</td>
<td>7</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>8</td>
</tr>
<tr>
<td>Dissatisfaction</td>
<td>11</td>
</tr>
<tr>
<td>Sexism</td>
<td>12</td>
</tr>
</tbody>
</table>
Almost 2/3 of female students have been discouraged from choosing technical fields, in a slightly higher proportion of women in STEM than in digital.

+5% of women in STEM have been discouraged compared to women in digital. (65% vs 60%)

Almost 2 out of 3 women discouraged from choosing technical fields in STEM and digital.
A teacher at school, and access to technologies at school are important to similarly high proportions of STEM and digital fields students, which suggests the core levers to trigger interest in girls in STEM and tech subjects are the same. Some differences between them concern:

Factors that influence more STEM than digital students:
- An event, activity (48% vs 31%, +17%), A book/movie (25% vs 11%, +14%), A speaker (20% vs 9%, +11%)

Data from the verbatim: topics that had more answers to the question (based on a total of 17 answers from women in STEM and 3 in digital): “What influenced you the most in your choice of specialization of study?” are:
- A specialized STEM/orientation/mentorship program (3/17 women in STEM and 1/3 women in digital)
  “Extracurricular camps related to science and engineering (i.e.: hands on science, invention convention, odyssey of the mind, local science museum, and zoo).” Woman, 23, Business, economy, finance, accounting and law, Engineering, transformation and production industry
  “Extra Curricular Mentors.” Woman, 18, Engineering, transformation and production industry
  “FIRST Robotics Programs” Woman, 22, Business, economy, finance, accounting and law, Computer sciences, digital

- Results at school (3/17 women in STEM, 0/3 women in digital)
  “Being good at math and being recognized for it.” Woman, 25, Engineering, transformation and production industry
  “better grades in math and physics.” Woman, 38, Engineering, transformation and production industry
Almost half of women, in digital and in STEM fields, declare to have been discouraged by teachers, a third of them by friends and a fifth of them by family.

- Teachers: digital: 48% vs STEM: 43%, +5% for digital.
- Family: digital: 33% vs STEM: 36%, +3% for STEM.
- Friends: digital: 19% vs STEM: 26%, +7% for STEM.

Data from the verbatim (total of 123 responses from women in STEM, 21 from women in digital). Can you indicate the arguments which were evoked to discourage you from pursuing these professions and these courses?:

- **The atmosphere will be hostile** (17% of women in STEM, 5% of women in digital)
  
  “Inequity of job opportunities available for women compared to men and peer pressure.” Woman, 25, student in Natural sciences, biology, chemistry/Engineering, transformation and production industry

  “Stereotypes about working in engineering as a woman, academic struggles I'd seen my friends go through, attitudes of other engineering students.” Woman, 21, Computer sciences, digital/Engineering, transformation and production industry/Environment, sustainable development, ecology

  “Though not explicitly stated very often, there is an undercurrent of oppression towards women in STEM - nobody actually says it, but during classes or other STEM-related activity, I often get the impression that I am not welcome. Every time a man interrupts me in class, every time a male classmate informs me that I was incorrect, every time a man turns the conversation to a subject demeaning to women as a whole, this impression is reinforced and strengthened, as if to say 'this is how things are, you do not belong here' toward me and other women like me. Every time I interrupt a man, every time I shout out the correct answer and receive unenthusiastic affirmation in response, every time I try to leave a conversation that devalues my gender, this impression is actively working against me, retaliating against my refusal to submit to the institutionalized gender bias, as if to say 'how dare you try to change the way things are' toward me who dared to step out of line.” Woman, 18, Engineering, transformation and production industry
- **It is not a field for women (14% of women in digital, 18% of women in STEM)**
  "Many teachers in my high school discouraged me from studying STEM. Despite my high GPA and excellence in STEM related fields, I had teachers discourage me from majoring in Engineering based on my bubbly and fun personality. I also encountered people who would discourage me from going into STEM who would say things like, "Oh, well your husband wouldn't want you to be smarter or make more money than him." "Women should not go into the STEM field." "Guys won't want to date you if you're a nerd." Just to name a few." Woman, 24, Mathematics, Engineering, transformation and production industry
  “People saying girls shouldn’t be engineers.” Woman, 19, Computer Sciences, digital, Physics/Engineering, transformation and production industry

- **Sexism/ racism/ disrespect (29% of women in digital, 24% of women in STEM)**
  “A professor gave me horrible feedback that was pretty sexist and racist. I also have had several internships with racist/sexist coworkers and conflicts with them.” Woman, 26, Computer sciences, digital
  “I was one of the only girls involved in engineering offers at my school, before and after hours, and I would often get called names, tools taken away from me, and would get discluded since my peers and some mentors thought I couldn't succeed at building.” Woman, 18, Engineering, transformation and production industry
  "Dealing with sexism in STEM related classes made me really worried about going into STEM since it's very frustrating to deal with on a daily basis. While I felt discouraged, I realized that engineering was right for me and my goals, so I went into engineering despite my worries.” Woman, 19, Engineering, transformation and production industry
Motivation factors – STEM vs Digital

The various opportunities for employment motivate a higher % of women in digital; the curiosity and the power to build and transform motivate a higher % of women in STEM.

### Motivation factors – STEM vs Digital

<table>
<thead>
<tr>
<th>Factor</th>
<th>STEM</th>
<th>Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>51%</td>
<td>67%</td>
</tr>
<tr>
<td>The level of remuneration</td>
<td>49%</td>
<td>67%</td>
</tr>
<tr>
<td>The modernity of the discipline</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>The possibility to work in many different sectors</td>
<td>86%</td>
<td>85%</td>
</tr>
<tr>
<td>Wide opportunities for employment</td>
<td>89%</td>
<td>92%</td>
</tr>
<tr>
<td>The potential impact of technology on society</td>
<td>82%</td>
<td>94%</td>
</tr>
<tr>
<td>The power to build, and transform</td>
<td>83%</td>
<td>97%</td>
</tr>
<tr>
<td>The curiosity</td>
<td>97%</td>
<td>97%</td>
</tr>
</tbody>
</table>

Similar top motivation factors of students in tech and in STEM disciplines. The top drivers for a higher proportion of women in digital are:
- Curiosity: STEM: 97% vs digital : 83%. 14% difference for women in STEM fields.
- The power to build and transform: STEM: 94% vs digital : 80%. +14% difference for women in STEM fields.
- The level of remunerations: STEM: 67% vs digital : 49%. +18% difference for women in STEM fields.

The one that motivates proportionately more digital than STEM students is:
- Wide opportunities for employment – digital: 97%, STEM : 92%, +5%

**Data from the verbatim** (based on a total of 155 answers from women in STEM and 28 in digital): “Can you specify what triggered your current choice of professional orientation?”

- **Courses/ activities at school** (14% of women in STEM, 25% of women in digital)
  “Future City Engineering Competition for middle school students (participated for 2 years).” Woman, 21, Engineering, transformation and production industry
  “Seeing an integrated circuit chip wafer at a science fair in high school, taking a physics class.” Woman, 19, Computer sciences, digital/Engineering, transformation and production industry
  “Programming a makey makey to turn a banana into a piano in 5th grade” Woman, 20, Computer sciences, digital
  “My high school chemistry and physics classes inspired me to go into into engineering since I wanted to apply the information that I loved learning to the real world.” Woman, 19, Engineering, transformation and production industry

- **An experience/ internship** (13% of women in STEM, 18% of women in digital)
  “Summer camps and internships + parental support and inspiration” Woman, 19, Computer sciences, digital
  “I went to a NASA museum in Texas and saw all the amazing things that engineers can do.” Woman, 21, Computer sciences, digital/Engineering, transformation and production industry/ Environment, sustainable development, ecology/Health and 6 United States report
social protection
“In high school, I had an internship at a college where I was introduced to scanning electron microscopy, and I have been in love with microscopy and materials science ever since.” Woman, 26, Engineering, transformation and production industry
“An internship in the industry” Woman, 19, Arts, humanities and Languages/Construction industry, civil engineering

The impact this job can have society (14% women in STEM, 14% of women in digital)
“BP Oil spill occurred during Year 11 of high school. Was taking environmental science at the time, and we thoroughly covered the event, and specifically different solutions that could mitigate the impact. I wanted to be a part of creating future solutions to preserve the environment and stop these events from occurring.” Woman, 25, Engineering, transformation and production industry/ Environment, sustainable development, ecology
“I love the logic of math, CS and biology and how they can be used to help people live happier, healthier lives.” Woman, 18, Mathematics/ Natural sciences, biology, chemistry/Computer sciences, digital
“mainly being able to use this knowledge to advance other parts of our society, especially relating to policy” Woman, 21, Natural sciences, biology, chemistry/Engineering, transformation and production industry

Family/Friends (16% Women in STEM, 11% Women in digital)
“A family member always used to tell me about the wide variety of opportunities in the tech field which really intrigued me. I was really drawn to the idea that I could pursue so many different things in the tech field. It's basically like you can't go wrong. I'm also from silicon valley and tech is really valued here. I grew up on tech and my geographical location has taught me to value it so much growing up.” Woman, 19, Computer Science
“It was something I enjoyed and my grandfather, who is also an engineer, helped cultivate that interest from a young age” Woman, 24, Engineering, transformation and production industry
A higher % of women studying STEM disciplines seem to have first taken an interest in science and technology slightly earlier than those studying digital fields.

Since when have you been interested in science and technology?

Comparison of answers from women students in STEM and digital fields in %

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Digital</th>
<th>STEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early childhood, preschool</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td>Childhood, primary school (until 11-12 years old)</td>
<td>37%</td>
<td>40%</td>
</tr>
<tr>
<td>Middle-school (until 15-16 years old)</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>High-school</td>
<td>23%</td>
<td>18%</td>
</tr>
<tr>
<td>After my secondary education</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

A few differences between female students in STEM and digital.

To be noted: 15% of female students in STEM say they have been interested in science and technology since early childhood, compared to 3% in digital studies. (12% difference)

Conversely 23% of students in digital studies, as against 18% in STEM, say their interest first awoke in high school (5% difference) and 11% of students in digital studies, as against 5% in STEM the period after secondary education was when they took an interest in science and technology. (6% difference)
Overall very similar levels of satisfaction across STEM and digital disciplines. Women in STEM declare to be absolutely satisfied in only higher proportions than women in digital studies.
Similar trends: most female students feel in the right place/fulfilled, comfortable, supported/listened to.

However, some gaps remain reflecting a slightly lower level of integration of women in digital studies:
- 6% less of women in digital feel in their right place/fulfilled compared to women in STEM. (74% vs 80%).
- 8% less of women in digital feel settled in compared to women in STEM. (60% vs 68%).
Fewer digital students than STEM ones say they are satisfied with the atmosphere, but more with the work possibilities and ease to find employment.

More women in STEM are satisfied with:
- The atmosphere and the relations (68% vs 60%, +8%)

Women in digital studies are slightly more numerous to be satisfied with:
- The possibility to work in a diversified range of sectors: Digital: 91%, STEM: 85%, +6%.
- The easiness to find a job after graduation: Digital: 91%, STEM: 76%, +15%.
More women in digital point the following as important problems they face in their studies:
- Sexism: 64% vs 49% in digital, +15%.
- Lack of knowledge of future professions: 40% vs 31%, +9%.
- Lack of information on possible paths to take following graduation: 37% vs 26%, +11%.

More women in digital point the following as important problems they face in their studies:
- The feeling of not having the necessary level to succeed: 83% vs 68% = +15%.
- The struggle to find internships: 54% vs 42%, +12%.
- The gap between expectations and studies: 57 vs 50%, +7%.

**Data from the verbatim** (based on a total of 169 answers from women in STEM and 28 in digital): **“What improvement would you like to see in the training you are taking?”**:  
- The lack of connection between the courses and the work reality, lack of opportunities to practice (36% of women in STEM, 32% of women in digital)  
  “I wish what we learned was less theoretical and more tailored to the industry. College sometimes doesn’t feel necessary for the kinds of work I do, not because college in general is bad but because college can’t teach you the practical skills of being an engineer.” Woman, 19, Computer sciences, digital  
  “I would like to see more real world application. I think it would be more useful to spend a whole semester as an intern for a company instead of taking technical classes.” Woman, 20, Engineering, transformation and production industry  
  “More information about how the concepts we learn in class relate to working in a real job. We learn a lot of interesting things, but I wonder how much of it will be used on a daily basis in my career.” Woman, 21, Construction industry, civil engineering

- The lack of gender balance (21% of women in STEM, 29% of women in digital)  
  « Less white/cis/hetero/men bias» Woman, 20, Engineering, transformation and production industry  
« My field is VERY heavily male dominated - sometimes I can be the only woman in a room full of 30 people. Women are very heavily discouraged from being themselves, and often have to conform to the "ideal male employee/student" stereotype to have any measure of success. The same thing goes for being queer (I am bisexual). I am not out to the majority of my peers, and the ones I am out to discredit my sexuality and the majority of the LGBT community. There is very little diversity, and even when there is, any minority is told to adhere to the "standard" at the expense of their personality and personal beliefs.” Woman, 23, Engineering, transformation and production industry

- The gap between expectations and current studies (10% of women in STEM, 11% of women in digital)

“More equitable access to resources. Only the women who are employed by the university typically have access to Grace hopper and other resources from the university.” Woman, 20, Computer sciences, digital

« More emphasis on growth and learning, less on memorization and comparisons against other students » Woman, 21, Computer sciences, digital/Engineering, transformation and production industry/Environment, sustainable development, ecology

« I think that there needs to be more consistency between courses. » Woman, 21, Engineering, transformation and production industry
Half of female students in digital and almost 2 in 3 in STEM have experienced sexist behavior.

Have you been the victim of one of the following situations?

<table>
<thead>
<tr>
<th>Situation</th>
<th>DIG Percentage</th>
<th>STEM Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual harassment (abusive and repeated sexual or sexist behaviors)</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>Sextist behavior (discriminating, humiliating, threatening or violent words addressed to women because of their sex)</td>
<td>49%</td>
<td>62%</td>
</tr>
</tbody>
</table>

Women in STEM are more numerous to have experienced sexual behavior than those in digital studies.

- Sextist behaviors: 49% Women in digital, 62% Women in STEM, +13% difference.
- Sexual harassment: 23% Women in digital, 23% Women in STEM.
More than half of students has heard sexist comments of different types.

During your studies, have you experienced one of the following situations?

Comparison in % of respondents women students in STEM or digital fields who responded yes

- You have been told that your studies were not meant for women: 37% in digital - 48% in STEM, +11%.
- You have received malicious jokes and mockery that are inappropriate or insulting for women: 57% in digital - 58% in STEM, +1%.
- You have heard the saying that women were meant to take care of the house and of children, instead of working: 54% in digital - 59% in STEM, +5%.
- As a woman, you have often received comments on your physical appearance or on your clothes: 51% in digital - 62% in STEM, +11%.

Women in STEM are very slightly more numerous to have experienced sexist behaviors.

- Mockery or malicious jokes: 57% Women in digital - 58% Women in STEM, +1%.
- Heard that women are made to take care of children and not to work: 54% Women in digital - 59% Women in STEM, +5%.
- Heard that these studies were not for women: 37% Women in digital - 48% Women in STEM, +11%.
- Remarks on physical appearance or clothing: 51% Women in digital - 62% Women in STEM, +11%.

United States report April 22
A higher proportion of women in STEM than in digital fields has different negative perceptions regarding the impact of sexism.

**In your opinion, what can be the impact of sexism?**

Comparison in % of respondents men and women students in digital fields who responded with a rating of 7 or higher.

- It does not really matter, these are jokes
- It makes you want to drop studies
- It does not allow to study properly
- It isolates, since we try to avoid embarrassing situations
- It generates low self-esteem
- It is stressful and disheartening

15% more students in STEM than digital perceive sexism as stressful and disheartening (58% vs 43%).

12% more students in STEM than digital perceive sexism as a generator of low self-esteem (57% vs 49%).

9% more students in STEM than digital perceive sexism as a factor that isolates victims (52% vs 43%).
A higher proportion of students in STEM than in digital is informed of the existence of an alert mechanism against sexist behavior or harassment.

The majority of students (6 out of 10 in STEM and 8 out of 10 in digital) do not know if their school or university has an alert mechanism against sexism.
Most students tell their peers about a sexist offense against them, and 11% more students in IT than in STEM do so (53% vs 42%). 17% more students in STEM do not react (29% vs 12%).

**Data from the verbatim:** The most cited responses to the question « why didn't you use the alert procedure?» were (based on a total of 23 answers from women in STEM and 3 in digital): :

- **Fear of reprimand** (30% of women in STEM, 33% of women in digital)
  “Title 9 reports can get very serious and messy quickly. I didn't want to be part of an investigation” Woman, 25, Engineering, transformation and production industry
  “Did not think the situation needed to be escalated and I know people who have had problems when reported it.” Woman, 27, Engineering, transformation and production industry/Environment, sustainable development, ecology/Health and social protection
  “Fear of being further segregated from peers for speaking up.” Woman, 22, Engineering, transformation and production industry

- **Perceived low impact of the procedure** (26% of women in STEM, 33% of women in digital)
  “Don't feel the systems are effective. Felt like it would have been a waste of time and not worth the effort.” Woman, 24, Engineering, transformation and production industry
  « It doesn't work well. They drag the girls through the mud if they speak up. Schools protect the boys almost always. » Woman, 20, Engineering, transformation and production industry
1 in 10 students seeks support from their school or university, most go to their peers or relatives for support and 1 in 5 does not react at all.

**What was your reaction? (to sexual harassment)**

Comparison in % of women students in STEM or digital fields who responded:

- I have used the existing alert procedure: 0% DIG, 8% STEM
- I discussed it with the school’s management: 0% DIG, 4% STEM
- I told other students around me about it: 38% DIG, 33% STEM
- I told my relatives about it: 14% DIG, 50% STEM
- I didn’t say anything at first, but talked with the person afterwards: 13% DIG, 8% STEM
- I didn’t react: 0% DIG, 33% STEM

36% more students in IT than in STEM tell their relatives (50% vs 14%).
5% more students in IT than in STEM tell their peers (38% vs 33%).
33% more students in STEM do not react (33% vs 0%).
9/10 students would like support procedures to be available in their training.

Would you like such a procedure to exist?

Comparison in % of women students in STEM or digital fields who responded:

- STEM: 94%
- DIG: 100%

United States report

April 22
### Methodology note

<table>
<thead>
<tr>
<th>Gender</th>
<th>United States</th>
<th>US STEM</th>
<th>US Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Women</td>
<td>231</td>
<td>196</td>
<td>35</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>243</strong></td>
<td><strong>200</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

* Some students are in both categories due to a double degree.