ANITA B.ORG
EVIDENCE & INFLUENCE

2019 Technical Equity Experience Survey

Table of Contents

Background

It is no surprise that women are severely underrepresented in the technology ecosystem [1]. The 2019 Top Companies for Women Technologists report found that women represent only 25% of the technical workforce, while Black, Latinx, Native American, and Pacific Islander (BLNP) women represent only 15% of all technical women in the workforce [2]. But the numbers are just a piece of the story; we need to also understand the personal experiences of women in the technology ecosystem. The Technical Equity Experience Survey (TechEES) is a global survey of technologists providing insights into the lived experiences of technologists and perceptions of equity in their workplaces and schools. In addition to strengthening the existing evidence about the need to improve intersectional gender equity in tech, TechEES informs AnitaB.org's understanding of our mission impact and provides us with vital feedback for how we can better strive for transformational change for intersectional women in tech.

We invited individuals to participate in the survey during the Grace Hopper Celebration 2019 and solicited responses through social media and AnitaB.org newsletters. The survey was open to all adults aged 18 and over of all genders, and both technologists and non-technologists were encouraged to participate. The data collection occurred between September 26, 2019, and December 31, 2019.

2473 **Total Responses**	87% Women 18% BLNP	93% Technologists 13% LGBTQ+

Unless otherwise noted, all the findings shared in this report are on the responses of technical women. Technical women's experiences are discussed for both students and women in the workplace.

1. *Conway, M., Ellingrud, K., & Nowski, T. (2018). Closing the tech gender gap through philanthropy and corporate social responsibility. McKinsey & Company.*
2. *AnitaB.org. (2019). Top Companies for Women Technologists: 2019 Key Findings and Insights. AnitaB.org.*

Satisfaction in the Tech Field

Average satisfaction of women in tech:

Scale: 1 (very dissatisfied) -10 (very satisfied)

6.8 Students

7.1 Workforce

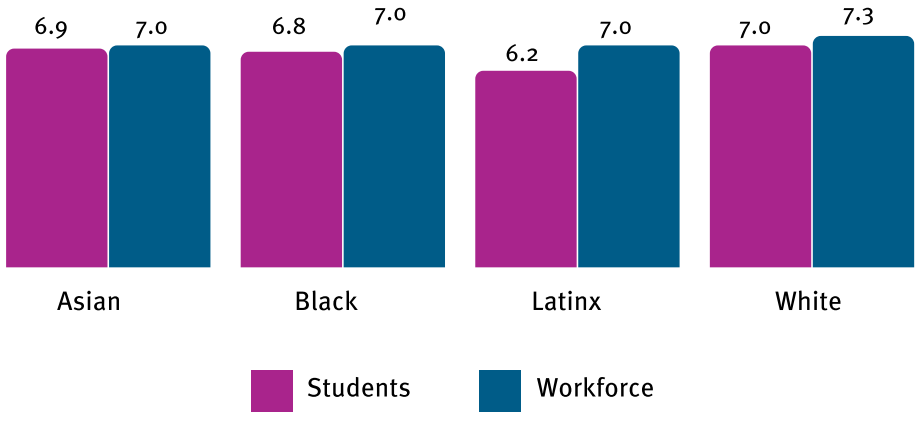
Respondents rated their current satisfaction in the technical field either through a job or academic satisfaction metric. Technologists who work at non-profit organizations are slightly less satisfied (6.9) than technologists who work at government agencies (7.1) or for-profit organizations (7.1). Founders or company leaders report the highest job satisfaction at 8.3. When we look at job satisfaction by career level, there is a positive slope, with job satisfaction increasing with career progression.

Students noted that clearly defined opportunities for academic and professional growth and opportunities to build community are the two most important factors influencing their overall academic satisfaction.

When comparing job and academic satisfaction by race/ethnicity, we find that Black women technologists have the lowest job satisfaction and Latinx women tech students have the lowest academic satisfaction compared to all other women racial/ethnicity groups. White women report the highest levels of satisfaction in the workplace and at academic institutions.

Average satisfaction of tech women by race/ethnicity:

Scale: 1 (very dissatisfied) -10 (very satisfied)



Gender Harassment

About 60% of women technologists report that they have been treated differently because of their gender.

To measure gender harassment, we utilized the Sexual Experience Questionnaire validated scale [3] and asked respondents to share how often they had experienced instances of gender harassment in the last 24 months, on a scale of (1) Never to (5) Always.

For almost all statements, women technologists in the workplace are more likely than tech students to indicate that they had experienced gender harassment in the last 24 months. In general, about 30% of students and technologists in the workplace who are women report experiencing unwanted sexual attention. About half of all student respondents share that someone has put them down or has been condescending to them because of their gender at their academic institutions. Overall satisfaction with the academic department is negatively correlated with gender harassment statements; as the frequency of these experiences increases, academic satisfaction significantly decreases. Not surprisingly, for technologists in the workplace, women are more likely than men to experience gender harassment, across all items measured.

Percent of women in tech who have experienced gender harassment in the last 24 months:

	Students	Workforce
treating you differently because of your gender	60%	82%
taking/receiving credit for your work	40%	73%
putting you down because of your gender	50%	71%
making offensive sexist remarks to or around you	40%	57%
displaying unwanted sexual attention towards you	31%	33%

"Address issues in the workplace with more than bias videos and affinity groups. Take action to address workplace culture and hold managers accountable for change and for diversity in their organizations."

- Black woman employed at a higher education institution

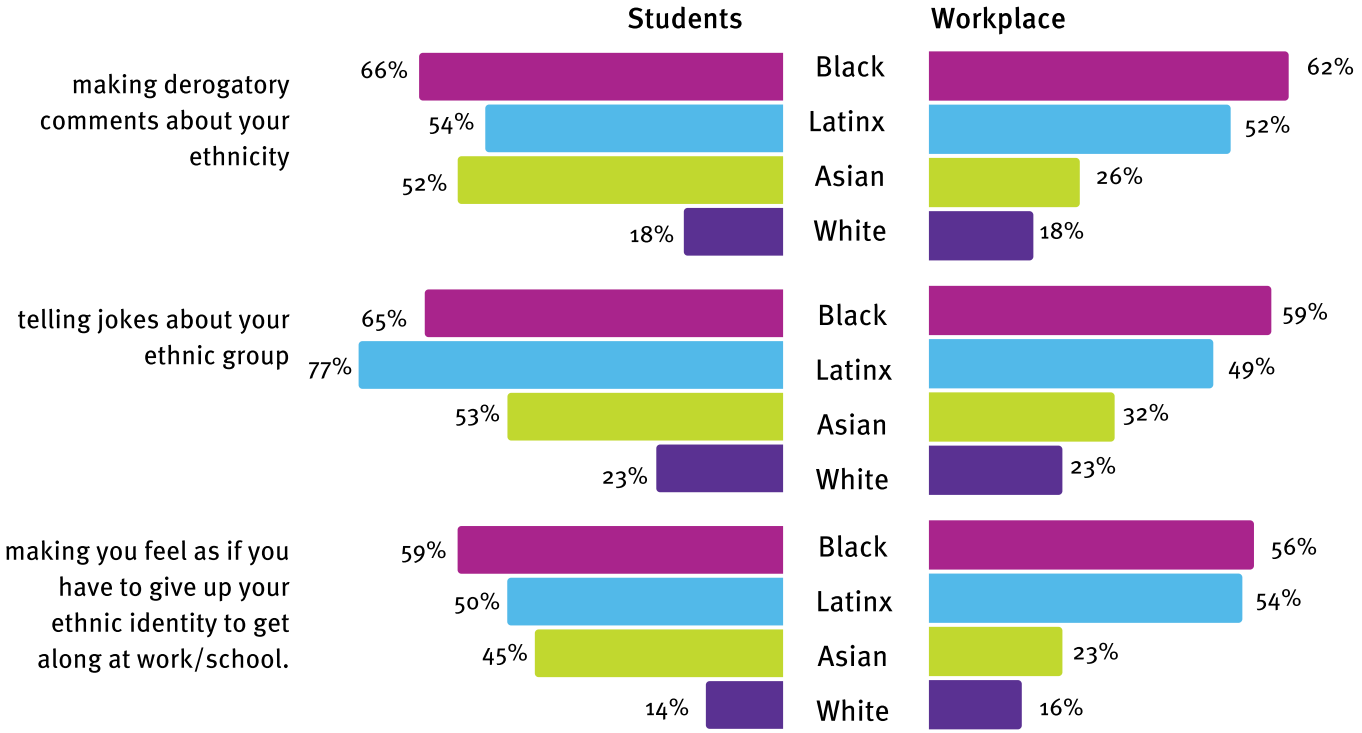
3. Fitzgerald, L. F., Gelfand, M. J., & Drasgow, F. (1995). Measuring sexual harassment: Theoretical and psychometric advances. Basic and Applied Social Psychology, 17(4), 425-445.

Ethnic Harassment

BLNP technologists experienced more ethnic harassment than white technologists.

We asked respondents how often they experienced instances of ethnic harassment in the last 24 months, on a scale of (1) Never to (5) Always. Items were selected from the Ethnic Harassment Experiences Scale[4]. Overall, the most common ethnic harassment experienced was someone telling jokes about their ethnic group, with 33% of women in tech reporting this experience. Regardless of the statement, technologists who are people of color experienced more ethnic harassment than white technologists, with Black technologists reporting more experiences of ethnic harassment than all other racial/ethnic groups. We saw similar patterns when looking at responses from women tech students, although, generally, tech women who are students are experiencing more instances of harassment than tech women in the workplace.

Percent of women technologists who have experienced the following in the past 24 months:



Action Items

- Provide bystander training to employees and students to teach practical steps on how to intervene when witnessing ethnic harassment.
- Educate managers and professors on racial and ethnic microaggressions.
- Include questions about experiences of racial/ethnic harassment in anonymous employee or student culture surveys.

4.Schneider, K. T., Hitlan, R. T., & Radhakrishnan, P. (2000). An examination of the nature and correlates of ethnic harassment experiences in multiple contexts. Journal of Applied Psychology, 85(1), 3.

Psychological Safety

Psychological safety is a belief that one is safe from punishment or humiliation for speaking up with ideas, questions, concerns, or mistakes [5]. An individual feels that a team is psychology safe if they believe that, within the team, they will not be exposed to threats to their identity, status, or career when engaging in learning behaviors such as asking for help, seeking feedback, admitting errors, trying something new or voicing work-related dissenting views. Research shows fostering and cultivating psychological safety in teams leads to increased employee wellbeing, welfare, and job satisfaction. The Psychological Safety Scale [6] was used to assess this construct.

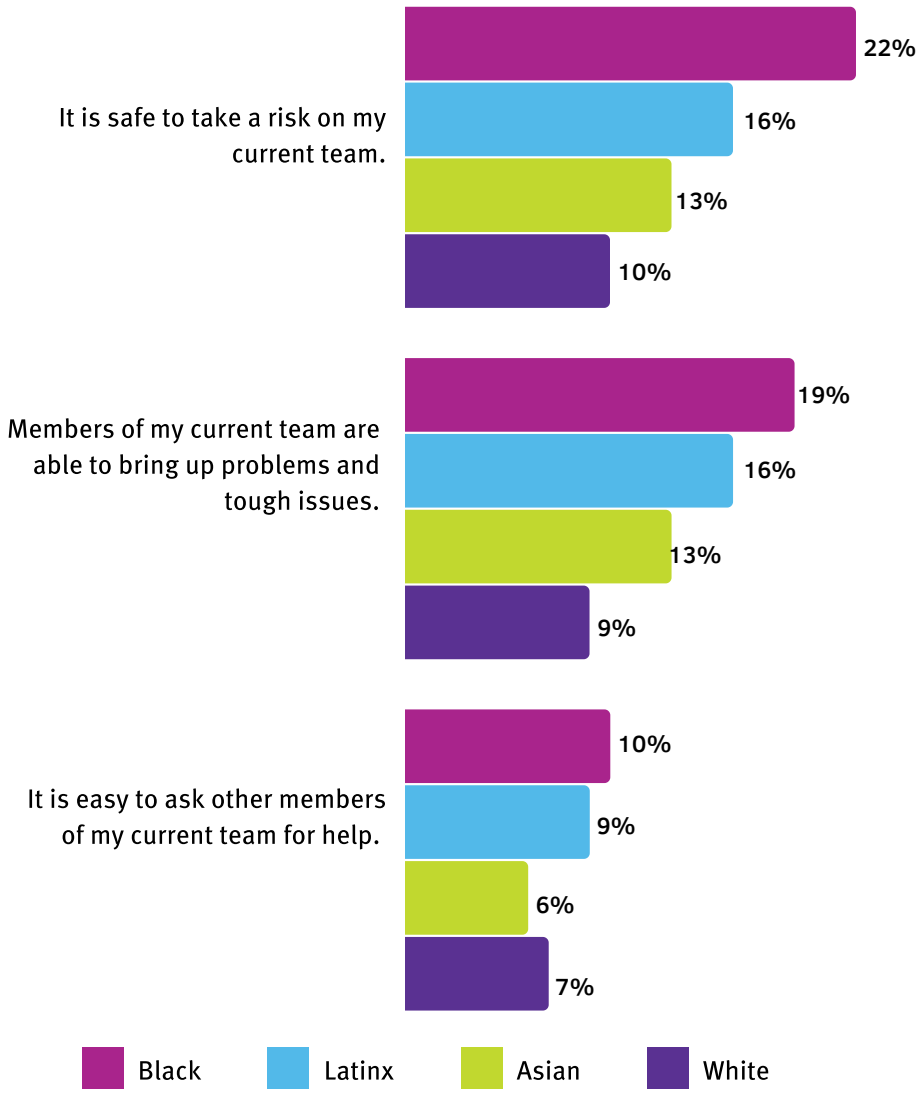
Overall, only 13% of women technologists feel unsafe to take risks on their current team or feel like they are not able to bring up problems and tough issues on their current team. In addition, only 8% of women technologists state that it is hard to ask members of their team for help.

5. Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. Human Resource Management Review, 27(3), 521-535.
6. Edmondson, A. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44(2), 350-383.

Psychological Safety

Lack of psychological safety is more common in Black women technologists than any other racial/ethnic group.

Percent of women respondents by race/ethnicty who disagreed with the statements:



Workplace Action Items

In her book The Fearless Organization, Dr. Amy Edmundson of Harvard Business School suggests three phases necessary to increase psychological safety in an organization:

- Setting the stage – Reframe errors as an expected part of working in a complex environment and opportunities to learn more, rather than as failures of personal competence.
- Inviting participation – Explicitly solicit feedback from a place of open, aspirational curiosity detached from blame. Instead of asking what went wrong, ask “how could this have been better?”
- Responding productively - Speaking up must be consistently and visibly positively reinforced.

Impostor Phenomenon

The impostor phenomenon refers to an internal experience of believing that you are not as competent as others perceive you to be, and that you will be exposed as a fraud [7]. We used items from the Clance Impostor Phenomenon Scale [8] to measure this construct.

Although the impostor phenomenon was originally believed to be something only women experienced, further research found that men are equally likely to suffer from the impostor phenomenon but are less likely to talk openly about this feeling [9]. In our survey, we saw that technologists who are men are more likely than women technologists to agree with the statement, "I sometimes think I obtained my present position or gained my success because I happened to be at the right place at the right time or knew the right people."

Interestingly, for women technologists, job satisfaction increases as agreement with the following impostor phenomenon statements increases:

- When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.
- I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.
- It's hard for me to accept compliments or praise about my intelligence or accomplishments.

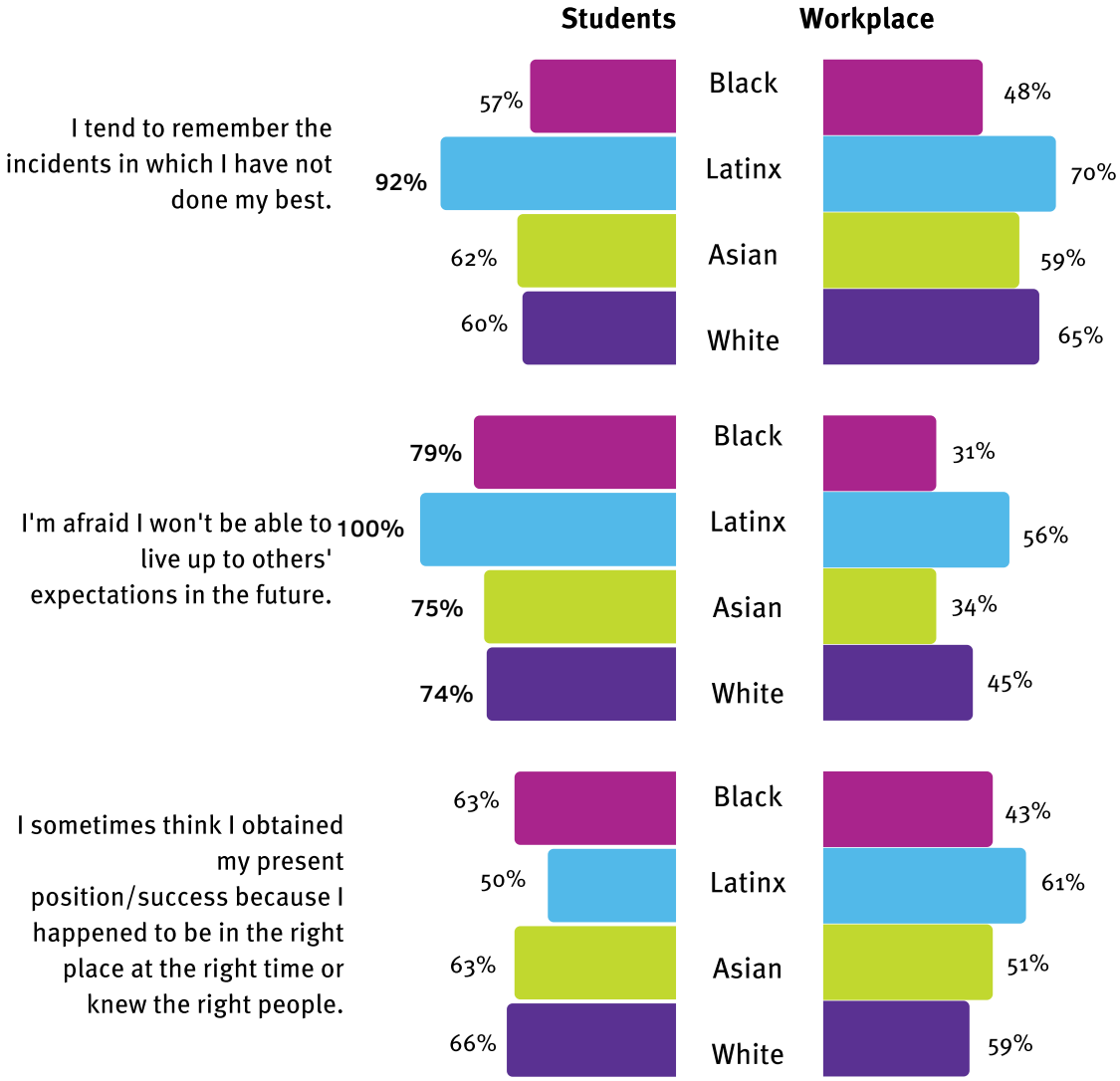
Only the statement "I have a dread of others evaluating me" is negatively correlated with job satisfaction.

7. Sakulku, J. (2011). The impostor phenomenon. The Journal of Behavioral Science, 6(1), 75-97.
8. Chrisman, S. M., Pieper, W. A., Clance, P. R., Holland, C. L., & Glickauf-Hughes, C. (1995). Validation of the Clance impostor phenomenon scale. Journal of Personality Assessment, 65(3), 456-467.
9. Cuddy, A. (2015). Presence: Bringing your boldest self to your biggest challenges. New York, NY: Little, Brown Spark.

Impostor Phenomenon

We analyzed the impostor phenomenon statements by race/ethnicity for technologists in the workplace and in school. Overall, Latinx tech women experience impostor phenomenon more commonly than other racial/ethnic groups.

Percent of women technologists who have experienced the following in the past 24 months:



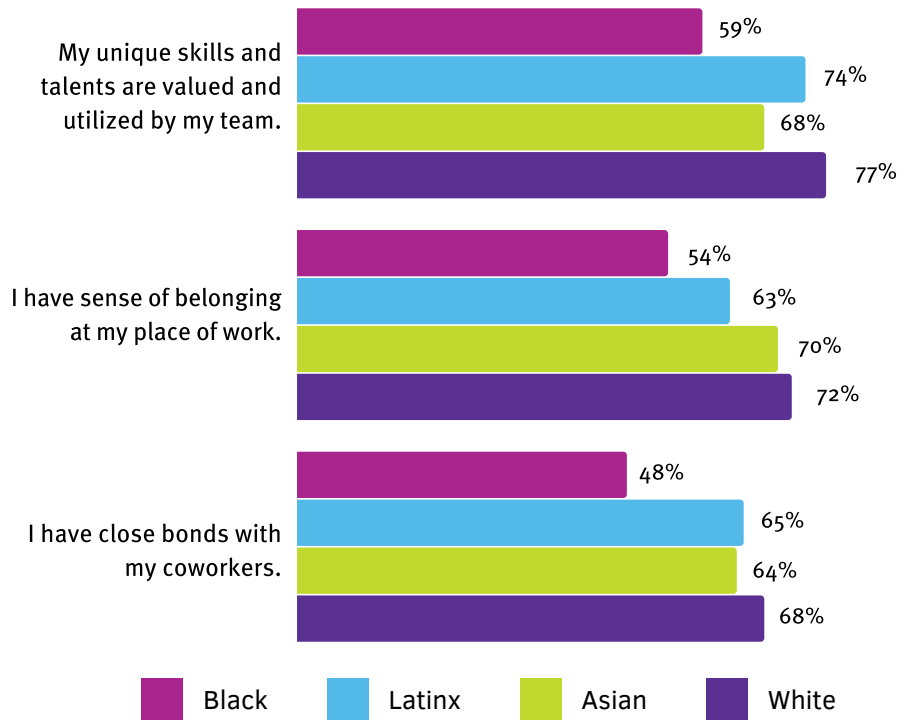
Action Items

- Teach managers and professors to focus on a growth mindset with their teams or students, being careful not to positively reinforce perfection.
- Increase psychological safety, making workplaces and classrooms safe places to take risks and make mistakes.
- Recognize the biases that are at play in women's impostor phenomenon so that the focus is not on how women do not believe in themselves enough.

Belonging in the Workplace

Belonging is the sense of being valued and accepted by those around you. Research shows that belonging is related to many experiences: mattering, identification, and social connection [9]. Consistent with existing literature, we found that all indicators of belonging measured are positively correlated with job satisfaction. Although most women technologists feel a sense of belonging at their workplace, their scores, on average, are less than those of men technologists. White women technologists have the greatest sense of belonging compared to all other racial/ethnic groups. Black and Latinx women technologists report the lowest sense of belonging in the workplace.

Percent of women respondents who agreed with the statements:



Workplace Action Items

Incorporate a model for inclusion that strives for a high sense of belonging combined with a high value for uniqueness [10]. Belonging without valuing uniqueness promotes assimilation rather than inclusion.

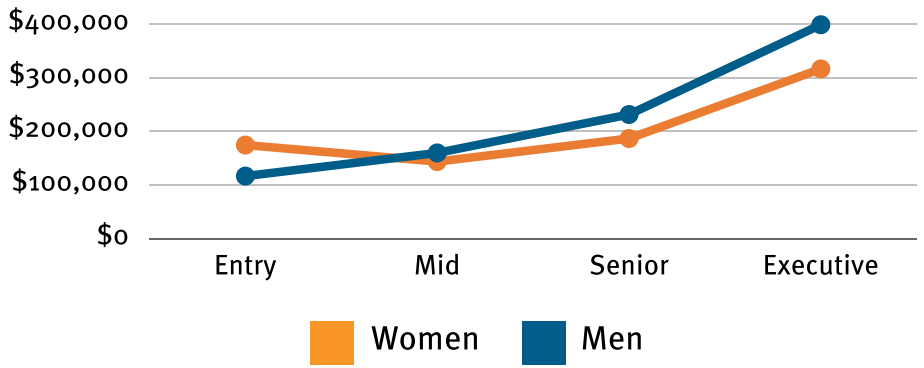
9. Carr, E. W., Reece, A., Kellerman, G. R., & Robichaux, A. (2019, December 16). The Value of Belonging at Work. Harvard Business Review.

10. Shore, L. M., Randel, A. E., Chung, B. G., Dean, M. A., Holcombe Ehrhart, K., & Singh, G. (2011). Inclusion and diversity in work groups: A review and model for future research. Journal of Management, 37(4), 1262-1289.

Pay Equity

We collected compensation information to better understand pay equity in the field of technology. On average, the salary of technical respondents in the United States is $147,050. Men technologists report earning more than women at every career level except entry.

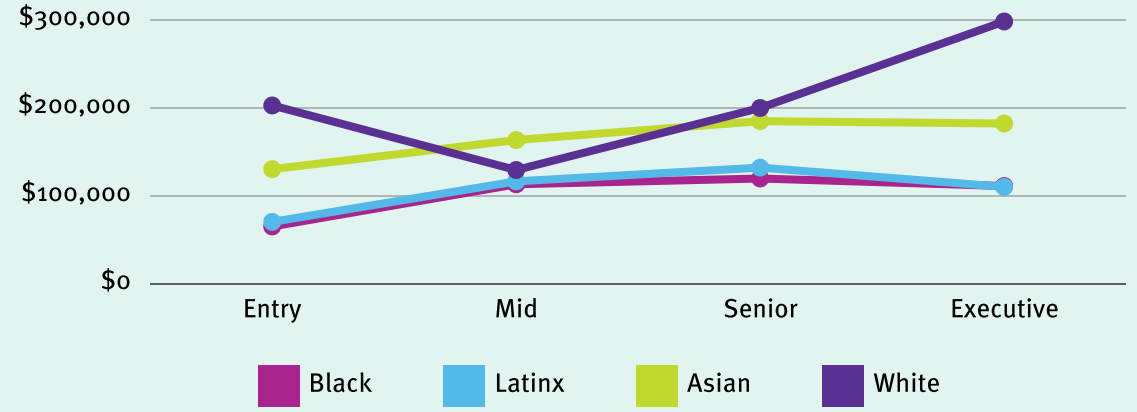
Average salary by career level and gender for technologists:



Black and Latinx women technologists report earning less than white women technologists.

Generally, white women technologists receive a larger salary than all other racial/ethnic groups at all career levels. Black women technologists are earning the lowest salary at all career levels except Executive (although this was only $900 less than the average Latinx executive salary).

Average salary by career level and race/ethnicity for women technologists:



Pay Equity

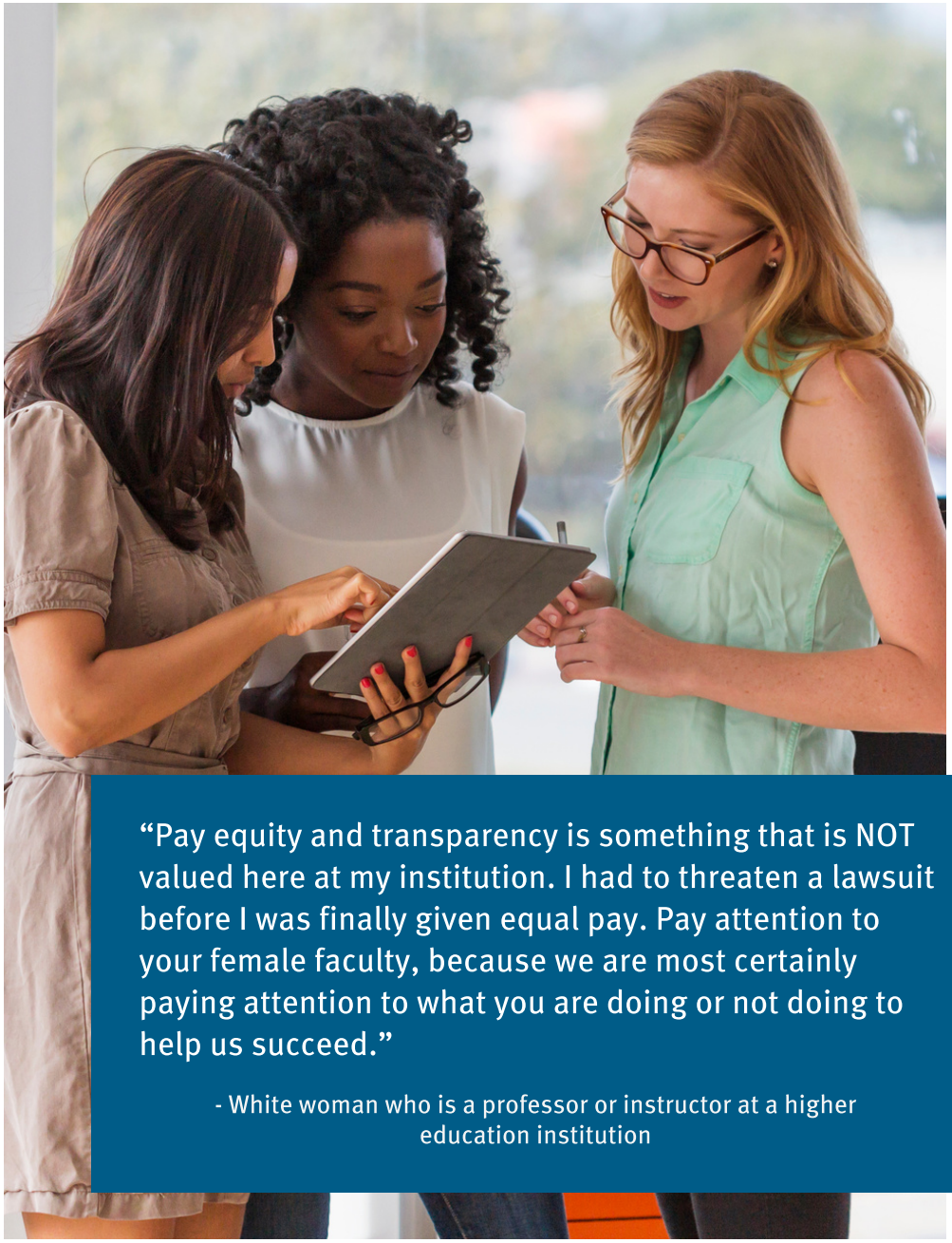
Asian women technologists feel that they are not paid fairly for the work they do.

Respondents were asked to rate their level of agreement with statements about pay at their workplace. Asian women technologists are statistically less likely to agree with the statement "I am paid fairly for the work I do," whereas white women are statistically more likely to agree.

Percent of technologists who feel like they are paid fairly for the work they do:

Workplace Action Items

- Incorporate pay transparency initiatives into your organizational policies.
- Include salary ranges in all technical job descriptions.
- Make compensation data public.
- Apply proportionality to your talent management processes: recruit and promote in proportion to the actual talent available.
- Conduct a pay equity analysis annually to assess for inequities.
- Ensure that pay analyses examine pay at the intersection of gender and race/ethnicity.
- Participate in Top Companies for Women Technologists.



"Pay equity and transparency is something that is NOT valued here at my institution. I had to threaten a lawsuit before I was finally given equal pay. Pay attention to your female faculty, because we are most certainly paying attention to what you are doing or not doing to help us succeed."

- White woman who is a professor or instructor at a higher education institution

Individual Wellbeing

We asked respondents to rate their level of agreement with statements about their lives and feelings outside of their workplace or school.

Personal Experiences:

77% of women technologists say they are happy with their lives and have a sense of well-being.

88% of women technologists say they are confident in their ability to decide and manage their personal lives.

84% of women technologists have the financial means to provide the basic life needs for themselves and their families.

Networks

70% of women technologists have a strong network of people supporting their success.

75% of women technologists feel respected.

76% of women technologists feel like they are a good leader. Black women technologists are statistically more likely to agree with this statement.

76% of women technologists feel like they can motivate people to define and achieve their goals. White women technologists are statistically less likely to agree with this statement.

Students in Tech

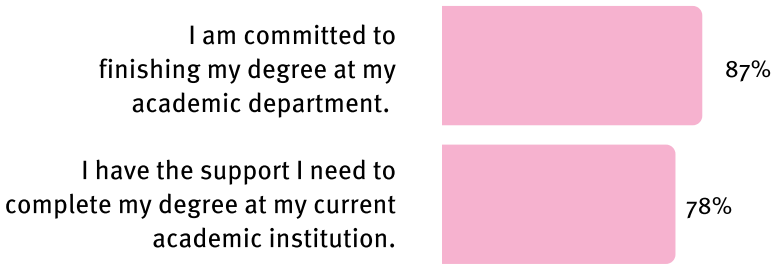
Leadership at Academic Institutions

We asked students in tech how much they agreed or disagreed with statements about the leadership at their academic institutions. Across responses, we see that tech women who are students feel that student leaders and faculty members who are women are more likely to support gender diversity initiatives than their male counterparts.

Academic Department Experiences

We continued to delve deeper into academic experiences and asked students to rate their agreement level with statements about their academic departments.

Percent of student women technologists who agreed with the following statements:



"Give female students more avenue to showcase their skills and talents. Encourage participation in conferences and workshops that create exposure to other women in technology. Establish an in-house mentorship program for female students and faculty."

- Black woman technologist who is a student

Higher Education Recommendations from Technical Faculty and Students

We asked respondents to share any recommendations they had to improve opportunities for women in tech at institutions of higher learning.

Recommendations from Faculty in Tech

- Faculty highlighted the need for pay equity and transparency, with a few respondents cited instances of learning about junior male colleagues getting paid more.
- Faculty stated a need for more mentorship opportunities for both faculty and students.
- Many faculty respondents also noted wanting higher education institutions to create and support programs that focus on K-12 and university-level female students. A few also mentioned wanting institutions to actually implement DEI policies and requirements, while also wanting institutions to routinely evaluate student body demographics and other DEI metrics.

Recommendations from Students in Tech

Administration level changes

- Students stated the need for universities to invest funding into DEI programs and initiatives and create tangible metrics for the success of these efforts.
- Institutions should put more effort into gathering feedback from female and BLNP students about their experiences in order to inform DEI programs and initiatives, as well as validate and support students' lived experiences.
- Universities should address the lack of diversity in department leadership and the lack of visibility for faculty that are women and/or BLNP, because students feel that this lack of representation is a factor for why students in historically excluded groups decide not to pursue tech.

Training

- Like technologists in the workplace, many students indicated that there is a great need for better training in higher education. Some students stated that they want faculty to receive better training on DEI and bias issues, and others indicated that they wanted male classmates to be informed about DEI issues and how to be an ally.

Programs and resources:

- Many students mentioned a need for formal mentorship programs for female and BLNP students in STEM, and that they also wanted universities to support organizations and groups that focus on women technologists. Students indicated a need for universities to facilitate and advertise opportunities that will help advance women technologists' academic and professional goals.

Technical Workplace

Sense of Mobility

We asked women technologists in the workplace about their sense of mobility.

83% of women technologists say they can create the future they want for themselves.

84% of women technologists say they have opportunities for promotion or advancement in their jobs or careers.

79% of women technologists report that they can transfer their skills to another career if they choose to do so.

Job Satisfaction

Over 80% of women technologists in the workplace indicate the following are important to their job satisfaction:

- A supportive supervisor
- A welcoming work culture
- Pay equity
- Clearly defined opportunities for professional growth

Leadership at Current Place of Work

Women technologists in the workplace were asked about their level of agreement with statements about their current place of work. Overall, 75% of women technologists in the workplace are satisfied with their supervisor.

Percent of women technologists who agree with the following statements:

Workplace Recommendations from Women Technologists

We asked respondents to share any recommendations they had for workplaces to improve opportunities for women technologists. Many respondents felt that corporations need to move beyond performative diversity and equity and focus on transformational, structural change. Some key points that were raised include:

Less talk, more action:

- Move beyond surface-level DEI conversations and efforts that only highlight the diversity and equity issues or focus on protecting the company's legal interests; companies should develop and implement tangible and measurable policies and practices around addressing DEI.
- Ensure that DEI policies are implemented and enforced, particularly regarding harassment and bullying.
- HR/leadership should provide more transparency around the reporting processes for harassment or discrimination and demonstrate that there are consequences for people who repeatedly violate company policies.

Interviewing and recruiting process:

- Diversify candidate sources including targeted recruiting efforts to find a diverse array of candidates, creating diverse interview panels, getting rid of technical interviews, and blinding the interview process.
- Do not rely on employee referrals for hiring candidates; they perpetuate the status quo, disadvantaging women and people of color.

Transparency:

- Implement transparency practices around employee performance evaluations, promotions, and data related to company demographics and salaries.

Balancing efforts around new technologists and experienced mid-level technologists:

- Companies should be more involved in programs that target K-12 diversity in tech.
- Broaden efforts beyond entry-level hiring and focus on the promotion and retention of women already in tech.

Disaggregate data and analyze the distribution of roles/tasks:

- Data gathered around demographics needs to be disaggregated and intersectional and examine the kinds of roles that women and people of color occupy.
- Break down the racial demographics to address disparities among Black/Latinx technologists; companies should not consider DEI measures to be successful if most of their women technologists are White/Asian.
- Address the ways that team dynamics are a microcosm of the inequity issues within a company; women technologists are frequently tasked with the non-technical parts of a project or are forced to occupy communication or supportive roles. This pattern leads to women getting less recognition for the success of projects.

Who needs the training?

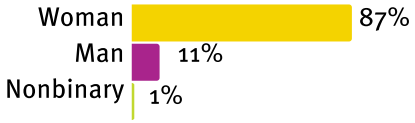
- Training should not be directed at women and BLNP technologists, nor should women/BLNP employees be obligated to educate others about issues of racism, discrimination, etc. DEI training should be targeted at majority group holders.
- Focus on training programs to help advance DEI goals such as conscious/unconscious bias, ally/bystander training, conflict resolution training, etc.
- Mid and lower-level supervisory and management roles should receive DEI training so that DEI changes can be implemented on a lower level with supervisees and teams.
- Target upper-management and executive leadership for training so that DEI practices can come from the top-down.

Respondent Universe

The survey received a total of 2,473 responses. All demographic questions in the survey were optional.

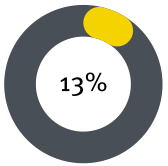
Gender (n=1941)

Respondents were asked to select their gender:



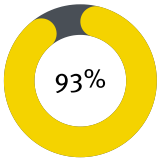
LGBTQ + (n=1556)

Respondents indicated whether they were part of the LGBTQ + Community:
13% said yes



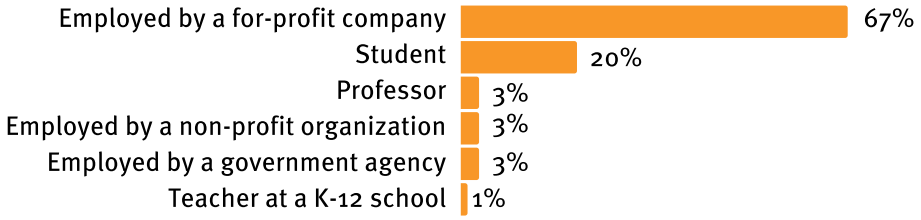
Technologists (n=1955)

We asked respondents whether they considered themselves “technologists:"*
93% indicated they are technologists



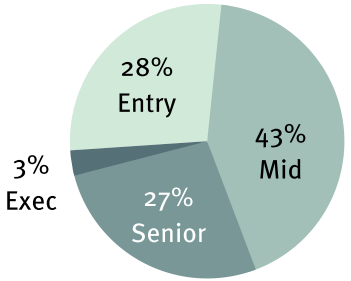
Occupation (n=2238)

Respondents were asked to select a category that best describes their current occupation status:



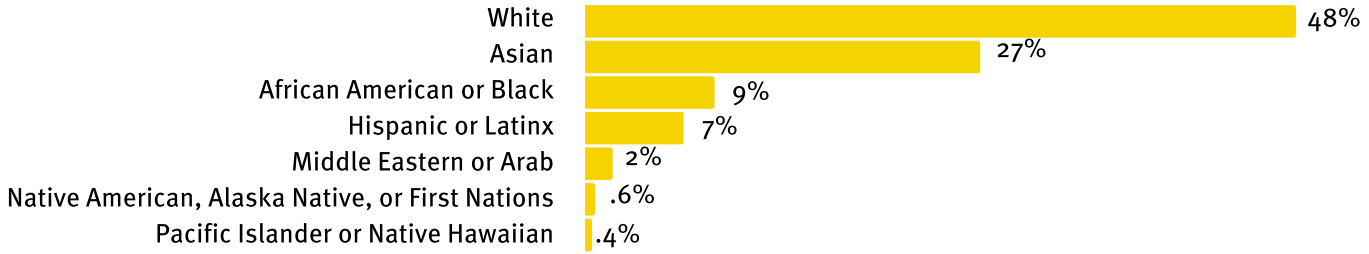
Career Level (n=1833)

Respondents in the workforce specified their career level:



Race and Ethnicity (n=1350)

Respondents were asked to report their race and ethnicity. Multiple identities could be chosen:



**Technologists are those who work in or are in training to work in the following areas: Computing and information technology, all occupations that require deep technical specialization and knowledge, as well as managers, directors, and executives who oversee technical employees and the development and delivery of technical products.*

The Technical Equity Experience Survey (TechEES) is a biennial survey from AnitaB.org. TechEES is a global study of the individual experiences of people in the field of technology. In particular, TechEES examines the ways in which women technologists experience equity and inclusion in the field, and provides recommendations to the tech ecosystem about how to foster intersectional tech equity. The next study will launch in September 2021.

For questions about this report, contact the Evidence & Influence team at EI@AnitaB.org.

Contributors in alphabetical order:
Yamelith Aguilar
Hayley Brown
Madiha Haque

At AnitaB.org, we envision a future where the people who imagine and build technology mirror the people and societies for whom they build it. We connect, inspire, and guide women in computing, and organizations that view technology innovation as a strategic imperative.

Our social enterprise supports women in technical fields, as well as the organizations that employ them and the academic institutions training the next generation. A full roster of programs helps women grow, learn, and develop their highest potential.