PINNING DOWN THE JELLYFISH:

THE WORKPLACE EXPERIENCES OF WOMEN OF COLOR IN TECH

APRIL 2022
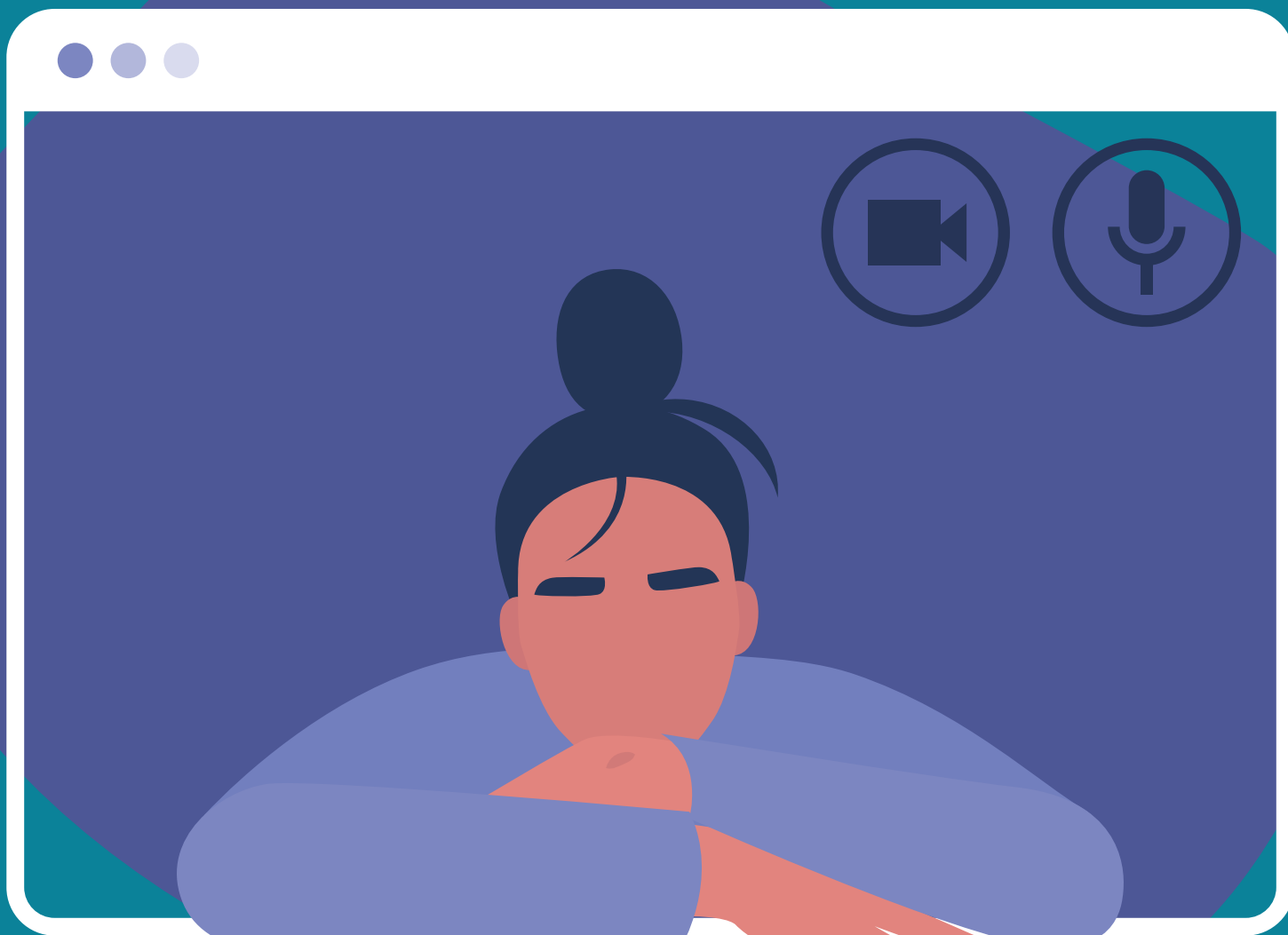
WORKLIFE LAW
UNIVERSITY OF CALIFORNIA
HASTINGS COLLEGE OF THE LAW

ABOUT THE CENTER FOR WORKLIFE LAW

The Center for WorkLife Law is an advocacy and research organization at UC Hastings Law that seeks to advance racial, gender, and class equity in the workplace and education. At WorkLife Law, we address inequality at a structural level by developing and implementing concrete, evidence-based interventions in schools and workplaces and changing public policy at the state and national levels. To learn more about WorkLife Law's impact, visit worklifelaw.org.

Acknowledgements

Foreword

For nearly 25 years, I have been working as a scholar-activist developing informal and formal STEM education programs for girls of color (e.g., African American, Native American, Latinx, and Native Hawaiian). My gaze is fixed on providing opportunities and resources for adolescent girls to become what I call technosocial change agents—that is, individuals who can effectively use technology to advance our society toward more socially just ends. I am grateful to the federal government and corporate foundations that have supported my research and program development over the years. COMPUGIRLS, the most well-known of my projects, has provided me access to industries, federal offices, and institutions of higher education all interested in the issues of race-gender STEM disparity, in general, and technology, in particular. In 2014, I was honored by President Obama's White House as a STEM Access Champion of Change. Soon afterwards, I gained support to found a unique unit at my university, The Center for Gender Equity in Science and Technology (CGEST). As a one-of-a-kind organization dedicated to research, program development, and advocacy with and for underrepresented women of color and STEM, we collaborate with scholars, funding agencies, industries, governments, and nonprofits across the globe.

As CGEST celebrates its fifth anniversary, its significance remains. Women of color remain sorely underrepresented in STEM. In some disciplines, there has been a decline of certain race-gender groups entering and persisting. Technology careers, for instance, may be the most lucrative providing sustainability of all STEM jobs. Yet, the technology field continues to be sorely underrepresented by the fastest growing female population in our nation—women of color. Technology companies recognize this issue and have begun looking toward intersectionality as a means to solving their workforce problems. Unfortunately, intersectionality has been used in narrow ways that have led to minimal if any positive results. The tendency is to prepare girls of color to become women of color who will be prepared to endure the flawed system technology companies perpetuate. In my book, COMPUGIRLS: How Girls of Color Find and Define Themselves in the Digital Age, I call this approach the "astronaut syndrome." This report, however, presents how the technology industry should and could apply intersectionality as a social justice project to ensure no woman need steel themself to survive inhospitable work contexts.

When my colleague, Allison Scott (Kapor Foundation) and I received a grant to identify and support research projects in which intersectionality is used to analyze women of color and computer science, we were all too excited to work with Joan C. Williams, Rachel Korn, and Asma Ghani. Joan's 2014, "Double Jeopardy? Gender Bias Against Women in Science" report was one of the first to present

what happens to women of color after they enter the STEM workforce. This current report does much of the same but with careful attention to intersectionality as a critical tool. The report's organization challenges the notion that intersectional work only concerns disaggregating data along racial and gender divides. Standpoints of various women appear complemented with statistical results. Important, and startling, patterns of domination, subordination, and reinforcements of white supremacy in technology industries appear in the following pages.

Hearing from different women of color how they were passed over for promotion, disrespected due to their perceived aggression, expected to conduct housework in the office, and recognize the everyday manifestations of workplace biases is important to understand the depths of race-gender disparity. How else can companies transform "the problem" without understanding the outcomes from the disenfranchised perspectives? To be clear, this report is more than tales of disgruntled women. Through an intersectional lens, the findings highlight how power operates and subordinates along several lines beyond race and gender. Intragroup differences, such as nonbinary women of color, ethnic and gender identity for Asian women, and how race, gender, and first-generation college graduate appear.

As a distinguished law professor with highly acclaimed publications about gender, race, and employment, Joan is one of the top scholars in her field. Rachel's social psychology background and expertise in quantitative analyses allows this report to present statistical results in accessible language. Asma's expertise in how discrimination is compounded at the intersection of marginalized identities grounds this work theoretically and highlights the importance of understanding intersectionality for mitigating bias. Together, the authors remind technology companies that to effectively diversify their workforce, efforts must include internal-facing, intersectional work. In sum, Joan, Rachel, and Asma present hope. The racist, sexist, homophobic, colonialist cultures the women of color study participants endure can be dismantled. It begins with technology companies reading this report, recognizing how constructs have remained in the shadows, and moving forward critically and sustainably. This report spotlights the reasons why this path must be followed and how transformation can begin.

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Executive Summary

This report is a quantitative and qualitative study of the experiences of women of color in computing. In partnership with the Kapor Center and the Center for Gender and Equity in Science and Technology, the Center for WorkLife Law examined how bias plays out in the computing profession. We studied basic patterns of bias, how bias plays out in both informal workplace interactions and formal workplace systems, outcomes related to bias, and sexual harassment. This report reflects the experiences of 216 responses to the Workplace Experiences Survey as reflected in a 10-minute survey designed to pick up how bias plays out in the workplace. The quantitative survey data is supplemented by qualitative data in the form of survey comments and one-on-one interviews. Our study focuses on the experiences of women of color, and how those experiences are similar and different in different racial and ethnic groups, and by gender identity, sexual orientation, and first-generation status.

KEY FINDINGS

Women of color face a different workplace

Women of color in our study reported facing more bias than white women. The experiences of women of color differed by racial/ethnic group, but one pattern was consistent: the reports of all groups of women of color tended to cluster together, far away from white women.

Women of color's experiences of bias were associated with their being 37.6 percentage points less likely than white women to report that they could see a long-term future for themselves at the organization, and 16.4 percentage points more likely to report that they have left or considered leaving a company because of its culture.

Our analysis discusses the intersection of various forms of bias that affect women of color, including bias based on race/ethnicity, gender identity, sexual orientation, and social class.[1] We also explore another key element of intersectionality: that bias shapes workplaces at a structural level, such that women of color report lower levels of fairness across a broad range of organizational systems as compared to white women. (Other research has found that white women report both higher levels of bias and lower levels of fairness as compared with white men.)[2]

KEY ISSUES

Chart legend: White Women, Women of color

Y-axis: 1.00 to 6.00

X-axis categories: Prove-it-again, Seen as aggressive, Maternal Wall, Negative, More DEI work
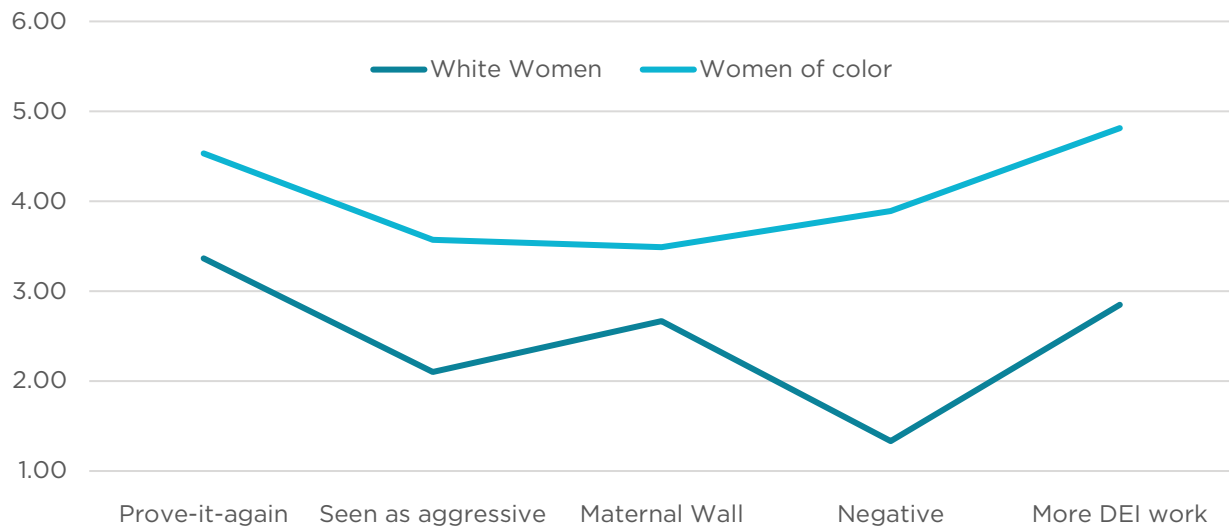
Extra work

A recurring theme came up over and over again: women of color have to put in more work.

This work takes many different forms:

- DEI work that isn't part of one's job description.
- Office manager or HR work that isn't part of one's job description.
- Having to work harder to prove your worth in order to get the same respect as others.
- Having to walk a narrow tightrope to be seen as a leader without triggering pushback.
- Having to self-edit to make sure colleagues are comfortable.
- Having to think about how you are dressing.

All of these forms of extra work are unpaid, unrecognized, undervalued — and take away time and energy that could be spent both on more highly valued work and on life outside of work.

Patterns of bias

All groups of women of color reported more of the five characteristic patterns of bias in tech than white women, sometimes dramatically more:

- Prove-it-again bias: women of color had to prove themselves repeatedly in order to get the same kind of respect and recognition for their work at a level 23.4 percentage points higher than white women.

- Tightrope bias: women of color had to walk a tightrope to counter unspoken expectations that they be deferential rather than ambitious and authoritative. For example, they were more likely to report being interrupted (17.9 percentage points higher than white women) and more likely to get negative reactions to justified anger (13.3 percentage points higher).

- Maternal Wall bias: women of color faced additional bias based on motherhood. Most notably, women of color reported diminished perceptions of their competence and commitment post-children, at a level 16.4 percentage points higher than white women.

- Tug of War bias: biased environments led to conflicts among women of color. For example, they were more likely to report that they worried if they supported another member of their group, it would be construed as favoritism (19.1 percentage points higher than white women).

- Distinct experiences of different groups: Women of color faced negative racial or ethnic stereotypes at work at a level 51.1 percentage points higher than white women.

Distinct experiences of different groups

- Although the experiences of women of color tended to cluster together, some differences were more salient for each racial/ethnic group. Compared to all other women of color, each group had different experiences that stood out:

- Black and African American women reported feeling excluded, isolated, and treated like they were invisible.

- Latinx and Hispanic women reported Maternal Wall bias and the Forever Foreigner stereotype, e.g., being asked, "Where are you really from?"

- Asian and Asian-American women reported many of the worst experiences in our study, though their experiences differed by ethnicity:[3]

  o East Asian women reported that they were expected to play feminine roles in the workplace, and that they were not expected to play a leadership role.

  o South Asian women reported accent discrimination and assumptions that they will have too many children.

- ○ Southeast Asian women reported facing the Forever Foreigner stereotype and that they got pushback for showing anger even when it is justified.
- Multiracial women reported expectations that they would do the office housework and that they received pushback for assertive behavior.
- Indigenous women reported that they have to deal with stereotypes about their race and that they are treated as a representative of their racial/ethnic group.

LGBTQ+

While our study focused heavily on race/ethnicity, we also examined how bias plays out for those same women of color broken down by sexual orientation and first-generation status, and for trans, non-binary, genderqueer, and gender non-conforming people of color.

- LGBQ+ women of color: compared to heterosexual women of color, LGBQ+ women of color found having to edit their behavior to make sure others feel comfortable around them at work and feeling unwelcome to socialize with coworkers especially salient.
- Trans, non-binary, genderqueer, and gender non-conforming people of color: compared to cisgender women of color, these individuals found getting personality comments in performance evaluations and having to alter their appearance and demeanor to fit in to be particularly salient.

First-generation women of color

- First-generation professionals: women of color who are the first generation in their families to go to college reported facing stronger assumptions that they were not qualified (even when they had the same credentials) and being seen as a worse fit for leadership roles than did women of color whose parents were college grads.

Workplace Systems

- Women of color reported getting the promotions they deserved at a level 10.1 percentage points lower than white women. The promotions process had a huge impact on outcomes: even after taking into account the impact of other workplace systems, unfairness in promotions had a significant effect on belonging, intent to stay, and career satisfaction.
- Women of color reported getting paid less than similarly situated colleagues at a rate 22.3 percentage points higher than white women.

Sexual harassment

- In a striking finding, over two-thirds of the women of color in our study reported some form of sexual harassment.

- Nearly ¼ reported unwanted physical contact, and almost 10% reported having lost opportunities like promotions or career-enhancing assignments due to sexual harassment.

Solutions

The good news is that tech companies don't have to let bias undermine their goals of retaining and advancing women of color. They simply have to follow the same procedures they do to solve any basic business problem: keep metrics to establish a baseline, implement evidence-based strategies to address the issues that come up, and use an iterative process until the metrics improve. Our team has already created a set of bias interrupters that provide all the strategies needed to get started, available at the end of this report.

Background

Once considered a natural fit for women, after computer science moved to the center of the economy, it became and remains dominated by white men at all stages of the pipeline, even as related STEM fields have seen steady improvements in gender parity both in degree attainment and workplace representation.[4] A recent study of the Integrated Postsecondary Education Data System found that 78.6% of those who held a degree in computer science were men, and 42.2% were white men.[5] In 2016, only 10% of bachelor's degrees in computing were awarded to women of color.[6]

In the workforce, the percentage of women in computing has actually declined over the last three decades.[7] Women of color especially are even further underrepresented: in 2015, 25% of tech workers were women, but only 1% of tech workers were Latinx women and 3% were Black women.[8] And among all women who work in computing specifically, only 12% are Latinx or Black.[9] At the top tech companies, representation for women of color was even lower.[10] In 2016, 16% of Silicon Valley tech workers were Asian women, 2% were Latinx women, less than 1% were Black women, less than 1% were Native American/Alaskan Native women, and less than 1% were Native Hawaiian/Pacific Islander women.[11]

A common narrative in the field of computing is that tech workplaces are meritocracies that reward the most skilled workers. However, research shows that workplaces that view themselves as meritocratic are often *more* biased than other companies.[12]

> *"[T]hese companies claim to be "mission-driven companies" that are helping [the] underserved but actually treat their own POC employees the worst and give the lowest wages." — Multiracial woman.*

While the workplace experiences of women of color in computing remain understudied, women of color have been vocal about the "bro" culture in tech and its serious implications both for the industry and the technologies it produces. In 2012, former Reddit CEO Ellen Pao made national headlines when she filed a gender discrimination lawsuit against a Bay Area venture capital firm where she worked,[13] and again in 2015 when she lost her case. Over the last several years, prominent computer scientist Timnit Gebru has been vocal about implicit bias in artificial intelligence[14]—one symptom of the lack of diversity in the computing spaces that create the technologies that have become integral to everyday life. In late 2020, Gebru left Google after she refused to retract or remove her name from a new article[15] warning about the limitations and biases of AI: Google said that she had resigned, Gebru said she had been fired.[16]

A second prevailing narrative about diversity in computing is that it is a pipeline problem. There is clearly still a pipeline problem—but there is also a culture problem.

Many women of color who earn their degrees in computing either never enter the field or end up leaving the industry altogether.[17] Attrition is much higher among women than men in tech: early-career women are leaving the tech industry at twice the rate of men,[18] and one study found that over half of mid-career women leave the industry.[19] Though publicly available figures on retention of employees of color in computing are limited, some companies have begun reporting on their struggles to keep employees of color at their company: in 2016, Intel reported that the company was losing Black employees at rates higher than other groups;[20] in 2018, Google released attrition demographics for the first time and shared that Black and Latinx employees were leaving at higher rates than their white peers.[21]

According to the 2017 Tech Leavers study by the Kapor Center, underrepresented women of color were much more likely to cite unfair treatment as a reason they left: 36% of underrepresented women of color in tech reported unfairness as a reason for leaving their last company, compared to 28% of white and Asian women.[22] The Tech Leavers study also reported that nearly a quarter of underrepresented people of color experienced stereotyping at work, which was twice the rate of stereotyping reported by white and Asian tech workers.[23] Another study found that 48% of Black women in science, engineering, and technology felt stalled in their careers—a rate considerably higher than other groups.[24] A 2019 report by the Ascend Foundation found that while Asian women were overrepresented in some of the largest tech companies, they were severely underrepresented in leadership positions: 1 in every 285 Asian women in tech held an executive position, compared to 1 in 123 white women.[25] In the Tech Leavers study, nearly a third of underrepresented women of color reported being passed over for a promotion at work.[26]

In both our study and prior research, women of color in computing reported a sense of isolation that came along with often being the only woman of color working on teams of mostly (or all) white men. Recent studies have found that isolation is one of the most common experiences reported by Black women in computing.[27] In our prior research, we have identified a similar theme of isolation among women engineers and women STEM professors of color.[28] Women of color in our current study also reported feeling a sense of isolation at work, as well as having to expend constant energy to be viewed as a valued contributor rather than simply a representative of their racial/ethnic group.

Women of color in computing face a pay gap as well. Computer programming has one of the highest gender pay gaps in the U.S., with women earning on average 11.6% less than men.[29] In 2018, for every dollar white men made, Black women made 62 cents, Latinx women made 54 cents, American Indian/Alaskan Native women made 57 cents, and Asian women made 90 cents.[30] A 2020 report found

that women in tech are offered lower starting salaries than men 63% of the time, and the gender wage gap in tech was highest for Black and Latinx women.[31] In tech, disparities in company equity exacerbate the pay gap.[32]

The pay gap compounds another issue that women of color face: high levels of student loan debt. Black women take on more student loan debt than any other group, and a full 20% more than white women.[33] Given the massive Black-White wealth disparities, such that Black households have 1/10th of the wealth owned by white households[34], it is not surprising that Black women have to take on more debt for education. Furthermore, 57% of Black women college graduates who were paying off loans reported difficulties meeting all of their essential expenses four years after graduating.[35] Having to pay off more debt on a lower salary means that tech jobs may not lead to economic growth for women of color the way they do for white men, maintaining or potentially exacerbating existing inequality

The news is full of articles documenting the routine racism and sexism that women of color face in tech and computing workplaces.[36] Women in computing have pointed to the importance of mentorship and sponsorship to staying in the field long-term.[37] One study of Black women engineers found that strong ties to one's identity as an engineer was key to resilience and persistence in the field.[38]

Women of color in tech and computing have also reported that efforts to reduce the gender gap in computing have centered the experiences of white women, while ignoring the intersectional experience of women of color in computing,[39] and that companies will need to implement more comprehensive diversity & inclusion strategies to keep women of color in the field.[40] Women of color in our study reported the same pattern of diversity & inclusion efforts focusing on solutions for white women.

We have sought to apply an intersectional lens to the current research in order to understand the unique experiences of women of color in computing. Intersectionality, a term coined by Kimberlé Crenshaw, refers to an analytical tool to examine the way entwined systems of oppression (including racism and sexism) affect individuals holding intersecting social identities based on gender, race, class, sexual orientation, religion, and other dimensions.[41] The interaction between power dynamics and the identities of women of color is highlighted throughout this report.

THE CURRENT STUDY

Our report builds on prior research on the experiences of women of color in computing and tech, as well as our prior findings in closely related fields like STEM[42] and engineering.[43] On our survey, participants were able to select all of the racial/ethnic groups that they identify with, as well as a write-in option. Throughout the report, we try to preserve the integrity of individuals' responses while also being clear about who we are referring to. We use the term "women of color" to refer to all women who selected any racial/ethnic groups other than "white" only. When we are referring to analyses of specific racial/ethnic groups, we include all individuals who selected that group on the survey, whether it was the only group they selected or not. For example, a woman who selected "Black or African American" and "Latinx or Hispanic" is included in the analyses of both Black or African American women and Latinx or Hispanic women. For readability, we use the term "Latinx" to refer to individuals who indicated Latinx or Hispanic heritage,[44] and the term "Indigenous" to refer to individuals who indicated Native American, Alaskan Native, Native Hawaiian, or Pacific Islander heritage.[45]

The intersectional experiences of women and LGBTQ+ people of color in computing workplaces deserve more attention in the literature. Research suggests that people with *multiple* stigmatized identities experience greater bias and stereotype concerns than people with *one* stigmatized identity, with the least amount of bias reported by people without any stigmatized identities.[46]To account for the impact of marginalization based on multiple identities, our study examined the different experiences of people of color depending on their gender identity, sexual orientation,[47] and first-generation status (whether a parent had completed a college degree).[48] Throughout the report, we have separated the experiences of people of color depending on their gender identity and sexual orientation, so we report results both for LGBQ+ individuals and Trans, non-binary, genderqueer, and gender non-conforming individuals. Some of these groups are small, and the experiences of individuals who completed our survey may not be generalizable to the larger populations of these groups. However, we felt it was important to share the experiences of our survey participants both to be respectful to the participants and to provide preliminary evidence that the experiences of individuals of color in the workplace also differ by gender identity, sexual orientation, and first-generation status.

Our report does not delve into different experiences of white women by sexual orientation and gender identity, as this report is largely focused on experiences of women of color in tech. However, based on previous research, we can expect that *straight* and *cisgender* white women would experience different stereotype concerns and levels of bias compared to *LGBTQ+* white individuals.[49] We hope to further explore this phenomenon in future studies.Data collection for the current study began in December 2019 and concluded in late May 2020. This timing meant that we were collecting data right at the beginning of the COVID-19 pandemic.

Patricia Collins highlights social context as one of the six core constructs of intersectionality, as well as markers of power such as gender, race, and ethnicity.[50] Our study provides a look at the experiences of women of color in computing workplaces, and the comparison to our previous work provides more information on how the social context of the pandemic may have impacted different groups of women in different ways. For example, women of Asian descent reported the worst workplace outcomes in the study, which may be related to the spike in racism against Asian Americans that began in early 2020.[51]

Results

IMPACTS OF BIAS

Women of color in computing reported high levels of workplace bias and perceptions that workplace systems were unfair, and that bias has far-reaching impacts. The five bias patterns were associated with key business outcomes.

In order to examine the unique impact of each pattern of bias and workplace system on outcomes, we began by creating composite scores for each pattern of bias, workplace system fairness, and outcome variable. We conducted regression analyses using these composite scores, and found that each bias pattern and workplace system had a unique impact on workplace systems, as well as contributing to the overall pattern of impacts.

Climate: bias and workplace system fairness

The five patterns of bias and workplace system fairness were associated with outcomes. Participants reported on bias in a number of different workplace systems: access to opportunities, office housework, compensation, hiring, performance evaluations, promotions, and sponsorship. The aggregate impacts of the five patterns of bias and unfairness in workplace systems were substantial:

- **Belonging:** the five patterns of bias and perceptions of workplace system fairness accounted for 66% of the variation in feelings of belonging.

  Unfairness in the promotions process was the most strongly linked to belonging, when accounting for all patterns of bias and other workplace systems.

- **Intent to stay:** the five patterns of bias and perceptions of workplace system fairness accounted for 59% of the variation in intent to stay at their workplace long-term.

  Unfairness in the promotions process and sponsorship were the most strongly linked to intent to stay, when accounting for all patterns of bias and other workplace systems.

- **Career satisfaction:** the five patterns of bias and perceptions of workplace system fairness accounted for 67% of the variation in career satisfaction.

  Unfairness in the promotions process and unfairness in compensation were the most strongly linked to career satisfaction, when accounting for all patterns of bias and other workplace systems.

- **Engagement:** the five patterns of bias and perceptions of workplace system fairness accounted for 62% of the variation in engagement at work.

    Unfairness in the promotions process was the most strongly linked to engagement at work, when accounting for all patterns of bias and other workplace systems.

- **Clear path for advancement:** the five patterns of bias and perceptions of workplace system fairness accounted for 58% of the variation in whether participants saw a clear path for advancement for themselves at their organizations.

    Unfairness in the promotions process was the most strongly linked to seeing a clear path for advancement, when accounting for all patterns of bias and other workplace systems.

- **Recommend to a friend:** the five patterns of bias and perceptions of workplace system fairness accounted for 65% of the variation in whether participants would recommend their organization to peers.

    Unfairness in the promotions process and unfairness in compensation were the most strongly linked to willingness to recommend their organization to a friend, when accounting for all patterns of bias and other workplace systems.

Across the different outcomes, the workplace system with the strongest impacts was the promotions process. This means that organizations looking for ways to retain and include women of color can start by looking at who they are promoting — and making sure their processes aren't systematically excluding women of color.

The Five Patterns

In order to examine the unique impact of each pattern of bias on perceptions of fairness of workplace systems, we conducted regression analyses using the five patterns and the workplace systems. We found that each bias pattern had a unique impact on workplace systems, as well as contributing to the overall pattern of impacts.

Prove-it-again

Prove-it-again bias (some groups are assumed to be less competent than others) had some of the strongest impacts on perceptions of fairness of workplace systems, after controlling for the other patterns of bias. An increase in Prove-it-again bias was linked to:

- An increase in exclusion.
- A decrease in perceptions that the processes for allocating high-profile opportunities were fair.
- A decrease in perceptions that the processes for compensation were fair.
- A decrease in perceptions that the processes for promotions were fair.

Tightrope

Tightrope bias (some groups need to work harder in order to be seen as both competent and likeable) also had some of the strongest impacts on perceptions of fairness of workplace systems, even after controlling for the other patterns of bias. An increase in Tightrope bias was associated with:

- An increase in exclusion.
- An increase in doing the office housework.
- A decrease in perceptions that the processes for performance evaluations were fair.
- A decrease in perceptions that the processes for sponsorship were fair.

Maternal Wall

Maternal Wall bias (bias based on motherhood) was associated with perceptions of fairness of workplace systems after controlling for the other patterns of bias. An increase in Maternal Wall bias was associated with:

- A decrease in perceptions that the processes for allocating high-profile opportunities were fair.
- A decrease in perceptions that the processes for compensation were fair.

Tug of War

The unique impacts of Tug of War bias (when a biased workplace creates conflict within members of the same group) were not as substantial as the other patterns. However, an increase in Tug of War bias was associated with:

- A decrease in perceptions that the hiring processes at one's workplace were fair.

Distinct Experiences of Different Groups

The preceding four patterns of bias are made of experiences that occur due to both racial/ethnic group membership and gender identity. However, certain elements that are not captured by the other four patterns also have impacts, even after controlling for the other types of bias. An increase in distinct experiences of different groups based on racial/ethnic group membership, indigeneity, sexual orientation, and other dimensions of identity was associated with:

- An increase in exclusion.
- A decrease in perceptions that the hiring processes at one's workplace were fair.

Overall, the impacts of the five patterns of bias on the perceptions of fairness of workplace systems were significant.

PROVE-IT-AGAIN BIAS

"It doesn't matter how well I perform; I feel like I have to go above and beyond." — African American Woman

Some groups have to provide more evidence to be seen as equally competent as their peers.[52] Prove-it-again bias is a result of descriptive stereotyping. Some groups, including women, some racial/ethnic identities, and people of lower-class origins are assumed to be less competent, and so they have to work harder than their colleagues in order to get the same level of respect and recognition. Prove-it-again is a status effect: it can impact anyone with a lower status or stigmatized identity, whether that be race, gender, sexuality, disability status, or class.[53]

Prove-it-again bias stems from two different mechanisms: in-group favoritism and lack of fit. In-group favoritism occurs when members of a dominant group favor other members of that dominant group. For example, if white men are the dominant group at a workplace, they will likely favor other white men. This favoritism may take the form of giving other group members the benefit of the doubt, informal information sharing, mentorship, or other advantages.[54]

The second mechanism, lack of fit, can be explained with an example: imagine a brilliant computer scientist. For most people, a white[55] man[56], perhaps a bit geeky, will immediately come to mind. This predisposition to envision a successful coder as a white man often results in women and people of color having to work harder to prove that they are a good fit for the role and consequently, women tend to be underrepresented in fields associated with brilliance.[57]

In our study, we found confirmation that women of color in computing experience every kind of Prove-it-again bias at work.

PROVE-IT-AGAIN BIAS
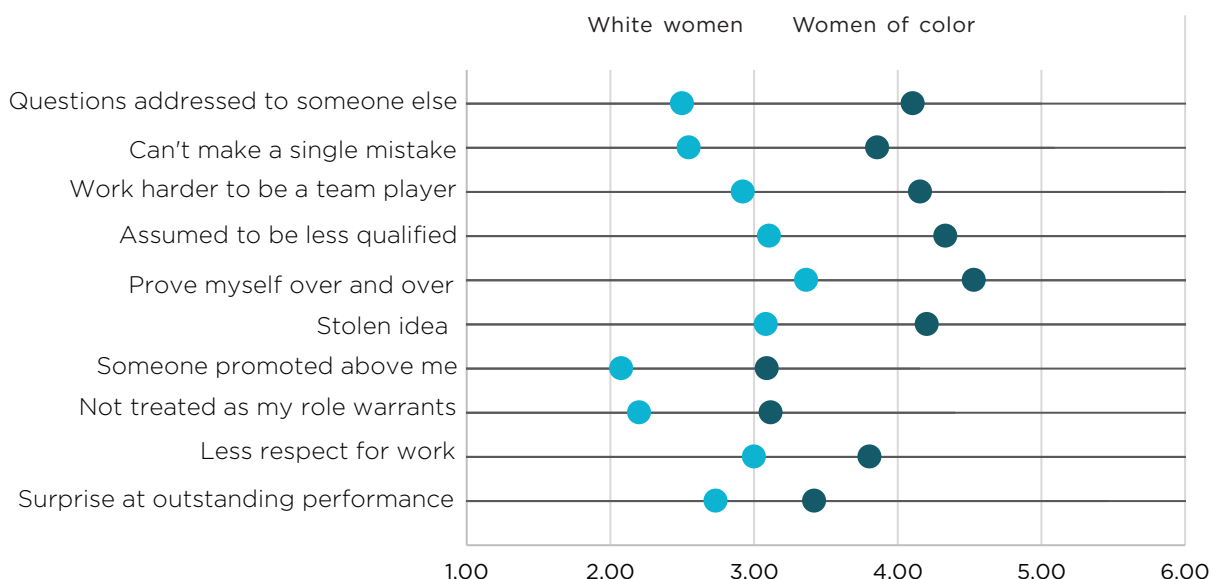
Putting in extra work

To get at the heart of Prove-it-again bias, our survey asked whether participants felt that they had to prove themselves over and over again in order to get the same recognition that others automatically get at work. Women of color as a group agreed at a much higher level[58] that they had to repeatedly prove themselves (4.53 vs. 3.36 for white women, a 23.4 percentage point difference).

> *"I felt that I had to prove myself even more when it came to saying that I could help out on the project. 'I know what I'm talking about.' Even like doing things like showing up to work early, [working during] lunch break..., getting a head start on different tasks, so that I can just be one step ahead like, 'Okay. I already finished that. What's the next task?'" — African American woman.*

> *"I do find myself in position to have to work harder and present myself differently...in order to be paid accordingly, and given the proper kudos. It does feel like I have to go the extra mile." — African American woman.*

One way Prove-it-again bias can play out in computing is that women of color's tech specs may have to be a lot more detailed than white men's:

> *"[F]or tech specs developed by men, it seems like they don't mind if they don't include as much detail, but any technical spec I've seen created by a woman on my team has always had an immense level of detail." — Latina.*

Women of color in computing also reported that they receive less respect for the same level of work (3.80 vs. 3.00 for white women, a 16.1 percentage point difference), which again means that women of color have to work harder.

> *"No matter how much a company advertises they are diverse and open to opportunities for minority women, it's not true... From my experience in the workforce over 12 years, it's a lot of extra work we have to do just to get respected and viewed more for other roles." — Latinx woman*

The extra work that women of color have to do is not limited to technical work. Women of color also reported that they have to put in extra effort to be viewed by colleagues as a team player at a much higher level (4.16 vs. 2.92, a 24.7 percentage point difference).

Stolen Idea

Other people often get credit for ideas that women offered.[59] A woman shares an idea in a meeting. It gets ignored. Then someone else picks up the idea and repeats it—and he gets all the credit. This pattern, called the stolen idea, is a

result of confirmation bias:[60] we see what we expect to see, and we expect brilliant ideas from men.

In this study, women of color reported much higher levels of the stolen idea than white women (4.20 vs. 3.08, a 22.4 percentage point difference).

Successes matter less

Bias also impacts how people interpret successes. It's another example of confirmation bias: men are expected to be successful, so we assume they will get the job done. The successes of women, and particularly of women of color, may be met with surprise.

In our study, women of color reported that their workplace successes were met with surprise more than white women (3.42 vs. 2.73, a 13.7 percentage point difference).

> *"Another thing is that we're always trying to prove ourselves, and what it does feel like is we're always looked at as, 'Why did you deserve it?' and when we do have a place at the table, it's 'Oh. You got it because... how did you get it?' I've been asked that. Like, 'Oh. How did you get this role?'" — African American woman.*

Women of color in our study also faced assumptions of incompetence. They reported that colleagues often assumed they were less qualified than their peers despite the fact that they had the same qualifications (4.33 vs. 3.11 for white women, a 24.6 percentage point difference).

> *"I remember one of my files didn't work right away because of an error in the tool, and many others had faced that error in their work in the past. But when I did that, it was blown up, and seen as something that, oh, she didn't do it [right]—or was attributed to me being not skilled enough." — Indian woman.*

> *"In the first few months, [a coworker] would come over to my office and ask me questions about writing and, also, try to test my skills. So, he would say that, "Oh, can you do this?" And I said, "Yeah, I know how to do this." So, he would ask me to show him how to do certain things in the tool that we used... I was being observed through a microscope." — Indian woman.*

These assumptions also spill over into behavior: women of color reported that colleagues did not treat them in ways consistent with their role and status in their

organizations at a level higher than white women (3.12 vs. 2.20, an 18.3 percentage point difference).

"I was testing one of our mobile apps [ability to take a screen]shot... And he immediately launched into how to properly test it...and I had to cut him off mid-sentence and say, 'I'm a software engineer, you do not need to explain how to take a screenshot to me.'" — Native American woman.

Mistakes matter more

If women of color's successes matter less, their mistakes often matter more. Mistakes of women and people of color tend to be noted more and remembered longer than the mistakes of white men.[61]

Women of color in our study reported feeling that they couldn't afford to make a mistake at a much higher level than white women (3.86 vs. 2.55, a 26.3 percentage point difference). Consequently, women of color may need to make sure they are perfectly prepared every time:

"I come prepared with all of the information because I already expect to be cut down. I expect them to dissect me. So I'm like, 'Okay. We can play this game. Yes. You want to know why? Because of this, that and the other.' I know not to just come unprepared." — Latina.

"[G]oing through my emails and saying, when you sent this email out, this was incorrect or that. And it could be a period, a space that didn't format itself correctly. Something that's very minute... and all of a sudden the focus of the meeting pivots towards a misspelling of something, rather than the effort that goes behind." — Hispanic woman.

"Every e-mail that I wrote, I spell checked it, and I read it three times before sending out because if I made a typo or if I made a mistake, it was seen as not being skilled enough or that my English wasn't that good, as opposed to it being just a typo." — Indian woman.

Women experts exert less influence

While men experts exert more influence than non-expert men, women experts exert less influence than non-expert women.[62] Even when they were the experts in the room, women of color in our study reported having relevant questions addressed to a colleague instead of them at a substantially higher level than white women

(4.10 vs. 2.50, a 32.1 percentage point difference). In programming, this can mean that the best way to execute a coding project is overlooked:

"Because [the men] felt comfortable in that programming language, we had to do it their way. They didn't want to take the opportunity to learn a new language. Instead of writing, say 50 lines of code, we were writing 200 because it's easier for them." — African American woman.

"When the guys spoke to me, they didn't expect me to have any ideas in their area of expertise. They would only look to me when it was something very specific to my function. … most of the time, they didn't really think that I would have anything to add in these broader discussions." — Indian woman.

Missed promotions

Prove-it-again has concrete negative career consequences for women of color. Since women of color need to provide more evidence of competence to be seen as equally competent, it is harder for them to get promoted. In the 2017 Tech Leavers Study, nearly a third of underrepresented women of color reported being passed over for a promotion.[63] Getting promoted is so hard, in fact, that women of color in our study reported that someone who started underneath them had been promoted to a level above them at a much higher level than white women (3.09 vs. 2.08, a 20.3 percentage point difference).

"When we would ask about things like the opportunity to even just have our title changed from Game Designer to Senior Game Designer, they said 'Oh, well, the company doesn't really have that.' And then I found out that we [hired a man], with the title Senior Game Designer. And he had much less experience than I did."— Asian woman.

"I was outperforming, and they said, '…we're going to hire a contractor to help you. She's going to report to you. You're going to train them. It'll be great.' …[after a reorg] they gave a white woman, the person that I had trained, … they gave her my job, and then six months later, they gave her my promotion." — Hispanic woman.

Most salient experiences

All groups of women of color in our study experienced Prove-it-again bias. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

PROVE-IT-AGAIN BIAS

Prove myself over and over

Stolen idea

Can't make a single mistake

Less respect for work

Questions addressed to someone else

Surprise at outstanding performance

Someone promoted above me

Assumed to be less qualified

Work harder to be a team player

Legend:
- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

Black women

Thomas et al., 2018 found the Black women in computing had to continually reaffirm their competency over extended periods of time "even after they have already shown, proven, and established their competency." Particularly salient for Black women in this study was the sense that they had to meet higher standards to get the respect and recognition that others got automatically.

"[S]omebody complained to my manager… so when my manager came to me and they pointed these things out, I said, 'Okay, if I don't attend a meeting physically, but I'm at my desk and I'm on the web, what's the difference between me working at home, or someone else doing it?'…And they're like, 'Oh. Yeah. You know, I never thought about that.' And I'm like, 'But the problem is, you didn't think about it then, either. And now, what are you going to do? Go back? It's too late to defend me.'" — African American woman.

Latinx women

Particularly salient for Latinx women was the sense they had to work harder in order to get the same amount of respect for ideas:

"I have to get their buy in a lot. I have to work weeks to get their buy in to come to a company decision." — Latinx woman.

Asian women

One might well think that women of Asian descent would benefit from the stereotype that Asians are good at science. They don't. Particularly salient for East and South Asian women was the sense that they had to put in extra work to prove themselves in order to receive the same recognition as their peers, and to be seen as a good team player.

"A white guy reported to me, and... [other people] would assume that he's my manager or, they didn't think that I was his manager... Then he would have to explain that, 'Oh, she's my manager, and I'm part of her team.'" — Indian woman.

East and Southeast Asian women also found salient assumptions that they are less qualified, even though they have the same credentials as others:

"I've constantly been slotted into admin roles even though I have a Master's degree and have been physically looked past SO many times. There have been SO many executives who have come late or cancelled meetings with me because they've decided I'm not worth their time." — South Asian woman.

The "stolen idea" was particularly salient for women of Asian descent, as was the sense that they were treated in ways inconsistent with their roles at their organizations.

Multiracial women

Particularly salient for multiracial women was the sense they had to put in extra work to get the recognition they deserve and to be seen as team players. Also salient was the "stolen idea" and having colleagues see them as underqualified even when they had the same credentials as their peers.

Indigenous women

Particularly salient for Indigenous women was the sense they had to work harder than similarly situated coworkers with similar credentials, and that they received less respect than similarly situated colleagues did:

"I would say the white males in that field were overly confident. I was constantly trying to prove myself to get onto good teams." — Native American woman.

The "stolen idea" was particularly salient. So were experiences of disrespect: having their expertise disregarded, being treated in ways inconsistent with their roles at their organizations, and seeing others who started off in lower positions promoted ahead of them.

LGBQ+ women of color

LGBQ+ women of color reported different salient experiences than women of color who identified their sexual orientation as straight, including assumptions that they were unqualified, being treated inconsistently with their role at the organization, and being disregarded when they were the experts in the room.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color experienced all the forms of Prove-it-again bias. As compared with cisgender women of color, they were particularly likely to report that their colleagues treated them in ways inconsistent with their role and that they were met with surprise for outstanding performance.

First-generation women of color

Particularly salient for first-gen women of color (women of color who were the first generation in their families to graduate from college) was the sense they have to put in extra work to prove themselves and to be perceived as team players, that colleagues viewed them as less qualified than similarly situated peers, that they were treated in ways inconsistent with their roles at their organizations, that their expertise was often overlooked and their ideas "stolen," and that others who started out in lower positions were promoted ahead of them.

TIGHTROPE BIAS

"Constantly, there's a cycle, a brain cycle that is entirely devoted to monitoring how your face is held, how you speak, what you say. And trying to assess the feedback that you get, or the expression on people's faces, or the things that they say, and figure out [if] something kind of is said that's a little bit to the left. Whether that's happening … because of race or because of gender, and that really is the crux of the double bind. That's the crux of a double bind. Like, those two things never separate themselves, because they embody themselves in you together, simultaneously." — African American woman.

This quote from an African American woman in tech sums up the essence of tightrope bias: office politics are simpler for majority group members and take a lot more time and effort for everybody else.

As noted by Patricia Collins, Black women hold an "outsider within" status in the workplace: their life and cultural experiences lead to a perspective that is at odds with that of a majority white-male workplace.[64] Because they do not fit the expectation of what someone in tech should be like, Black women have to put in time and work to navigate office politics in a way that white men do not.

TIGHTROPE BIAS
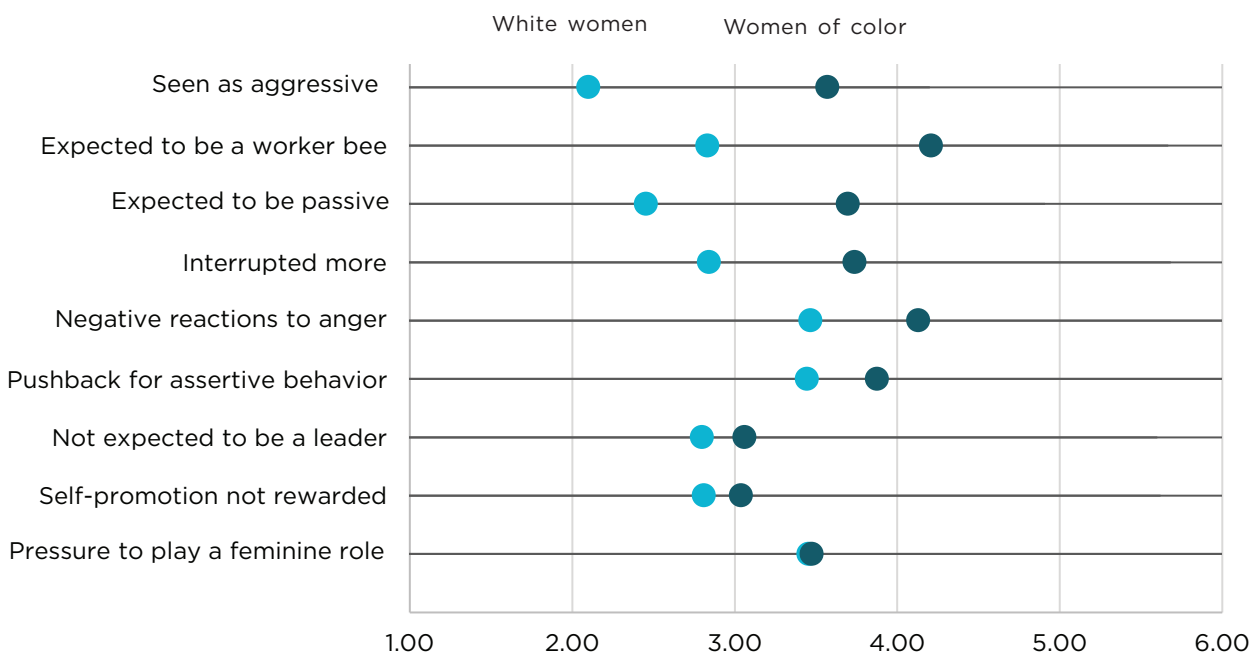
"[W]hen I do say something, you have a problem with the way I say it. When I don't say anything, then you have a problem that I'm not saying it." — African American woman.

The same dynamics also make it more difficult for women and people of color to go after career-enhancing work, as women and people of color face complex office politics to avoid being viewed as too passive or demanding.

"[T]he last [performance evaluation] had every single cliché, middle-manager-speak in it. It was like, '[name] is not a team player. [name] does not show any initiative. She does not have follow-through. She does not blah, blah, blah.'" —Asian woman.

Tightrope bias also stems from status expectations: groups that have historically held higher status, like white men, are expected to behave in dominant ways, while modesty and deference is expected from groups that have historically held lower status, like women of color. High-status group members can assert their agency and independence; low status group members are expected to "know their place" and be good team players.[71]

Our study found that while all women in computing experience Tightrope bias, women of color face especially high levels of bias.

Interruptions

Men tend to interrupt more in conversations[72] because it is socially acceptable—interrupting shows a man is a go-getter. Women and people of color, on the other hand, are expected to be quieter and more deferential. When white men are expected to speak up and others are expected to sit back, women of color in particular may find it difficult to get a word in edgewise during important workplace discussions.

Our study found that women of color in computing reported being interrupted in meetings more than white women (3.74 vs. 2.84, a 17.9 percentage point difference).

Leaders and worker bees

Prescriptive stereotypes pressure women to act as "worker bees"—to keep their heads down, work hard, and avoid confrontation. When women don't match these expectations, they often face criticism that they're not "good team players."[73] Women are also seen as less of a fit for leadership roles, but the reasons for this may vary depending on their racial and ethnic group. For example, Black women are seen as dominant but less competent, which means they may have trouble getting into leadership roles because they have to persistently prove their skills and abilities.[74] Asian women are seen as competent but passive, which makes it harder for them to be seen as a good fit for a leadership position.[75]

In a field like computing where career advancement is contingent on demonstrating your innovative problem-solving skills, this dynamic can make it more difficult for women and people of color to get the work opportunities they deserve.

> *"[O]ur supervisor would assign us certain roles or certain tasks to complete by the end of the week, and like, 'Okay, who wants to do what? We'll break up into groups.' and... there was always a lot of back and forth. I realized that it usually came down to the guys' decision being used—never mine." — African American woman.*

We found that women of color in computing were slightly less likely than white women to report being expected to be leaders at work (3.94 vs. 4.20, a 5.2 percentage point difference).

On the flip side, women of color reported that they were expected to be "worker bees"— to keep their heads down, work hard, and avoid confrontation at a much higher level than white women (4.21 vs. 2.83, a 27.5 percentage point difference). They also faced much higher expectations to be passive and quiet (3.70 vs. 2.45, a 24.8 percentage point difference).

Women in the workplace also experience pressure to take on traditionally feminine roles: things like being "the office mother," the peacemaker, or other types of supportive roles. In our study, women of color and white women were equally likely to report this (3.48 vs. 3.45).

> *"My teammate, she embodies, for me, what I think is all feminine. She wears her hair down, and she is constantly embodying the soft, kindheartedness. And helpfulness. And I feel that sometimes that hinders her career. So I've been coaching her into saying no. Just because it's helpful to a teammate doesn't mean you need to do it." — Native American woman.*

Pushback for assertive behavior

When women and people of color do not conform to the prescriptive stereotypes held by coworkers, they often face backlash for their behavior. This may show up as pushback for assertiveness, or being labeled as aggressive or hostile for a simple business disagreement with a colleague. In the 2016 report on gender bias in tech, "Elephant in the Valley," 84% of women surveyed reported being labeled as "too aggressive."[76]

As a group, women of color in computing reported slightly more pushback for behaving assertively—a prescribed dominant-group trait—compared to white women (3.88 vs. 3.44, an 8.6 percentage point difference).

> *"[B]ecause I was somewhat assertive, I felt definitely that they were looking at me and saying, 'Well, why's she so mouthy?'" — Asian woman.*

> *"And so you see that over and over and over again, women are considered bitchy... [T]hey've emulated their white male mentors. And they got these reputations of being horrible and bitchy and that kind of thing. But the men don't ever get described that way." — African American woman.*

bell hooks notes that the stereotype of Black women as strong and powerful is so pervasive that they are they are seen as domineering and tough even when acting in a feminine, passive way.[77]

One respondent pinpointed how this dynamic affects Black and white women differently:

> *"When you have a stance about how you will and will not be treated, you're an angry Black woman.... [M]y mentor is... a white woman [who is] naturally aggressive, and she doesn't take anybody's shit kind of personality. Therefore, she's a bitch... But she's a respected bitch... She's aggressive. She's a go-getter. Versus I'm a Black bitch who is aggressive and has an attitude." — African American woman.*

This dynamic can translate into more work for women.

> *"I've certainly made a strong effort in trying to make sure that I'm not being too aggressive. And my teammate is on the other end of the spectrum, where she's challenging herself to try and be more aggressive. So, I often find myself, if she has a meeting that I know is going to be with a counterpart that's more aggressive, I will join that meeting, even if it's not necessary that I be there, just so that I can help make sure she's heard." — Native American woman.*

Justified anger

Prescriptive stereotypes based on gender and race also influence how a person's anger is received at work. Expressing anger tends to increase a man's status but decrease the status of a woman.[78] People of color, especially Black people, also face racist stereotypes.[79]

In our study, women of color reported negative reactions from colleagues for expressing anger, even when it was justified, at higher levels compared to white women (4.13 vs. 3.47, a 13.3 percentage point difference).

It was also much more common for women of color to have their disagreements with coworkers interpreted as anger or hostility than it was for white women

(3.57 vs. 2.10, a 29.4 percentage point difference. What is seen in a white man as a passion for the business may be seen in Black women or Latinas as emotional or angry.

> *"I'm just surprised sometimes at how my emotions are taken. I am not crying. I don't have my hands up in the air. I'm not holding any weapons, but somehow there is anger that they're perceiving." — Hispanic woman.*

Self-promotion

Promoting your work accomplishments is an important part of demonstrating your skills and earning new career opportunities. However, laboratory studies suggest that self-promotion is more readily accepted from men than from women.[80]

We found in this study that among women in computing, women of color were slightly less likely than white women to feel rewarded for promoting their work accomplishments (3.96 vs. 4.19, a 4.6 percentage point difference).

If self-promotion is essential for employees to get the best work opportunities and promotions, but self-promotion is only accepted from dominant group members, women of color are left out in the cold. They can't self-promote without getting pushback, but they also can't access the plum assignments.

TIGHTROPE BIAS

Radar chart with axes: Self-promotion not rewarded, Pushback for assertive behavior, Negative reactions to anger, Seen as aggressive, Interrupted more, Expected to be a worker bee, Expected to be passive, Not expected to be a leader, Pressure to play a feminine role.

Legend: White women, Black women, Latinx or Hispanic women, East Asian women, South Asian women, Southeast Asian women, Multiracial women, Indigenous women.
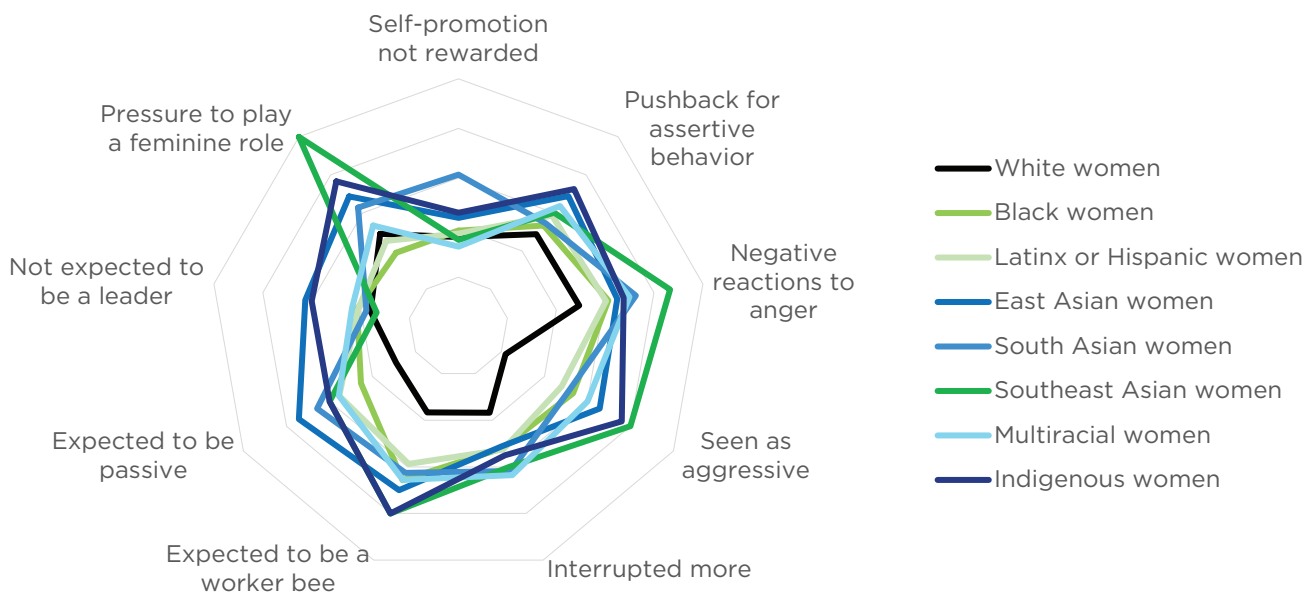
Most salient experiences

All groups of women of color in our study experienced Tightrope bias. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

Black women

Black women face different prescriptive stereotypes than other groups.[81] While Black women are expected to be more assertive than white women,[82] they have to put extra work into navigating being direct without being viewed as an "angry Black woman,"[83] an experience that was particularly salient to the Black women in our study:

> "[B]ecause I am so direct, I have definitely been labeled as someone that's aggressive... And I've been told in feedback, numerous times, that I'm aggressive and that we should scale that back. 'Well, it's the way you said it.' It doesn't matter what I say... I have a colleague who is a white male. And he's said the same exact things that I've said in meetings." —African American woman.

> "[M]y best friend and I will have a joke, and we'll say, 'Okay, we have to put our white girl on sometimes.' ... When you have a stance about how you will and will not be treated, you're an angry black woman." — African American woman.

One woman noted how growing up in "matriarchal culture" influenced her own direct communication style. Moderating her assertive behavior was a delicate balance, because it was often in moments where she promoted her accomplishments that she was rewarded the most for her work.

> "[W]e tend to [have] a matriarchal culture in a sense in which women tend to be the breadwinners and tend to be the leaders. And [women] tend to also be the force in the family that, you know, takes care of things and drives the family forward. And [they] can be very aggressive and can be very passionate in their responses. That's part of our culture. I think when you transition out of your family environment and into a corporate environment, I think that's perceived as intimidating." — African American woman.

Another woman described being judged for being "too assertive":

> "I remember, having an email exchange with a supervisor... and she had interpreted something that I had said from the perspective of being... [u]ppity. I mean people won't use the word uppity, but it's essentially arrogant, and that's one that comes up a lot with Black people and with white people, and why you have to monitor your tone." — Black woman.

After trying to smooth the situation over with facts, she found that the supervisor's perspective of the situation was the only one that mattered:

"I produced the documentation that supported that I wasn't trying to be arrogant. And she essentially said, 'I don't care what it says, I feel like you were trying to be arrogant, so you were trying to be arrogant.'" — Black woman.

Latinx women

The survey data revealed that Latinx women experienced the same types of Tightrope bias reported by other women of color.

One Latina in computing noted a double standard. While male engineers who were assertive were both respected and well-liked, the same wasn't true for women engineers who spoke bluntly:

"I think there are definitely double standards. [If women are direct,]...they're seen as not as friendly... And I myself, I consider myself relatively blunt, but... I'm seen as too honest, whereas I feel like [with others, my manager]...would just overlook it." — Latina.

Another Latina was routinely passed over for leadership opportunities. When she was finally given more of a leading role on a project, she was promptly interrupted during a client presentation by a team member, an older white man who "jumped up in front of [her] and took over."

Asian women

Women of Asian descent face a "modesty mandate"—an expectation that they will be quiet and self-effacing.[84] This can make it especially challenging for Asian women to act assertively at work without facing backlash.[85]

South Asian women described navigating the line between being modest and self-promoting at work:

"Modesty, it's engrained in [Indian] culture. So, I had a hard time speaking about myself or my accomplishments. Even now, I'm totally comfortable promoting my team, giving them visibility, you know, giving them credit for their accomplishments. I can do that really—it comes naturally to me. I can do that without any hesitation" — Indian woman

"In Indian culture, we don't like to take credit for what we've done, or we don't like to speak about it that much... It's very, very, very hard for us to self-promote and— more importantly, for women." — Indian woman.

Women of Asian descent in computing reported the expectation that they be passive or quiet in the workplace— and East Asian women found this expectation especially salient.

Also salient for women of Asian descent was receiving pushback for justified anger in the workplace. At the same time, women of Asian descent reported feeling pressure to take on traditionally feminine roles like the office mother or the peacekeeper. Other research has also found that women of Asian descent report more pressure to behave in feminine ways and more pushback if they don't.[86]

Multiracial women

Multiracial women faced the same types of Tightrope bias as other women of color, but they found especially salient the expectation to be passive and quiet and the pressure to take on traditionally feminine roles like the office mother or the peacekeeper.

Also salient for multiracial women was getting pushback from colleagues when they speak up or express anger in a justified setting.

Indigenous women

Particularly salient for Indigenous women were expectations that they be passive and quiet at work. Also salient was being interrupted, or having a tough time getting heard:

"The typical thing is someone will get to talking, and they'll get to talking really rapidly, and a gentleman will break in and he'll start talking really rapidly. Well, they'll get into a dialog in which I need to interject, and I'll open my mouth to speak, and someone else will start speaking ahead of me." — Native American woman.

When Indigenous women behaved assertively, expressed justified anger, or were vocal about their work accomplishments, they often found it wasn't received well. Indigenous women also found that disagreements with colleagues tended to be interpreted as hostility or aggression. One Indigenous woman shared how she carefully chose her words and engaged in self-monitoring:

"When I have a very strong opinion about something, I take special care in choosing my words. And I try, especially if something has made me angry in a meeting, I take it out of the meeting, write down my anger—give it a day or two, and then I try and address it later when I am feeling less emotionally attached to that." — Native American woman.

Indigenous women also found salient being seen by colleagues as "worker bees," and as a poor fit for leadership roles, and by pressures to take on traditionally feminine roles like the "office mother" or the peacekeeper.

LGBQ+ women of color

LGBQ+ women of color reported a slightly different pattern than straight women of color. They found salient expectations that they be passive and quiet at work, and that they be "worker bees." Coworkers also tended to view them as team players rather than leaders.

Also salient for LGBQ+ women of color was pushback for assertive behavior and having disagreements interpreted as hostility or aggression. Negative responses to justified anger were salient, too.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color reported similar experiences of Tightrope bias as women of color. However, certain experiences stood out: for example, they were particularly likely to find salient being expected to play a quiet, passive role and being interrupted in meetings more than their peers. They also reported pushback for expressing anger, even when it was justified, and not being rewarded for self-promotion. Also salient for Trans, non-binary, genderqueer, and gender-nonconforming people of color were pressures to take on traditionally feminine roles in the workplace like the "office mother" or peacekeeper.

First-generation women of color

Women of color first-gen professionals experienced all of the same tightrope patterns as other women of color, but certain experiences were more salient: in particular, being expected to be passive and quiet at work, and not being expected to take on leadership roles.

MATERNAL WALL BIAS

Maternal Wall bias is workplace bias triggered by motherhood.[87] When mothers return from maternity leave, many report having to prove themselves all over again. This stems from assumptions that mothers do — and — should prioritize their children, not their work.[88]

Maternal Wall bias is extremely strong: in one study, participants were given two identical resumes with one difference: one was a mother, the other wasn't. The mother was 79% less likely to be hired, only half as likely to be promoted, offered a starting salary of $11,000 less, and held to higher performance and punctuality standards.[89]

Prescriptive bias also plays a role: good mothers are expected to always be available to their children.[90] If a mother shows she is committed to her work, she may face backlash at work because she is seen as a bad mother — and a bad person (this is called hostile prescriptive stereotyping).[91] Sometimes, the prescriptive stereotyping is benevolent but no less harmful — like when a mother is passed over for good work opportunities on the grounds that "she has a baby, so it's not a good time for her."[92]

Previous research has found that mid-level women in tech report a "family penalty" at work.[93] Women in tech were also twice as likely as men to report delaying or foregoing having children in order to advance their careers.[94]

MATERNAL WALL BIAS
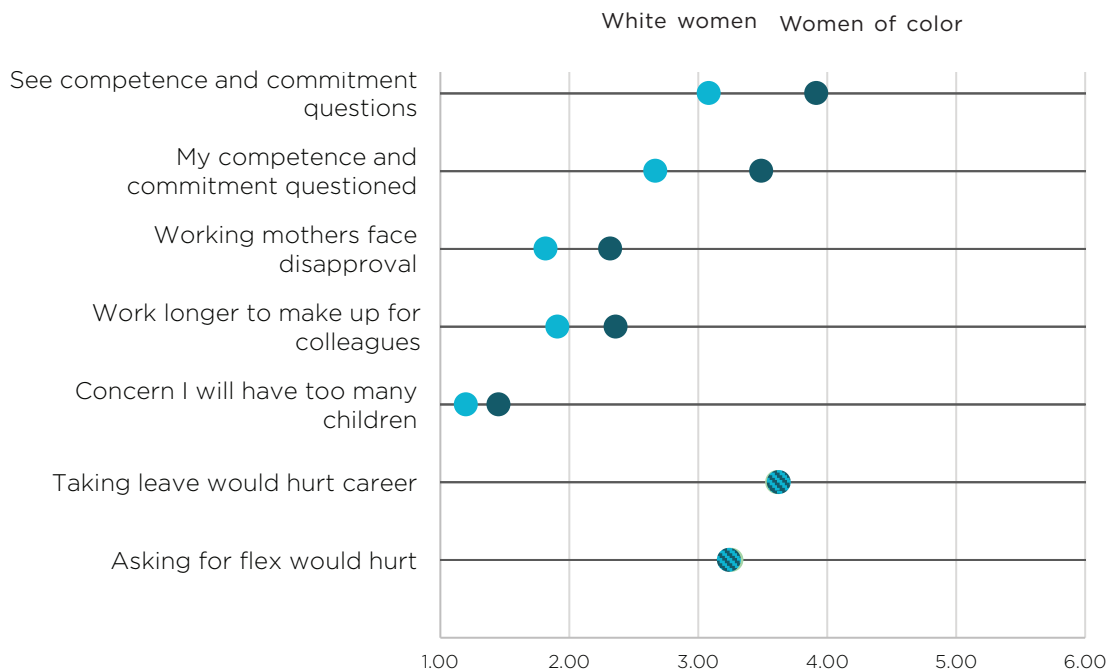
Competence and commitment

Mothers often face negative assumptions about their commitment and competence in the workplace after returning from maternity leave.[95] It's Prove-it-again squared — they have to prove their desire and ability to work all over again.

Our study found that this is not just a gender issue: women of color have to prove themselves after having children to an even greater extent than white women. Women of color in our study reported that mothers face different perceptions of their commitment and competence at work, at a higher level than white women (3.92 vs 3.08, a 16.7 percentage point difference). This is unusual, and might represent a pattern that is particular to the computing industry: in our studies of engineers, lawyers, and architects, women of color and white women reported similar decreases in perceptions of their commitment and competence after having kids.[96]

"I think being perceived as a good parent and being also perceived as someone who's going to do what it takes in order to shovel the same load as their male counterparts–I think is a very challenging space for women in technology." — African American woman.

In a workplace with Maternal Wall bias, women have to worry even before having the baby:

"I remember thinking to myself, "Oh, my god just let me not get fired before I have my baby... even though I was doing really good work. So it-it just created this fear in me. Let me not get fired before I have my baby." — Black woman.

When we asked mothers specifically about their personal experiences, women of color were more likely than white women to report that having children changed things for them at work (3.49 vs 2.67, a 16.4 percentage point difference).

"Nobody here at work tells you, you have to quit your job, or you can't have a family or that kind of thing... But in reality, what some women deal with is somebody giving them a look when they are not at their desk for a couple of hours..." African American woman.

Prescriptive Stereotypes

Prescriptive stereotypes dictate that mothers should put their families ahead of their careers. This places two ideals at odds: the ideal mother and the ideal worker.[97] The ideal mother is always available to her children.[98] The ideal worker

is always available to her job. The perception that motherhood and ambition are mutually exclusive is all too common.

Women of color in our study reported that mothers who work long hours face disapproval from their colleagues at a higher level than white women (2.32 vs. 1.82, a 10 percentage point difference).

> *"One of my supervisors, asked me if I wanted to have a career, or if I wanted to be a mother. And he phrased it that way. It was an 'or' situation. I couldn't have a career and be a mom... I remember being so devastated by this thought that I had to choose. I would say it hasn't been until the last year that I've really kind of recovered from that."*
> *– Native American woman.*

Being left out of networking opportunities can result:

> *"[Her manager and] three of his white male direct reports that were going out and playing golf pretty often or going to lunch pretty often... [S]he decided she was going to be bold and bring it up and he said something, 'Oh, I know you like to leave on time to get home to your kids.'" — African American woman.*

Co-workers sometimes express opinions on how many children a woman should have. Women of color reported concerns that they will have too many children at a slightly higher level than white women (1.45 vs. 1.20, a 5.1 percentage point difference). Prior studies also found that women of all racial and ethnic groups in architecture[99] faced this form of bias, as did Latina science professors.[100]

Flexibility Stigma

Bias triggered by asking for a flexible schedule or taking leave is called the "flexibility stigma."[101] Because the ideal worker is someone who is always available to their jobs, people who aren't always available may face pushback.

Different groups of women in our study reported similar levels of flexibility stigma. Both women of color (3.63) and white women (3.62) reported that actually taking family leave would be harmful to their careers. Simply asking for flexible arrangements showed a similar pattern: both women of color (3.24) and white women (3.26) reported that asking for flexible arrangements would hurt their careers.

"The transition was very, very, very difficult for me... I had a male counterpart who also had children around my age, but he's a man... And so he could make the 4:30 a.m. call whereas, you know, I'd been up all night with my baby, it was just a very different experience. And so people kind of looked at well, if he can do it, then why are you pushing back?" — Black woman.

However, things might be changing as a new generation takes over:

"The previous generation had this emphasis on stay-at-home-mothers... Whereas our new... leadership is both trying to remedy that and trying to find creative solutions. Personally, it has certainly made me feel a lot more comfortable staying here, going forward. Because I personally feel that, when it does come time, that they're going to work with me." — Native American woman.

Non-mothers

Maternal Wall bias can also impact employees without children. Even if an employee doesn't have children, they still have responsibilities outside of work. If employers don't realize this and treat non-mothers as always available, it predictably leads non-mothers to resent mothers.

The stereotype that women without children "have no life" affected women of color in our study slightly more than white women (2.36 vs 1.91, a 9.1 percentage point difference).

MATERNAL WALL BIAS
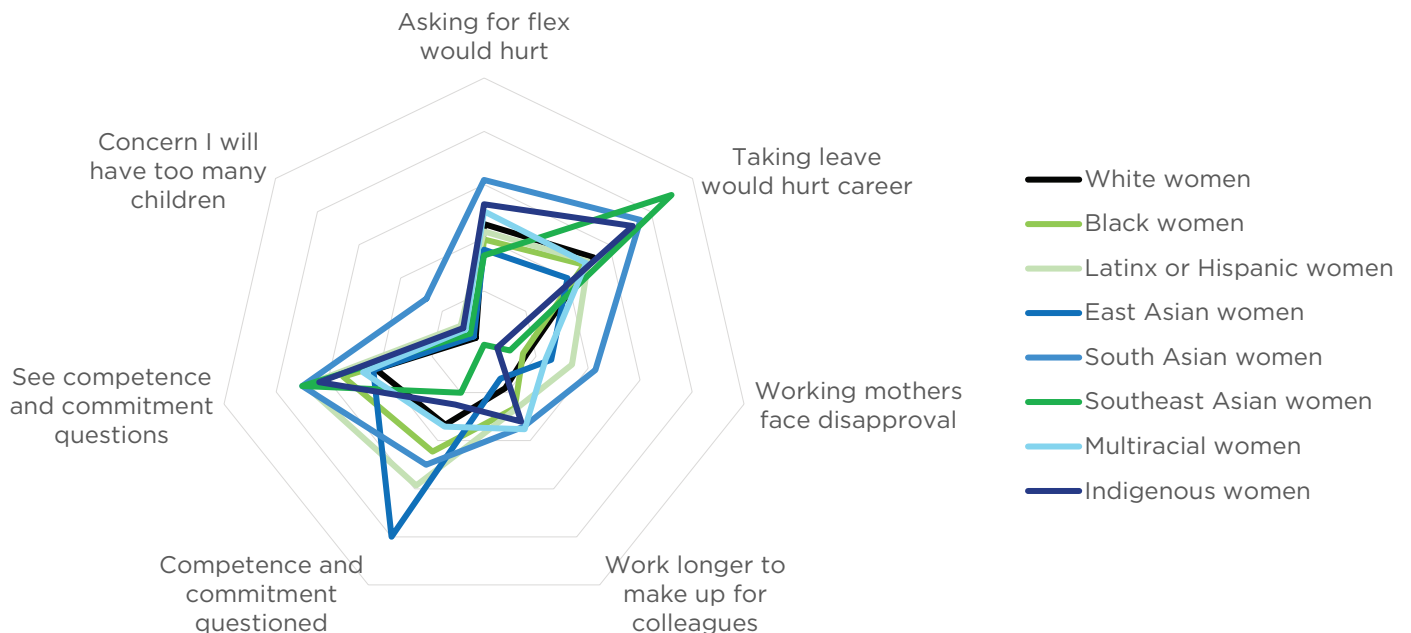
Most salient experiences

All groups of women of color in our study experienced Maternal Wall bias. Women of color tended to cluster quite close together. However, different experiences were particularly salient for specific groups of women of color.

Black women

Black women in computing reported similar levels of Maternal Wall bias as compared to other women of color. Said one woman, describing mothers:

"They end up quitting, because they feel like they have to choose between [a career and children], and certainly the workplace and society tells them that when they're ready to have children, they have to quit." — African American woman.

Another woman had her work performance judged more harshly after returning from maternity leave. When she pointed out to her direct supervisor that she had actually been *more* productive after having her child, the supervisor shrugged it off:

"I pointed out to [my supervisor], well, I've accomplished more in these 10 months than I did in the previous 12, so why is my ranking lower? And her response to me, and this is a quote, her response was, 'Well, out of sight, out of mind.' ..." — African American woman.

Note: this can readily be interpreted as retaliation for taking family leave, which is illegal under the Family and Medical Leave Act.[102]

Latinx women

Particularly salient for Latinx women was having their own competence and commitment questioned after having children, and seeing the same happen to other mothers. Seeing mothers face disapproval for working long hours, and facing assumptions that they will have too many children were salient as well. A prior study also found Latinas reporting at higher rates that colleagues expected them to have "too many" children.[103]

The assumption that ideal workers are always available to their employers has particularly harsh consequences for single mothers. Said one:

"[M]y daughter has the whole week of Thanksgiving now [that] I have to figure it out ... I told [my supervisor] I'm in a situation, like, 'Can I just take the week off, and I can work from home? I can do whatever?' And she's all, 'No, sorry, can't do it,' and I honestly did not know what to do. I was panicking, hardcore panicking." — Hispanic woman.

Asian women

South and Southeast Asian women found salient worries that taking family leave would negatively impact their career, while East Asian women were found having their competence and commitment questioned after having children especially salient.

One South Asian woman shared that she avoided any backlash for having children by largely keeping it a secret at work that she had children at home:

"I worked extra hard to keep my motherhood separate from my work life—very, very separate. And as a result, it was a lot of stress and a lot of struggle... I compensated for my motherhood, in a way... by just working overtime and not bringing that up." — Indian woman.

Also salient for South Asian women were assumptions that they will have too many children.

Multiracial women

Multiracial women found salient assumptions they were no longer committed and competent after they had children, and worries that taking family leave would negatively impact their career.

Indigenous women

Indigenous women found the negative commitment and competence assumptions after having children salient, as well as worries that taking family leave or asking for flexible work arrangements would negatively impact their careers.

"[T]hinking about maternity leave, and whether or not I'm going to be able to continue what I'm doing, when it's not going to happen for such a long time, is unhealthy... It hurts my career... And I promise you, none of the male engineers in my field are even remotely thinking about it." — Native American woman.

Indigenous women also found salient seeing mothers who work long hours face disapproval and assumptions that they have no life, so they can take on more work.

LGBQ+ women of color

Particularly salient for LGBQ+ women of color were concerns that requesting flexible work arrangements could negatively impact their careers, and colleagues' concerns they would have too many children.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color found seeing that mothers who work long hours face disapproval from coworkers especially salient. They also found having colleagues assume they had no life outside of work particularly salient. Trans, non-binary, genderqueer, and gender non-conforming people reported this "no life" assumption at a higher rate than any other group, which may be a reflection of the inaccurate assumption that this group could not be parents. This harmful expectation creates a burden on trans, non-binary, genderqueer, and gender non-conforming people to explain their personal lives in a way that no other groups are expected to in a workplace.

First-generation women of color

First-generation women of color found feeling that taking leave would be detrimental to their careers and seeing women face negative competence and commitment assumptions after having children to be especially salient.

TUG OF WAR BIAS

Tug of War bias occurs when bias against a group creates conflict within it.[104] Workplaces with one, or a few, "diversity slots" can create conflict as women, and particularly women of color, are forced into competing for their spot. This is sometimes called the problem of the queen bee, as if the issue is just another woman with a personality problem, rather recognizing that it is a symptom of bias in the environment.[105] Women who join the boys' club may see advantages to their careers, whereas women who align with other women don't.[106]

Out-group members (which includes women of color in majority-white computing workplaces) face three threat mechanisms which contribute to Tug of War problems:[107]

- Collective Threat occurs when someone is worried that the poor performance of a group member will reflect poorly on them.

- Competitive threat occurs when someone is worried that the great performance of a group member will make them look worse in comparison.

- Favoritism threat occurs when someone is worried that if they support another group member, it will look like favoritism.

TUG OF WAR BIAS
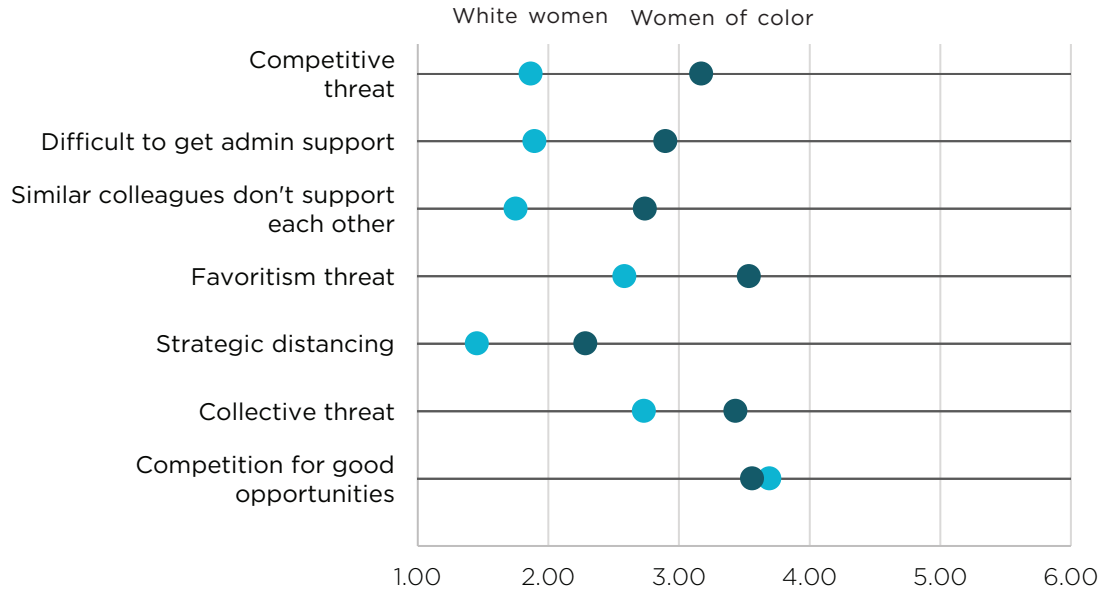
Supportive work environment

The good news is that women in our study reported that others of their gender and race/ethnicity generally support each other. The number was lower for women

of color than white women, but still high overall (4.26 vs. 5.25, a 19.9 percentage point difference). This general positive culture is important and it shows that the common picture of "wicked" "queen bees" undercutting other women is exaggerated.

"[B]ecause of the experiences that I've had, I just want to make sure that Black women and other women of color, especially, who are coming behind me, have a better experience" — Black woman.

Savvy business moves

"Strategic distancing" reflects that some women find it politically savvy to join the boys' club,[108] and some people of color distance themselves from other people of color.[109] This is a politically savvy response to a biased environment.[110]

"Women do that to other women too within the workplace. They'll categorize them because of the way they act and will adopt the same mentalities that men adopt in regards to these women and how they see them." — Latina.

Women of color and white women were equally likely to report that there is intra-group competition in their workplaces for the high-profile work opportunities (3.56 vs. 3.69).

Women of color also agreed that the smart business move politically is to distance themselves from others like them at a higher level than white women (2.28 vs. 1.45, a 16.6 percentage point difference). This sentiment can undermine support for women's initiatives.

"There is a peer woman. She does not like to relate to... any kind of women's initiative... she would say, you know, 'Why do you think that women need to be given special treatment?—I mean, I prefer not to be in these women's group because I don't think that we need any special treatment. I've always tried to do everything on merit, so I don't want any special treatment.'" — Indian woman.

Some women joined the boys' club:

"I wanted to win every single one of those masculinity contests to prove a point. I used to do that all the time. So, they would like to go grab a beer.... I would go, but I would drink whiskey instead of beer. Not because I liked whiskey... But it [sent a] strong enough message—- to the point to where even the guys who would talk about, 'Well, she drinks straight whiskey, so can you top that?'" — Native American woman.

Threat mechanisms

Despite the general supportive environment, women of color in our study were still impacted by the three threat mechanisms.

Women of color worried more than white women about "collective threat:" that the poor performance by another member of their own group would reflect negatively on them. (3.43 vs. 2.73, a 14 percentage point difference).

"[S]o anything that you do, if you do it badly, everybody in the room is going to think of Latina engineers in a bad way in the future...since I'm often the only Latina in the room or [o]n my team who was an engineer, I had to always cast a really positive impression." — Latina.

Women of color also reported competitive threat at a much higher rate than white women: that there's "only room for one," so it can be difficult to get ahead if there is another more qualified member of their own group (3.17 vs. 1.87, a 26.1 percentage point difference).When a Black woman interviewed another Black woman,

"[T]hey said to her… essentially, 'Why would you want to give up being the only one?... Why would you want to sully your position by allowing another Black woman to enter into your space?'" — Black woman.

Women of color reported favoritism threat, too, at a higher rate than white women (3.54 vs. 2.58, a 19.1 percentage point difference), the worry that if they supported someone from their own group, it would be seen as favoritism rather than genuine support for a qualified employee.

Bias pass-throughs

The other three forms of bias can also be passed through from women of color to other women of color — as well as from white women.

Prove-it-again bias can be passed through from administrative personnel. For example, women of color reported having trouble getting support from administrative personnel at a much higher level than white women (2.90 vs. 1.89, a 20 percentage point difference). "There's some Mexican woman telling them what to do," said a Latina in a prior study.[111] Women of color's managers sometimes undermine them, too.

"I had a manager who wasn't my direct manager, who was not happy with the progress that was being made, and not liking the approach that I was taking and would at night ask the technicians and the service engineers who are supposed to be fulfilling the plan that I had put out, not to continue the plan. He would actually ask them not to do it." — African American woman.

PINNING DOWN THE JELLYFISH: THE WORKPLACE EXPERIENCES OF WOMEN OF COLOR IN TECH
THE CENTER FOR WORKLIFE LAW | UNIVERSITY OF CALIFORNIA HASTINGS LAW

Tightrope bias can be passed through when a woman tells another woman how to behave, speak, or dress in the workplace:

"[I]t's so important to me to mentor other young ladies, or other women of color, that are in other positions... and say, 'Hey, don't conduct yourself that way. Be careful of when you do this.' Or, 'Don't wear this.' Or, 'Why are you doing that?' Because you do get labeled or seen as—or you feel like you're seen as—the same type of person as that person." — African American woman.

Maternal Wall bias can also be passed through from women to other women, such as when a woman who had children and didn't take much leave pushes back against a woman who wants to take more time:

"I told my chair ... my plan that I was going to take an entire semester out with my baby... And she didn't push back or anything, but ... she would say, 'Well, when I was having children, we would just go out for a few weeks.'... Well, I went out for that semester. And when I came back, something was different with her in particular." — African American woman

Or when a mother decides to care for her child in a way that differs from another mother's experiences:

"My daughter has asthma... and she was a child that got strep a lot, too. And she presented strep with a fever every time she got it. And so, my husband and I would take turns being out with her for that first 24 hours when she would present that fever. [My supervisor said], 'You know, well, my daughter had that, too, and I would just bring her to work and let her lay down under my desk.'" — Black woman.

Most salient experiences

All groups of women of color in our study experienced Tug of War bias. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

TUG OF WAR BIAS
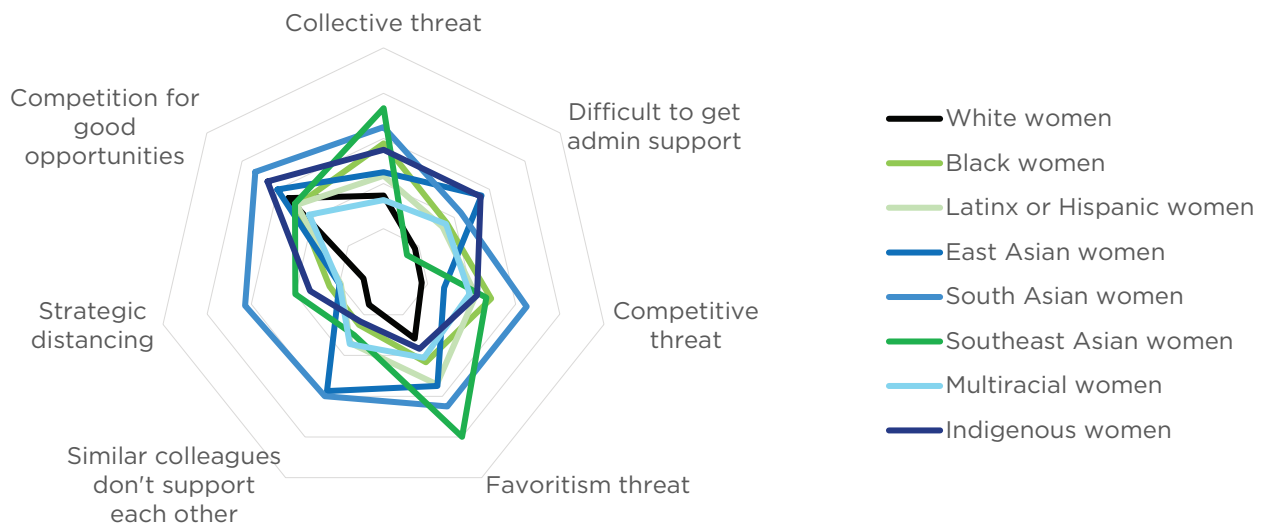
Black women

Black women found competitive threat particularly salient:

> *"There's only room for one or a few. So therefore, you've gotta fight to be the one. And [people don't try to] figure out a way how we make the pie bigger so there's room for more or room for all. " — African American woman.*

Collective threat was salient as well — fear that if another Black woman performs poorly, it reflects negatively on you.

Black women also reported strategic distancing:

> *"...[S]ome of it has to do with I don't want to be seen as Black. I just want to be seen as a great engineer, or a great manager, or whatever their discipline is. And the more they... contribute with the affinity group, the less they're going to be seen as serious and competent." — African American woman.*

Latinx women

Latinx women found favoritism threat salient: the fear that if they supported Latinx peers, colleagues would assume it was favoritism.

One Latina software engineer noted strategic distancing: that women at work had an incentive to "go with the flow" set by the boys' club.

"[M]y manager...was talking about how she was one of the only women of color in this really important executive meeting talking about product development and so on... she basically tries to go with the flow of the room... And since most of the room is men, specifically older white men... There's not a lot of incentive... to disagree with them on whatever they're deciding, because they're the majority." — Latina.

Asian women

Women of Asian descent found favoritism threat (fear that if they supported similar peers, colleagues would assume it was favoritism) particularly salient. One woman described how she had to defend her work on a women's initiative:

"She would say, you know, 'Why do you think that women need to be given special treatment?' 'That we are all equal and it's discrimination against men'... I said that, 'This is a deeper conversation, and we should definitely have it because there's a reason that minorities need some inspiration, and they stay out of taking the lead in certain areas and all of that.' So, I would have to make a special effort to explain to her ...." — Indian woman.

East and South Asian women found the lack of support from similar colleagues, having to compete for the best opportunities, and frustration at not getting the same administrative support as their peers especially salient.

South and Southeast Asian women found collective threat salient (fear that a colleague's performance would reflect poorly on oneself) as well as strategic distancing:

"But, I am really ashamed to say, I actually did join a boys' club. And it's so sad...and I've apologized to this woman. She came in from outside the company to take over as a lead for a new project that they were working on... And she tried to reach out to us, and she tried to include us in decisions that were being made but the guys that I worked with didn't respect her. And because I knew them and I had worked with them longer, I fell in with them.'" — Asian woman.

Indigenous women

Indigenous women in computing found several forms of tug of war bias salient, including strategic distancing, collective threat (fear that a colleague's performance will reflect negatively on them), competitive threat (feeling there is "only room for one") and difficulty getting the same administrative support as their colleagues.

LGBQ+ women of color

Very salient for LGBQ+ women of color were worries that supporting peers of the same race/gender would be interpreted as favoritism, and reports that it was politically savvy to distance themselves from others of the same race/gender.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Collective threat was particularly salient for trans, non-binary, genderqueer, and gender non-conforming people of color (fear it would reflect negatively on them if a coworker of their own group underperformed).

First-generation women of color

First-generation women of color found the feeling that it was politically savvy to distance themselves from others of the same race or gender especially salient.

DISTINCT EXPERIENCES OF DIFFERENT GROUPS

> *"I don't get to be comfortable. I have to maintain this sense of uncomfortability so that you can be comfortable. And it takes work, and energy, and effort, and it's exhausting."*
> *— Black woman.*

Much of racial bias is captured by Prove-it-again, Tightrope, and Tug of war, but there are certain elements that are not, and that vary substantially. A key insight of intersectionality is that the different social categories people belong to create distinct experiences based on race/ethnicity, indigeneity, gender, sexual orientation, and more. For example, as will be discussed below, East Asian women reported being seen as technical but not management material, while Southeast Asian women reported being pressured out of technical roles and into management roles.

DISTINCT EXPERIENCES
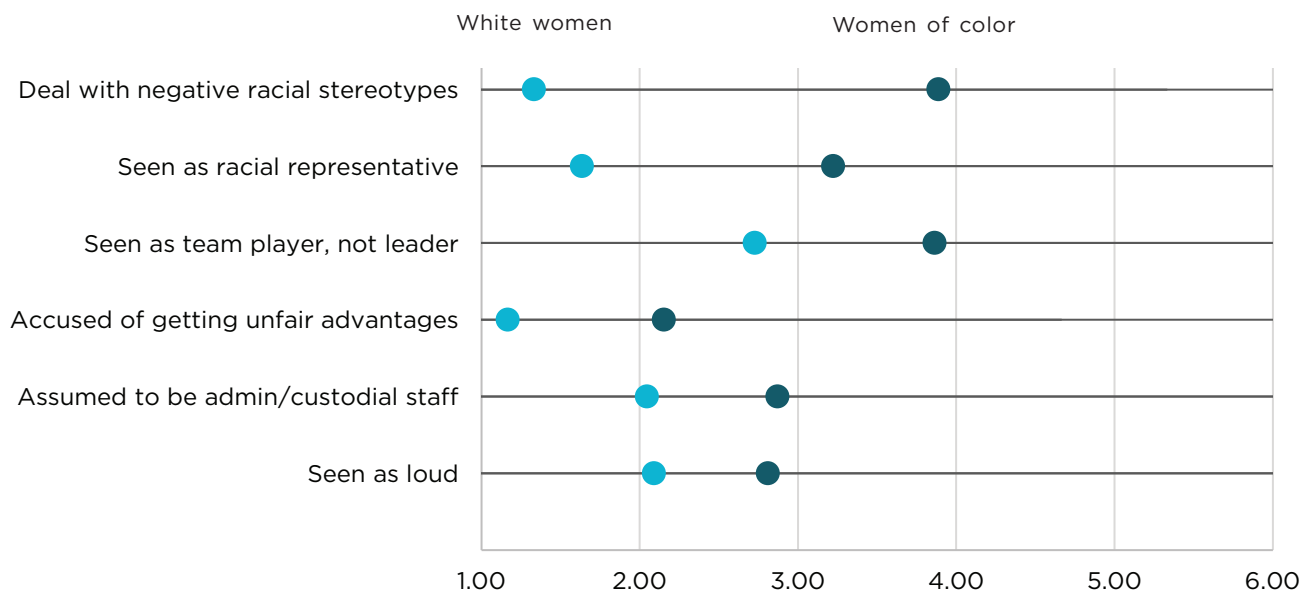
Across the board, women of color in computing reported sharply higher levels of negative racial and ethnic stereotyping than the white women surveyed (3.89 vs. 1.33, a 51.1 percentage point difference). This finding builds on an important finding from the Tech Leavers Study, where nearly a quarter of underrepresented women of color reported stereotyping at work—the highest level of all groups studied.[112]

Women of color also had to contend with being viewed as a representative of their group rather than being recognized for their professional expertise at a substantially higher level than white women (3.22 vs. 1.64, a 31.8 percentage point difference).

Women of color reported being viewed as team players rather than leaders at a much higher level than white women (3.86 vs. 2.73, a 22.7 percentage point difference). They also reported that coworkers had implied that they received unfair advantages because of their race/ethnicity (2.15 vs. 1.17 for white women, a 19.8 percentage point difference).
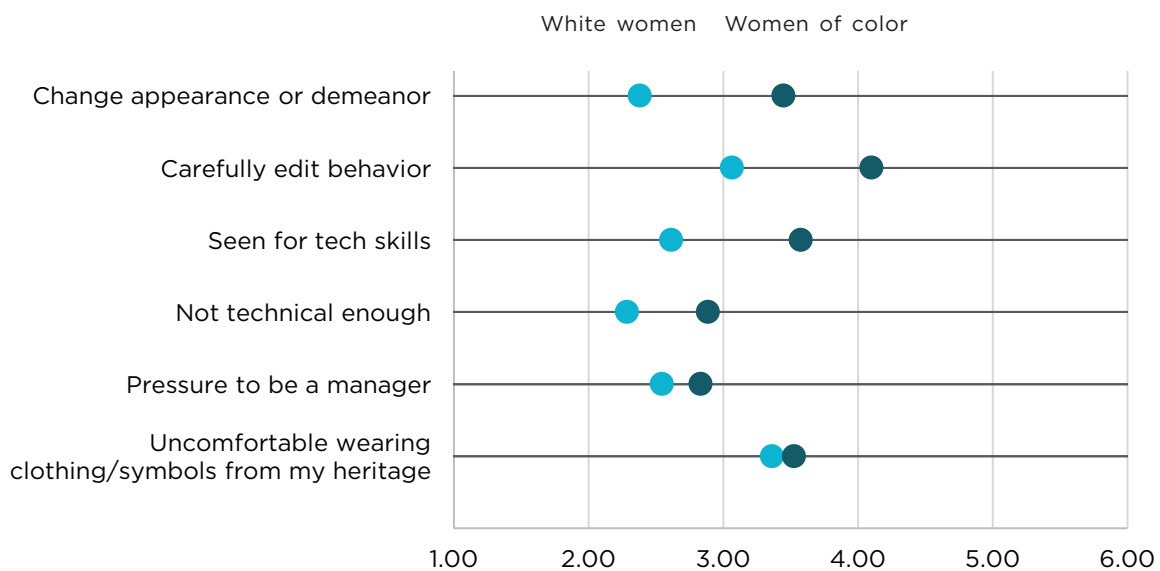
Women of color were more likely to report being mistaken for admin or custodial staff (2.87 vs. 2.05, a 16.5 percentage point difference).

"Going into other meetings with other departments and other teams… it's getting difficult. Because I would say twice in the last week someone has called me the assistant… it's like okay, let me introduce myself… [I'm] the associate product manager. I am the number two for making decisions for all of our mobile products."
— Native American woman.

A more subtle stereotype was that women of color reported being accused of being loud when using a normal tone of voice much more than white women. (2.81 vs. 2.09, a 14.4 percentage point difference).

"[A]t the end of the day, there's no room for emotion… because if there is emotion inserted into it, it will get misread every single time. It can be passion, it can be pure passion and just, zeal for what you're doing or what you're saying, but it will be misinterpreted… It can be interpreted as aggression. It can be interpreted as too ambitious." — Black woman.

DISTINCT EXPERIENCES

White women   Women of color

Change appearance or demeanor
Carefully edit behavior
Seen for tech skills
Not technical enough
Pressure to be a manager
Uncomfortable wearing clothing/symbols from my heritage

1.00   2.00   3.00   4.00   5.00   6.00

Stereotypes of racial/ethnic groups can also influence which roles someone is encouraged to play on a work team. Some women of color in computing were more likely than white women to report that they were seen for their technical, but not managerial skills (3.58 vs. 2.62, a 19.2 percentage point difference). At the same time, some women of color instead reported pressure to become managers rather than continuing in a technical capacity (2.83 vs 2.55, a 5.8 percentage point difference). Women of color were also more likely than white women to be told they "weren't technical enough" (2.89 vs. 2.29, a 12.1 percentage point difference).

Women of color were also much more likely than white women to report altering their appearance and demeanor at work to fit in. (3.45 vs. 2.38, a 21.3 percentage point difference).

"I prefer to wear my hair in a bun, because I was originally taught by my father that if I wanted to be seen as professional, I needed to have my hair up... " — Native American woman.

Unfortunately, what works for others may not work for women of color:

"[I]f everybody else is wearing jeans and tennis shoes to work, I always make sure I always wear slacks and heels so that people could visually see that I took my professionalism seriously." — African American woman.

Women of color were also much more likely than white women to carefully edit their behavior to keep colleagues comfortable (4.10 vs. 3.07, a 20.7 percentage point difference). All of this takes time and effort:

"[Y]ou're monitoring your face, you're monitoring your tone, your response. Writing emails five and six times to make sure, sending them to people you trust. Hey, does this have any tone in it that you can read?.... It's a lot of work to have to be done to present a professional face." — Black woman.

Forever Foreigner

Latinas and women of Asian descent are particularly likely to face stereotypes questioning that they're "really" American. Women of color were substantially more likely than white women to get the question, "Where are you really from?" (3.23 vs. 1.40, a 36.7 percentage point difference). Women of color also reported that coworkers were surprised by their English language skills at a much higher level than white women (2.38 vs. 1.37, a 20.1 percentage point difference).

FOREVER FOREIGNER

White women   Women of color

Asked, "Where are you really from?"	
Surprise at English skills	
Assumed citizenship	
People respond negatively to accent	
People suggest I change my accent	

1.00   2.00   3.00   4.00   5.00   6.00
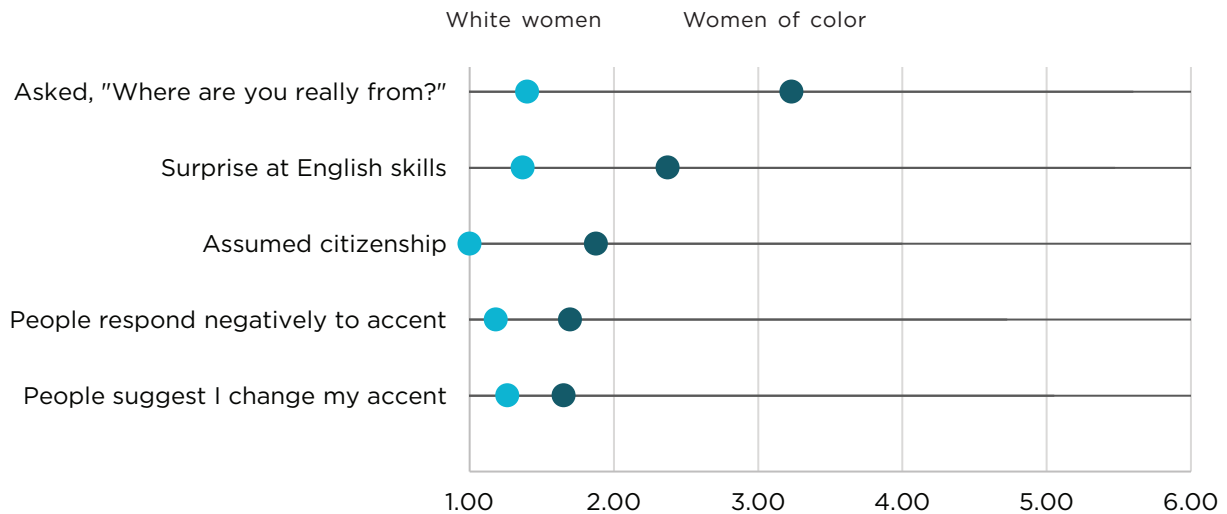
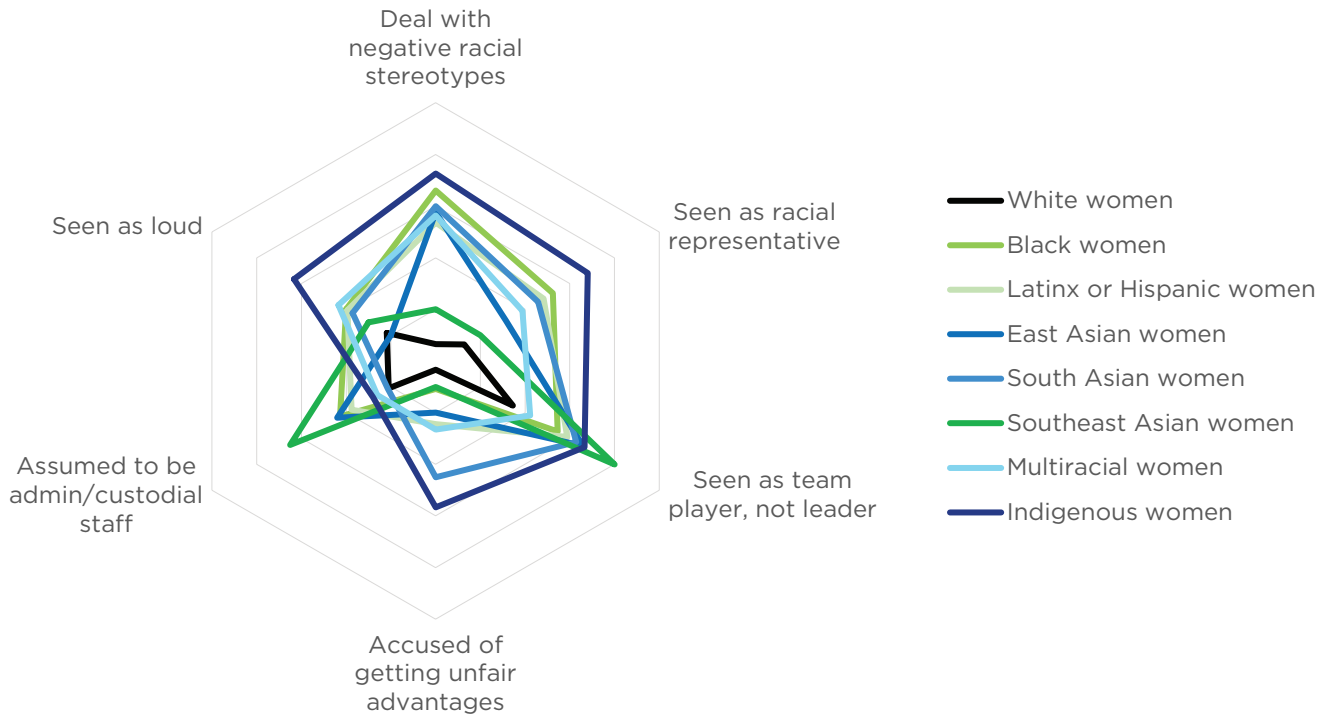The forever foreigner stereotype also takes time and effort to overcome:

"I had to make sure that, when I spoke—my spoken English, each sentence I made, that it was grammatically right and not colloquial because I knew that it was important, at that time, because I was being judged." — Indian woman.

Women of color in our study were also more likely to have their assumed citizenship or visa status held against them in the workplace than white women (1.88 vs. 1.00, a 17.5 percentage point difference). This almost never happened to white women, who gave this question the lowest score possible.

Women of color also reported accent discrimination. Women of color were more likely than white women to report it (1.70 vs. 1.18, a 10.3 percentage point difference) and to report that coworkers had suggested they change their accent (1.65 vs. 1.26, a 7.8 percentage point difference).

All groups of women of color in our study experienced distinct experiences based on racial/ethnic groups, indigeneity, and other dimensions of identity. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

DISTINCT EXPERIENCES

Deal with negative racial stereotypes

Seen as racial representative

Seen as team player, not leader

Accused of getting unfair advantages

Assumed to be admin/custodial staff

Seen as loud

- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

DISTINCT EXPERIENCES

Change appearance or demeanor

Uncomfortable wearing clothing/symbols from my heritage

Carefully edit behavior

Pressure to be a manager

Seen for tech skills

Not technical enough

- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

FOREVER FOREIGNER

Legend:
- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

Axes: People suggest I change my accent; Assumed citizenship; Surprise at English skills; Asked, "Where are you really from?"; People respond negatively to accent

Black women

Very salient for Black women was having to put time and energy into dealing with negative racial stereotypes at work.

> *"When I was a supervisor, [there was] one other African American supervisor... she would send emails that would have terrible grammatical errors... And so finally I was like, "Don't send that out... I will take care of [it]—let me review it first." ... She would say, "Well, why do you feel that way?"... I'm like, 'Because you have all of these things. You don't want to be seen as the ghetto girl that's not educated.'" —African American woman.*

Stereotypes about who belongs in the tech workplace had clear salience for Black women: they reported being assumed to be administrative or custodial staff, even though they were in computing positions.

> *"I have definitely been asked when I go to meetings at times, 'Oh, what are you here for?' or, 'What role do you play here?' Which could be very valid questions, but when you don't hear anyone else being asked the same questions, you feel like you have to validate your presence." — African American woman.*

Black women also faced the assumption that they were in the room simply as token representatives — not as valued team members with expertise.

"Our company newsletter came out and my picture was in there that I had attended [an award dinner with] my mentor, the CIO... And so, what [a white woman director] said to me was, 'Why were you chosen? Someone like me should have been chosen.' And my question to her was, 'Who is someone like you?'" — African American woman.

Recent studies confirm our findings that Black women in computing are seen as racial representatives because they are often the only Black woman (and sometimes the only Black person at all) in the room.[113] And even if they could get past being perceived as just a token minority, Black women also reported being seen for their technical skills, not as management material. There is a really clear message about who belongs in — and at the top of — computing workplaces: not Black women.

Black women also reported being perceived as loud when they were using a normal tone of voice, and being described as aggressive when they were not. Again, the need to self-edit took time and effort.

"I found that the way that you delivered the information you were delivering or the request or what have you... is the thing that sparked people's emotion. And so I started to deliver it in a way that I feel was less intimidating." — African American woman.

"I have never felt like it has been okay for me to show emotion in any space. And it doesn't matter what the emotion is. To be angry, to be sad, to be disappointed. Everything has to be calculated in terms of how I respond, even the way I respond."
— Black woman.

Finally, Black women reported feeling uncomfortable wearing clothing or symbols from their heritage or faith in the workplace to be particularly salient.

Latinx women

Latinx women also faced negative stereotypes about their racial/ethnic group at work. In particular, Latinx women reported that they were accused of speaking loudly while using a normal tone at work.

One Hispanic woman shared how coworkers described her as "feisty" and "intense," even when she was simply being direct and setting boundaries:

"I think right now the words that have been tossed around have been that I'm feisty... [I've] said, 'Stop calling me feisty. I don't like it.'... And every time I say something, when I set my boundary, and I say, 'This is what I will accept, and this is what I will not accept.' Then I feel the exchanged glances go across the room, like, 'Oh, here she goes again.'" — Hispanic woman.

Also salient for Latinx women was being seen as representatives of their group, rather than recognized for their technical expertise. Again, self-monitoring takes time, effort and energy:

> *"[T]here is that pressure to also act a certain way at work...And so you kind of have to assimilate, and that's tiring because you kind of have to check yourself." — Latina.*

> *"[I]f you present yourself as too Latina or too Black in the workplace, that could be a turnoff for your white colleagues... so you can't really do too much of that... you kind of have to monitor that unless you're in the presence of other Latinos or other Black people. Then it's like, oh, okay. I can just say whatever I want and not really have to check myself." — Latina.*

Very salient for Latinx women was having coworkers ask, "Where are you really from?"

Asian women

Particularly salient for women of Asian descent was being seen as team players rather than leaders. Also salient was the felt need to change their behavior to ensure others were comfortable and to alter their physical appearance to fit in at work.

Women of Asian descent also found salient the assumption that they are "forever foreigners," including having their assumed citizenship or visa status held against them and having coworkers ask, "Where are you really from?"

Different experiences were particularly salient for different groups:

East Asian women reported being seen for their technical skills rather than management skills, and East and Southeast Asian women reported being told they weren't technical enough when they really did have the skills.

South Asian women found accent discrimination especially salient: suggestions that they change their accent or negative reactions to their accents — as well as having coworkers surprised at their English language skills.

Multiracial women

Multiracial women are underrepresented in both the field of computing and in research on racial bias in workplaces. In our study, we found that multiracial women faced negative stereotypes and that they had to self-edit to fit in at work.

In particular, multiracial women faced the stereotype that they were loud when using a normal tone of voice and were viewed as having unfair advantages at work because of their race/gender.

Multiracial women were slightly more likely to be pressured out of technical roles in the workplace.

Indigenous women

Indigenous women also shared that they were viewed as representatives of their race/ethnicity, and that they had to deal with negative stereotypes about their race, including the stereotype that they were loud while using a normal tone of voice.

Indigenous women also reported that colleagues saw them as team players rather than leaders, and they reported being recognized more for technical knowledge than their managerial skills.

> *"I'm quick to introduce myself in meetings. I walk in and immediately say my name and my title. Which can be seen sometimes as being pretentious... or, people assume that I'm an assistant, or I am in IT, or degrade my degree." — Native American woman.*

Also salient for Indigenous women was having colleagues imply that they received unfair advantages at work because of their racial identity and having to self-edit to keep their coworkers comfortable.

Other identities

Stereotypes also impact individuals differently based on their sexual orientation, gender identity, and first-generation status:

LGBQ+ women of color

LGBQ+ women of color often face intersecting race, gender, and sexuality stereotypes at work — and these stereotypes play out differently than for straight women of color:

Compared to straight women of color in computing, LGBQ+ women of color found having to deal with negative racial stereotypes at work especially salient, including that they were loud when using a normal tone. They also shared that they were seen for their technical but not managerial skills, and that coworkers had implied they received unfair advantages at work. LGBQ+ women also found having to edit their appearances and behavior to make others feel comfortable and to fit in at work salient.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color reported being seen as representatives of their race/gender at a higher level compared to cisgender women of color. They found having to carefully edit their behavior at work and altering their appearance to fit in salient as well.

Also salient for trans, non-binary, genderqueer, and gender non-conforming people were being perceived as loud when using a normal tone and being seen for their technical but not managerial skills.

Trans, non-binary, genderqueer, and gender non-conforming people also found salient assumptions that they were "forever foreigners." They had coworkers surprised by their English language skills, and colleagues asking, "Where are you really from?", as well as having people at work suggest they change their accents.

First-generation women of color

First-gen women of color in computing found having to deal with negative racial/ethnic stereotypes at work salient at higher levels compared to non first-generation women of color. In particular, being assumed to be admin or custodial staff, and being called loud when using a normal tone.

First-generation women of color were also particularly likely to be seen as a team player rather than a leader, and to be seen as a racial/gender representative rather than for their expertise. Also salient for first-gen women of color was having to edit their behavior to make others comfortable.

INFORMAL WORKPLACE INTERACTIONS

Explicit racism/sexism

"I even had [my supervisor] tell me, 'I wish there was more white people here.'" — African American woman.

Workplace bias can play out subtly, but it can also be explicit.

EXPLICIT SEXISM OR RACISM
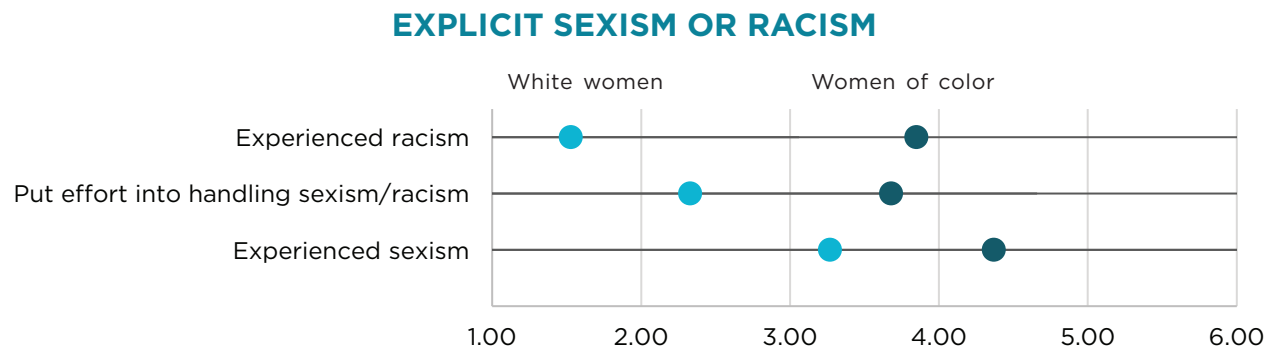
Women of color reported experiencing sharply high levels of racism at work (3.85 vs. 1.53 for white women, a 46.3 percentage point difference).

"I am a white passing [identities redacted for confidentiality]. I have experienced this very uncomfortable thing where people say or imply something as if I was 'in' on the joke or feeling. I have many times said — 'no, I'm [insert identity]' and it can cause folks to quite literally take a step back." — Multiracial woman

One woman found that racism was an inherent part of the job:

"I was working for a leading tech company that specializes in family history and genetics... Very often we would encounter people who were looking specifically for Native ancestry... only to be disappointed that they were 100% European. That day I had three back-to-back people whose reason for starting to use the product was to look for Native ancestry so they could claim it for scholarships for their kids/grandkids." — Woman of color.

Women of color also reported high levels of sexism, and at much higher levels than white women surveyed (4.37 vs. 3.27, a 21.9 percentage point difference).

"But then [my male colleague] started to go on this tirade about Trump and how, you know, this kind of shit is not going to be acceptable, and... [that] —she probably got that job because she was a woman. And he started going on this rant. And at some point, I was like, 'Uh, no. That's not okay.' And he was like, "No, fuck off." And at that point, when he got to that point of the cuss word, it was really loud. I wouldn't say it was so loud it was yelling, but it was loud enough that everyone in our little circle of computer desks would be able to hear." — Latinx woman.

While dealing with racism or sexism at work, women of color were much more likely than white women to report that they had to put energy into navigating situations so that they wouldn't face retaliation (3.68 vs. 2.33, a 27 percentage point difference) — yet another way women of color have to work harder than anyone else in computing workplaces.

"Filing HR complaints based on discriminatory behavior has resulted in retaliation from management and HR." — Latinx woman.

(Both are illegal under federal and many state laws).

Most salient experiences

Different groups of women of color tended to cluster quite close together in their experiences of racism and sexism, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

EXPLICIT SEXISM/RACISM
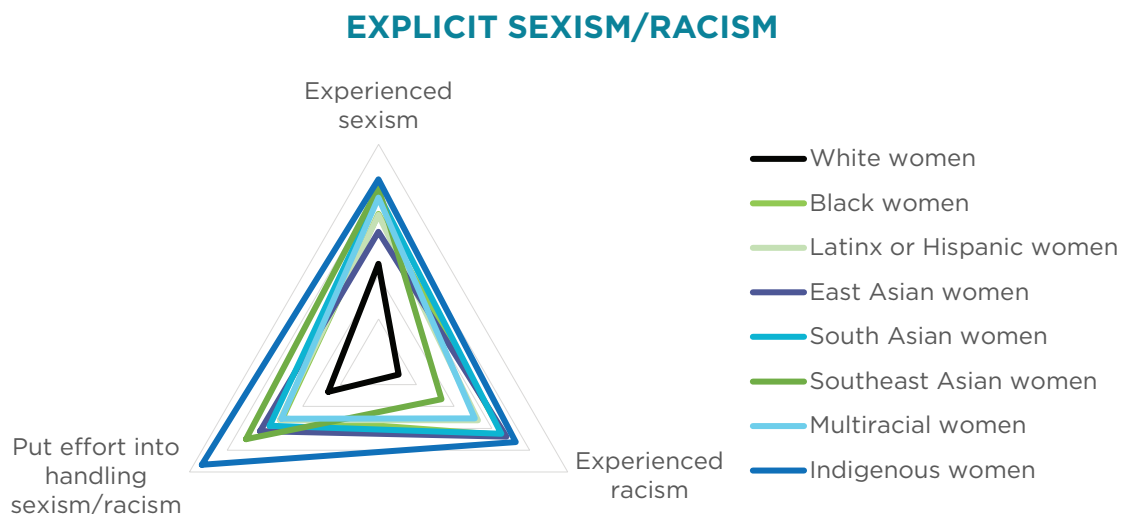
Black women

Retaliation was particularly salient for Black women.

"I had to file an ethics complaint on my boss because he falsified negative feedback on my performance to get me either to quit or get demoted. When challenged on if this was a sexist or racist issue...he covered his tracks. It was investigated and I was told that they reprimanded the manager about his unethical behavior but in the end he made sure my job was eliminated and I made the decision to leave versus find another position at a lower level to stay." — Black woman.

Multiracial women

Multiracial women found explicit sexism especially salient.

Indigenous women

Explicit sexism and racism both were very salient for Indigenous women, as was having to put extra effort into navigating racism and sexism to avoid retaliation.

LGBQ+ women of color

LGBQ+ women of color found high levels of explicit sexism and racism salient, as well as having to put extra effort into navigating racism and sexism to avoid retaliation.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color found explicit racism at work and having to put effort into carefully navigating racism or sexism at work especially salient.

"HR is not a partner in talking about these issues. I fear retaliation [and] do not have an advocate, even in the D&I team that is a part of HR. It all goes back to 'the business.' I do not think my exit interview would be a good opportunity. So speaking out, to me, feels like a double bind." — Black non-binary person.

First-generation women of color

Again, high levels of explicit sexism and racism and having to put extra effort into navigating racism and sexism to avoid retaliation were particularly salient for first-gen women of color.

DEI Work

Many tech companies are small start-ups, which leads to a phenomenon we have never encountered to the same extent in the four other industries we have studied (architecture, law, engineering, and academia): women of color often find DEI or even all of HR added to their workloads without adequate support, reward, or recognition of this extra workload.

"[T]here's this concept called the minority tax, and I've definitely felt it. Like, there's this kind of obligation. You want to see more people like you in the tech industry who succeed and do well because the tech industry is so powerful and wealthy, and you want to create that generational success and wealth, within your own family and others, but that takes a lot of time." — Latina.
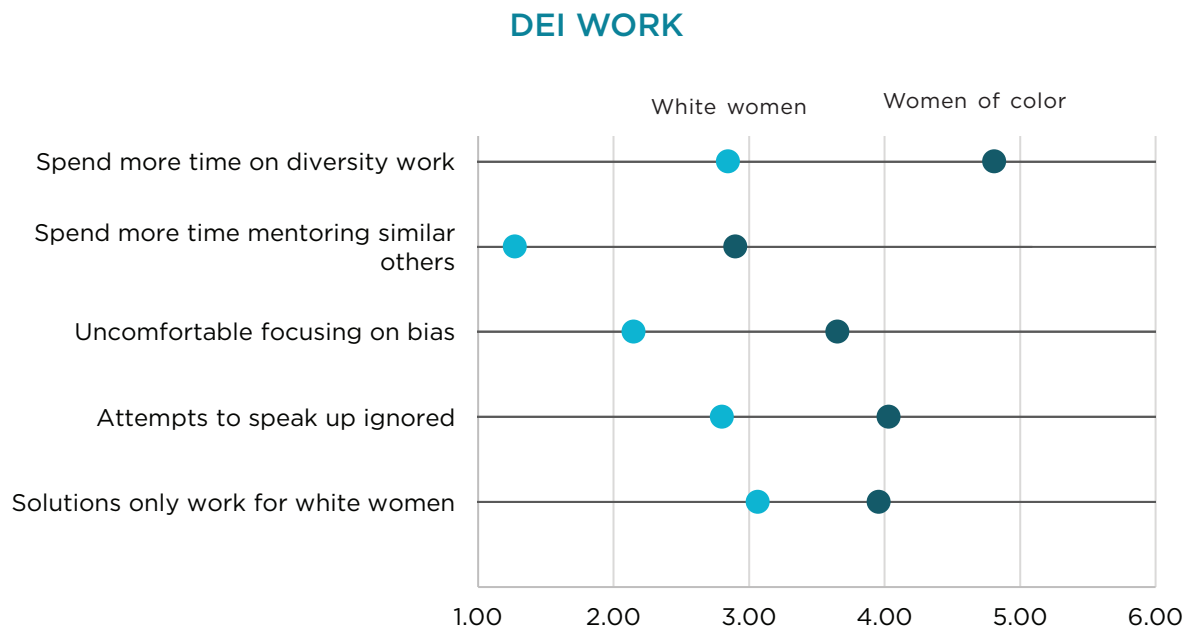
DEI WORK

During the pandemic, this pattern was exacerbated. According to the 2021 Women in the Workplace report, women leaders were twice as likely as men to spend time on DEI work that falls outside of their regular job duties.[114]

Women of color who are hired into technical roles but then expected to take on additional DEI, HR, or office management work face a dramatically different workplace than majority men. This work takes extra time and effort — time and effort that other people get to spend on family or life outside of work. At the same time, in performance evaluations, employees are assessed on how well they did on the job they were hired to do, and the extra DEI & HR work don't count. Asking women of color to take on additional work without additional compensation

and support just because they are women of color is unfair and creates a toxic workplace dynamic.

Women of color reported that they spent more time than coworkers on diversity & inclusion work at a substantially higher level than white women (4.81 vs. 2.85, a 39.3 percentage point difference).

DEI is often an uncompensated additional workload:

"I am acting as a product manager currently... And I'm also a diversity and inclusion program manager as well... I don't get paid for my diversity and inclusion role, but it is a full-time role, and it is a program manager role... [I was told], 'Well, unfortunately we don't have the budget.'" — African American woman.

Exacerbating the problem is lack of administrative support:

"I donate a lot of my time and efforts to my ERG at work. And even just helping out with a simple event, it can take up a lot of time because there's a lot of logistical parts to it. Reaching out to speakers, confirming speakers, catering, layout. None of this is related to my job whatsoever." — Latina.

Paying the minority tax can further hurt women of color's careers if it triggers or exacerbates the "not technical enough" stereotype:

"I have been involved in an inclusion & diversity group within my business unit ... being involved in these types of initiatives can cause career harm if people think that is your main purpose rather than being technical." — Latinx/white woman

Women of color were also substantially more likely to report being expected to spend more time mentoring colleagues of the same race/ethnicity (2.90 vs. 1.27, a 32.6 percentage point difference).

Is the answer for women of color to "just say no?" That's harder than for white people.

"Mentoring is a big thing. So anytime someone comes to me and is of the same background, or is a woman or just a person of color, it's hard for me to say no... for me, it feels harder to say no because I know what they've been through since I've been in their shoes before." — Latina.

Women of color in computing were more likely to recognize that company efforts to address workplace climate issues were focused on solutions for white women (3.96 vs. 3.07, a 17.8 percentage point difference).

"[W]hen we're talking about women in technology, most of the funding, most of the organizations are focused around specifically white women and not necessarily women of color. And so I find that a lot of—well, not a lot of these organizations, but some of these organizations exclude women of color." — Latina.

When discussions of racism and privilege come up, sometimes white women derail the conversation by crying. One of the few gender privileges white women enjoy with respect to white men is that white men are expected to take them seriously when they cry. But when used to silence women of color, crying in this context is an exercise of white privilege. When white women cry, the focus shifts from having a productive conversation about the issues facing people of color to comforting and validating the white woman.[115] In effect, the white woman's feelings take precedence over the harms being experienced by people of color. In the end, women of color are silenced or even punished for bringing up difficult topics, and the company's efforts to address climate issues continue to focus on white women.
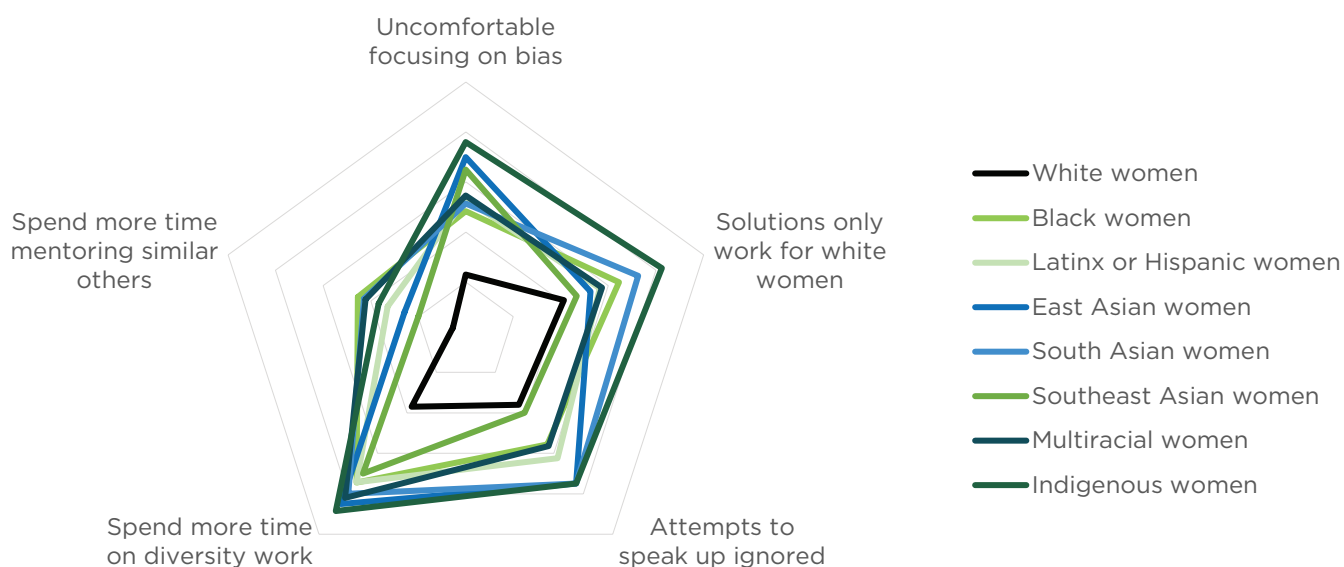
And while it's important for workplaces to solicit feedback on diversity initiatives to ensure that initiatives aren't centered on the experiences of white women, workplaces often fall short in creating the space for women of color to share their experiences of bias. In our study, women of color were substantially more likely than white women to report feeling uncomfortable bringing up their own bias experiences because of their cultural background (3.65 vs. 2.15, a 30.1 percentage point difference). When women of color did speak about their experiences, they reported pushback and hostility from their workplaces for speaking up at a much higher level than white women (4.03 vs. 2.80, a 24.6 percentage point difference).

"If a white person studies Black children, that research is viewed as scholarship. If a Black woman or a Black person studies Black children, that research is viewed as outreach, even if it's just as sound, just as rigorous." — Black woman.

Most salient experiences

All groups of women of color in our study had to do more DEI work. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

DEI WORK

Legend:
- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

Axes:
- Uncomfortable focusing on bias
- Solutions only work for white women
- Attempts to speak up ignored
- Spend more time on diversity work
- Spend more time mentoring similar others

Black women

Black women found workplace DEI efforts that only work for white women salient, as well as the pressure at work to mentor coworkers of the same race or ethnicity.

Asian women

East and Southeast Asian women found feeling uncomfortable speaking up about their bias experiences due to their cultural background especially salient. When they did speak up, East and South Asian women reported that being unacknowledged or treated with hostility was an experience that stood out.

Multiracial women

For multiracial women in computing, being expected to mentor colleagues of the same race/ethnicity and spending more time than coworkers on diversity efforts stood out as particularly salient.

Indigenous women

Indigenous women found DEI efforts that catered primarily to helping white women and having to spend more time than peers on DEI efforts to be especially salient.

Also salient for Indigenous women was having difficulty speaking out about bias because of their cultural background — and when they did share their bias experiences, their colleagues were unresponsive or even hostile.

LGBQ+ women of color

LGBQ+ people of color found seeing efforts to address their workplace climate issues be tailored to white women especially salient. Also salient was having their efforts to speak up about bias go unacknowledged or be received with hostility and pressure at work to mentor peers of the same race/ethnicity.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color reported discomfort when speaking out about their own experiences of bias because of their cultural background.

First-generation women of color

First-generation women of color found seeing efforts to address workplace climate issues cater primarily to white women salient, as well as experiences with speaking up about bias at work that were met with either no response or hostility.

Exclusion

In the workplace and outside of it, people tend to socialize with people in their own groups.116 In the workplace, this means that people who match the dominant demographic (white men) end up in the good networks that offer sponsorship, access to inside information and plum assignments, and opportunities to socialize and network.117 People who don't fit that model, like women of color, can end up feeling excluded and isolated.

EXCLUSION

Exclusion leads to the sense of isolation that is often reported by women of color, especially Black women. One study found that even when workplaces have an inclusive climate, Black and Hispanic women still feel more isolated than white women.[118]

The Women in the Workplace study found that Black women are the least likely to feel included in their workplaces, and Black women who took the survey explained that the isolation comes from feeling ignored, alienated, having a lack of purpose, and having to face negative stereotypes.[119] There are severe consequences to this type of isolation and disrespect: Black women were 75% more likely than white men and 20% more likely than white women to be mentally checked out at their jobs, and Black women who weren't willing to recommend their organization to a friend were 28 times more likely to be mentally checked out than white women.

Our own prior research has confirmed that women of color, and Black women to a higher degree, are forced to contend with greater disrespect than all other groups.[120] Exclusion is painful [121] and can have negative consequences not only for those being excluded but also for those doing the excluding,[122] which means that organizations seeking to improve their workplace climate should prioritize creating an inclusive culture for all employees.

Women of color reported that they feel isolated at work at a substantially higher level than white women (3.73 vs. 2.09, a 32.8 percentage point difference).

"The day that I am thinking about still brings up feelings of extreme isolation and exhaustion... By the end... I was done. I canceled the rest of the day and walked out onto the floor looking for someone to talk to. I was hurt, exhausted, and furious. As I walked around... I realized that there was no one there who I could go to... I went back to my desk, picked up my purse and went home and cried. I was so so alone in my pain that day. So very angry at everything. I called in sick the next day and took a long weekend... I couldn't hold it in anymore." — Multiracial woman.

"I think to a certain extent there is a sense of isolation. I know when I first started [at my company], there's not many people who look like you in the business that you're in. Who are women, who are African American. You could count the number of us probably on one hand when I first started — probably two fingers now that I'm thinking about it." — African American woman.

Women of color reported being treated like they are invisible at work (3.76 vs. 2.75, a 20.3 percentage point difference).

"I'm excluded from white communities because I'm Latina and I feel even more excluded in the Latino community when folks don't want to include me in the level up opportunities because I'm 'no one' in their opinion. It's just the worst exclusion circle." — Latinx woman.

"The ethnic and diversity team had sent out a list of the months and holidays dedicated to the minority ethnic groups, and they completely excluded all Native holidays, and the Native American heritage month. And so, for me, it was like, oh my gosh, you know, I exist. Even though we are a super minority group, it's just important to mention us." — Native American woman.

Women of color in our study reported that people at work have attempted to demean, disrespect, or humiliate them at work at a level slightly higher than white women (3.14 vs. 2.71, an 8.4 percentage point difference).

"[A]t least within the tech industry, I hear more aggressive harassment like dumb, stupid, cuss words, with the woman present or just at the woman themselves. I will hear that more often, like yelling at the woman in a meeting in front of everybody else." — Latina.

"[W]e had a number of quality issues from this one supplier where we had to go lines down in the factory, and we had these morning operational meetings with the plant manager... And he says to me, 'I don't care if you have to F-ing pull every hair out of your head. You're going to get me my parts.'" — African American woman.

"I feel that I have been approached in a way where I'm like, 'That's disrespectful.' But because of my natural personality, I'm like, 'That's disrespectful. Don't come at me this way.'" — African American woman.

A natural result of the isolation, exclusion, and disrespect reported by women of color is that women of color in our study felt much less welcome than white women to socialize with coworkers (3.98 vs. 5.47, a 29.7 percentage point difference).

The lack of socialization and networking means that women of color miss out on opportunities to get important workplace information through informal interactions:

Women of color noted that they don't know the unwritten rules needed to succeed at much higher levels than white women (4.51 vs. 3.53, a 19.8 percentage point difference). The same holds for access to information (3.78 vs. 2.67, a 22.2 percentage point difference).

And, women of color reported that their differences are called out or made salient at work, in contexts where they should be irrelevant, at a much higher level than white women (3.14 vs. 2.71, a 21.7 percentage point difference).

Most salient experiences

All groups of women of color in our study experienced exclusion. Again, women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

EXCLUSION
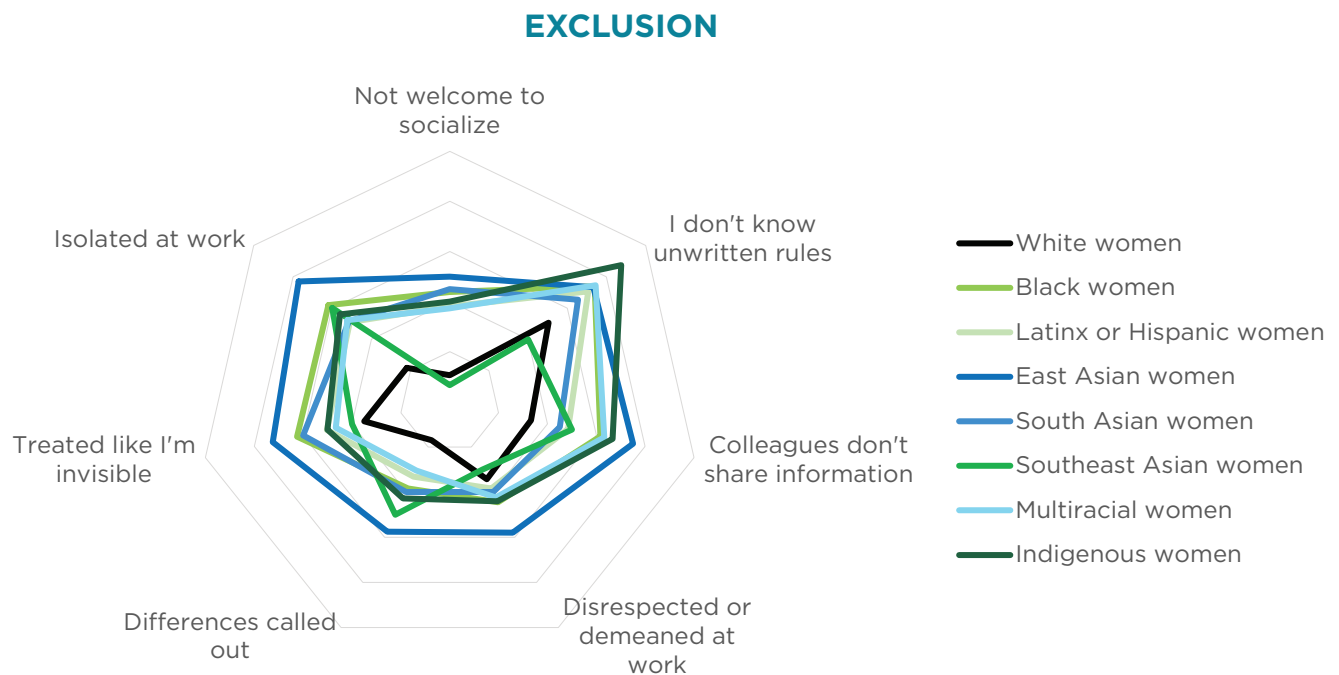
Black women

Very salient for Black women was the feeling of being isolated at work and being treated like they were invisible. Also salient was not feeling welcome to socialize with coworkers, not knowing the unwritten rules to getting ahead, and not being a part of the information-sharing networks.

This pattern of isolation was consistent with prior research,[123] including a recent qualitative study of the experiences of Black women in computing: researchers found that Black women reported intense isolation, and that they often moved through their degree programs and workplaces as the only Black woman (and sometimes only Black person overall) on their team.[124]

Asian women

Very salient for all groups of women of Asian descent was being treated as if they were invisible at work and having their differences called out in situations where they were not relevant.

East Asian women found being left out of the information-sharing networks to be especially salient.

Multiracial women

Multiracial women found colleagues not sharing the important information they share with others salient, as well as not knowing the unwritten rules to getting ahead that others seem to know.

Indigenous women

Very salient for Indigenous women were colleagues not sharing the important information they share with others, and not knowing the unwritten rules to getting ahead that others seem to know, along with having their difference called out or made salient in irrelevant contexts.

LGBQ+ women of color

LGBQ+ women of color found not feeling welcome to socialize with coworkers salient, as well as not knowing the unwritten rules to getting ahead in the workplace. In addition, LGBQ+ women found feeling isolated and being treated like they are invisible especially salient.

A recent research report by McKinsey found that LGBTQ+ women of color were the most likely to report a sense of "onlyness"—that they were the only one on their work team with their specific identity.[125]

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color found not feeling welcome to socialize with coworkers and being treated like they are invisible to be salient, as well as others attempting to demean, disrespect, or humiliate them in the workplace.

First-generation women of color

Particularly salient for first-gen women of color was not feeling welcome to socialize with coworkers and not knowing the unwritten rules to getting ahead in the workplace. In addition, first-gen women of color found feeling isolated and being treated like they are invisible salient.

FORMAL WORKPLACE SYSTEMS

Patricia Collins' core constructs of intersectionality provide a framework for understanding how women of color are impacted by formal workplace systems that are purportedly blind to gender and race/ethnicity.[126] Majority men tend to hold the positions of power in tech workplaces, and policies that are put into place without consideration of the potential impacts on different groups are likely to reproduce the lack of diversity at the top throughout the organization.

Hiring and underleveling

"We have grown 8 times larger as an organization and I remain the one Black person hired." — Black woman

To start a career in computing, you have to first get hired. In 2014, tech giants including Facebook, Google, and Apple announced their goals to increase their numbers of Black engineers.[127] By 2020, minimal progress had been made: at Google, only 3.7% of the workforce was Black and only 5.9% were Latinx.[128] Black employees were underrepresented at many major tech companies: 2.9% of Salesforce, 3.8% of Facebook, 4.4% of Slack, 4.5% of Microsoft, and 6% of Twitter employees were Black. The numbers were even worse at Google for leadership (2.6% Black) and technical employees (2.4% Black). At Facebook, 3.1% of leadership and 1.5% of technical employees were Black.

Part of the problem concerns where tech companies hire. When companies hire disproportionately from a few elite schools, the class and race effects compound so that their workforces are even less diverse. More than half of Facebook's workforce and more than a third of Google's attended a top-10 ranked university.[129] 29% of hiring managers said they would prefer to hire only from elite universities, and 43% of C-Level executives reported that they think the top performers come from the top institutions.[130]

A 2016 Bloomberg feature of the computer science program at Howard University revealed that up until just a few years ago, Silicon Valley recruiters weren't visiting *any* Historically Black Colleges and Universities (HBCUs), despite the fact that 20% of all Black computer science graduates the decade prior had attended a HBCU.[131] And in the field of computing, once applicants get their foot in the door they are often subjected to on-the-spot coding challenges. For women of color, this process can activate stereotype threat[132]—especially if the company has already signaled that it's a workplace of mostly white men.

Part of the unfairness may stem from tech's focus on hiring the "brilliant." Research has found that women may be dissuaded from working at organizations that view talent as innate rather than learned for fear that they will face more bias in these environments.[133] This concern isn't unwarranted: there are underlying racial and gender biases in who is perceived as "brilliant."[134] And, one study examining many fields found a negative correlation between the number of women PhDs and the emphasis on the importance of an innate talent for the field.[135]

HIRING

The hiring process typically contains several steps where bias can play an outsized role unless a company implements processes designed with equity in mind. Where to recruit, interview methods, the role of culture fit, and skills-based hiring assessments all add up to create a hiring system that may be impacted by bias. Organizations seeking to improve their hiring diversity need to use metrics to understand where women of color are falling out of the pool, and implement targeted solutions that address the problems.

The women of color in our study reported the same issues in hiring as we see in company data. Women of color reported that people like themselves didn't have an equal shot at getting hired at their organizations at a much higher level than white women (2.96 vs. 4.16, a 24.1 percentage point difference).

Women of color were much more likely than white women (4.23 vs. 3.18, a 20.9 percentage point difference) to think about the demographic composition of organizations when they were job-hunting — just one of the many ways that women of color have to do more work in order to get the same outcomes. They also saw their organizations as much less open to hiring people from diverse backgrounds (4.0 vs 5.0 for white women, a 20 percentage point difference).
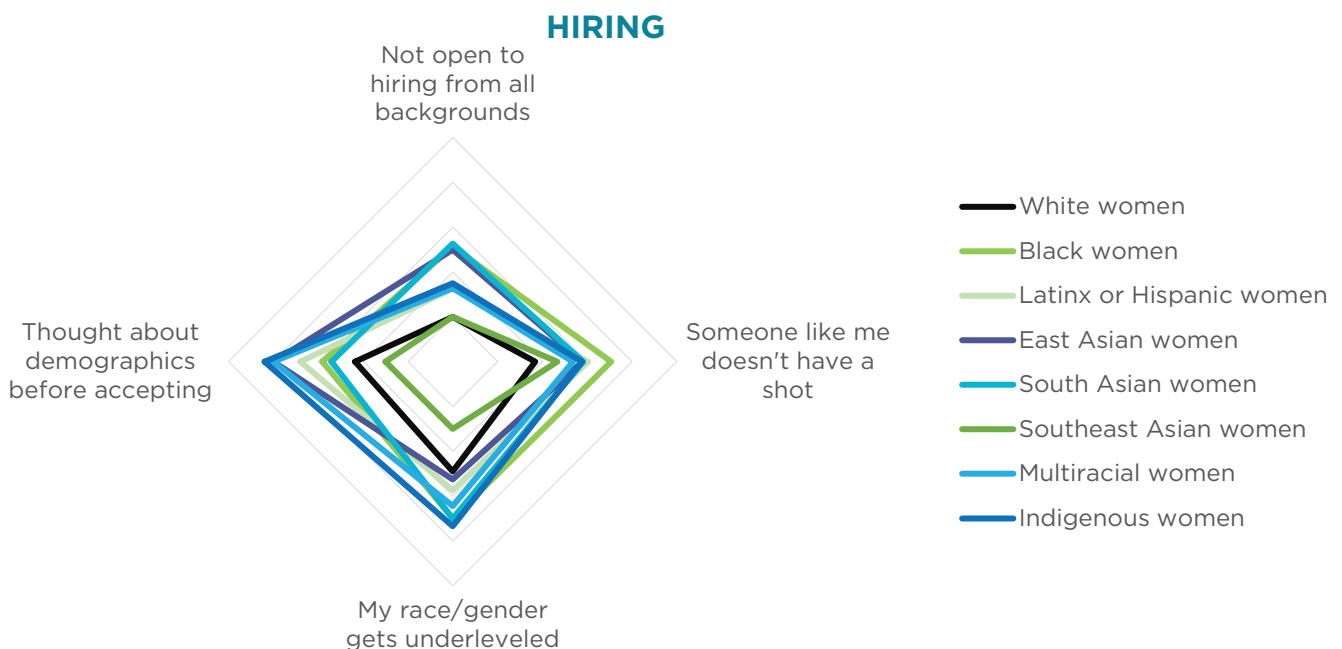
Even after getting the job offer, the hiring process has another hurdle for women of color. The women of color in our study reported seeing others of their race/ethnicity and gender under leveled: held at a lower level (and lower salary) than their skills and experience would warrant at a higher level compared to white women (4.0 vs 3.45, a 10.9 percentage point difference). This is another example of how Prove-it-again plays out: women of color who get hired have to prove their abilities before being able to advance to the appropriate level, while missing out on income and dealing with extra stress all the while.

"I felt I was under-leveled. Even when I was performing at the director level consistently for three years—I mean, it took me three years to get that promotion. I was totally under-leveled." — Indian woman.

This can start during the interview process, before the person is even hired:

"[S]ome women test at the senior engineering level… but then they get hired as an associate, which is two levels down. And then maybe they get promoted to senior within a year… I know of a story off the top of my head about a staff engineer—so she's staff now, but she was hired at senior even though she had over 20 years of experience. She was vastly under-leveled." — Latina.

An individual's first experience with an organization usually comes when they are applying for the position. When organizations don't take a targeted approach to reducing bias, they run the risk of missing out on top talent that doesn't look like the pool of employees they already have. Organizations that want to review their hiring systems can start with our Bias Interrupters toolkit to examine where bias might be playing a role.

HIRING

Not open to hiring from all backgrounds

Thought about demographics before accepting

Someone like me doesn't have a shot

My race/gender gets underleveled

- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

Most salient experiences

All groups of women of color in our study experienced bias in hiring. Once again, women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

Black women

Very salient for Black women was working at organizations that are not open to hiring people from a variety of backgrounds — and where people like themselves don't have an equal shot. Also salient for Black women was seeing others of their race/gender underleveled.

Latinx women

Latinx women found having to think about the gender and racial compositions of organizations while searching for jobs especially salient.

Multiracial women

Multiracial women found seeing others of their race/gender underleveled salient, as well as having to consider the existing race/gender composition of orgs when they were thinking about accepting jobs.

Indigenous women

Indigenous women were found seeing others of their race/gender underleveled especially salient, as well as having to consider the existing race/gender composition of orgs when they were thinking about accepting jobs.

LGBQ+ women of color

LGBQ+ women of color found working at organizations that aren't open to hiring from a variety of backgrounds, and where people like themselves don't have an equal shot of getting hired as anyone else, especially salient. This finding aligned with recent research that found that LGBTQ+ people of color were twice as likely as white LGBTQ+ people to report discrimination when applying to jobs because of their sexual or gender identity.[136]

LGBQ+ women of color also found seeing others of their race/gender underleveled, and having to consider the racial and gender makeup of orgs before accepting positions to be particularly salient.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color found working at organizations that aren't open to hiring from a variety of backgrounds particularly salient — as well as seeing people like themselves not having an equal shot of getting hired as anyone else.

First-generation women of color

First-gen women of color found seeing people like themselves not having an equal shot of getting hired as anyone else salient. First-gen women of color also struggled with seeing others of their race/gender underleveled, and with having to consider the racial and gender makeup of orgs before accepting positions.

Promotions

Women of color are less likely to be promoted to senior positions.[137] In the 2017 Tech Leavers Study, 30% of underrepresented women of color reported being passed over for a promotion—more than any other group.[138] A 2018 study of 177 of the largest tech companies found that nearly *one third* had no women of color in executive positions.[139] Even though Asian women are overrepresented in tech and computing, very few are hired for or promoted to executive roles: at some of the top tech firms in the country, only 1 in 285 Asian women holds an executive position, compared to 1 in 123 white women and 1 in 87 white men.[140] In addition, a recent study of 50 top tech companies found that only 5.8% of board of director members were women of color.[141]

PROMOTIONS

Promotions bias takes multiple forms. For example, women of color, more so than white woman (3.81 vs. 2.90 , an 18.2 percentage point difference) reported that in order to get ahead in their workplaces, you have to be a member of a small,

mostly homogenous group typically composed predominantly or exclusively of white men

Women of color reported that they were rewarded for innovating and taking risks in their roles at a lower level than white women (3.33 vs. 4.08, a 15 percentage point difference).

"I have been told by my [career] coach and by several people that until you let people know what you're doing, you won't get promoted, right? And for me ... that modesty has cost me quite a lot because, I feel like, if I was a guy doing the amount of work that I did, I would have been promoted to director four years ago." — Indian woman

Women of color reported getting the promotions they deserve at a lower level than white women (2.80 vs. 3.31, a 10.1 percentage point difference).

> *"It is clear that a Latin woman or man will never be in a higher position, even if they have superior academic or technical skills. Diversity for the most of companies is just 'a window shopping' to the society." — Latinx woman.*

"[T]here were promotion opportunities that had come up, and they were never announced internally. We would just hear, 'Oh. So-and-so is leaving the company.' And then, 'Oh. And we've hired this other person from outside the company to come in and take that place.' And it was always a white guy." — Asian woman.
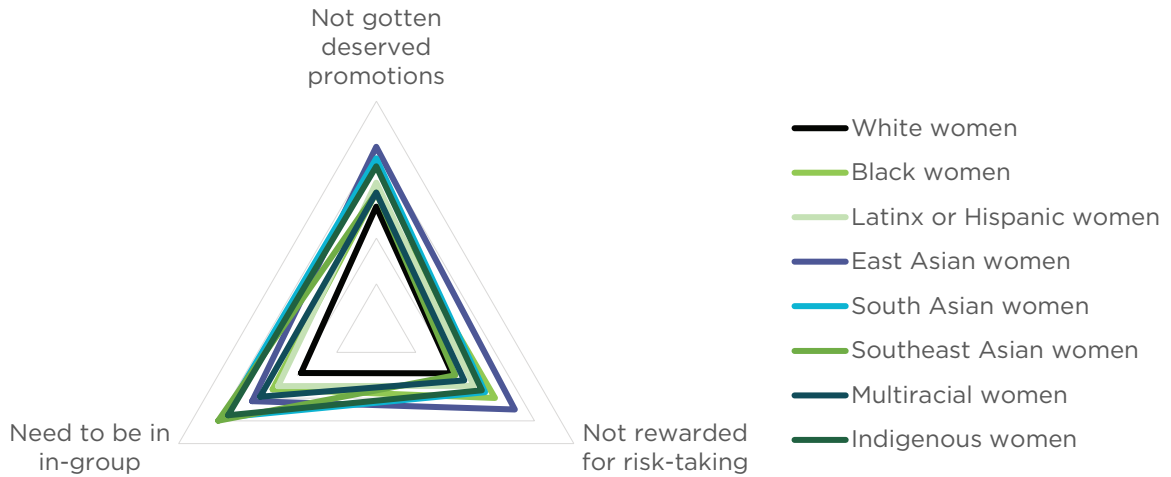
The lack of promotions is particularly insidious because tech companies can claim their diversity metrics are good while at the same time harming the careers of women of color by keeping them at a lower level than their expertise warrants. People of color are aware of this bias within companies with one study showing that people of color are more likely than white people to define diversity as including both "hierarchical representation" and "numerical representation."[142]

Perceived unfairness in promotions had a strong impact on outcomes across the board, including a lower sense of belonging, less engagement and career satisfaction and lower intent to stay with one's company long-term.

Most salient experiences

All groups of women of color in our study reported bias in promotions. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

PROMOTIONS

Not gotten
deserved
promotions

Need to be in
in-group

Not rewarded
for risk-taking

White women
Black women
Latinx or Hispanic women
East Asian women
South Asian women
Southeast Asian women
Multiracial women
Indigenous women

Black women

Black women found having their managers not rewarding them for taking risks or innovating especially salient.

Asian women

In our study, all groups of women of Asian descent, but East Asian and South Asian women to a higher degree, found not getting the promotions they deserved to be particularly salient. Also salient for women of Asian descent was the sense that you have to be part of a small, homogenous group to get ahead at their companies — a group that likely consists of white men from a certain class background.

Indigenous women

Very salient for Indigenous women were not getting the promotions they deserved, and the sense that at their companies, one has to be part of a small, homogenous group (of white men from elite class backgrounds) to get ahead.

First-generation women of color

Particularly salient for first-gen women of color were not getting the promotions they deserved, and the sense that at their companies, one has to be part of a small, homogenous group to get ahead — and that they are not part of that group.

## Access to opportunities: Career-enhancing work

Every profession has work that is high-profile, career-enhancing, and essential when it comes time for promotions. Typically, people who are younger and just starting out in the industry get less of this high-profile work. However, as white men age up and get more experience, they tend to get more of that career-enhancing work — while women and people of color still tend to get less.[143]

People in technical roles are there to do technical jobs, not to do the DEI work, be the acting HR manager, or make sure the office is supplied with pens. It is highly unfair for women of color to be expected to take on these extra responsibilities on top of the jobs they were actually hired to do. In our study, women of color reported having more trouble than white women in accessing the career-enhancing work that they entered the field of computing to do.

One reason women of color report less access to high-value work is that they report often being seen as being put on teams to provide diversity rather than to do the work much more than white women. (2.72 vs. 1.46 for white women, a 25.1 percentage point difference). Women of color also reported being asked to perform work that was appropriate for their level of expertise in the workplace at a level much lower than white women (3.79 vs. 4.82, a 20.6 percentage point difference).

One woman reported "too-low expectations" or "too-high expectations." There was no middle ground.

ACCESS TO OPPORTUNITIES

White women   Women of color
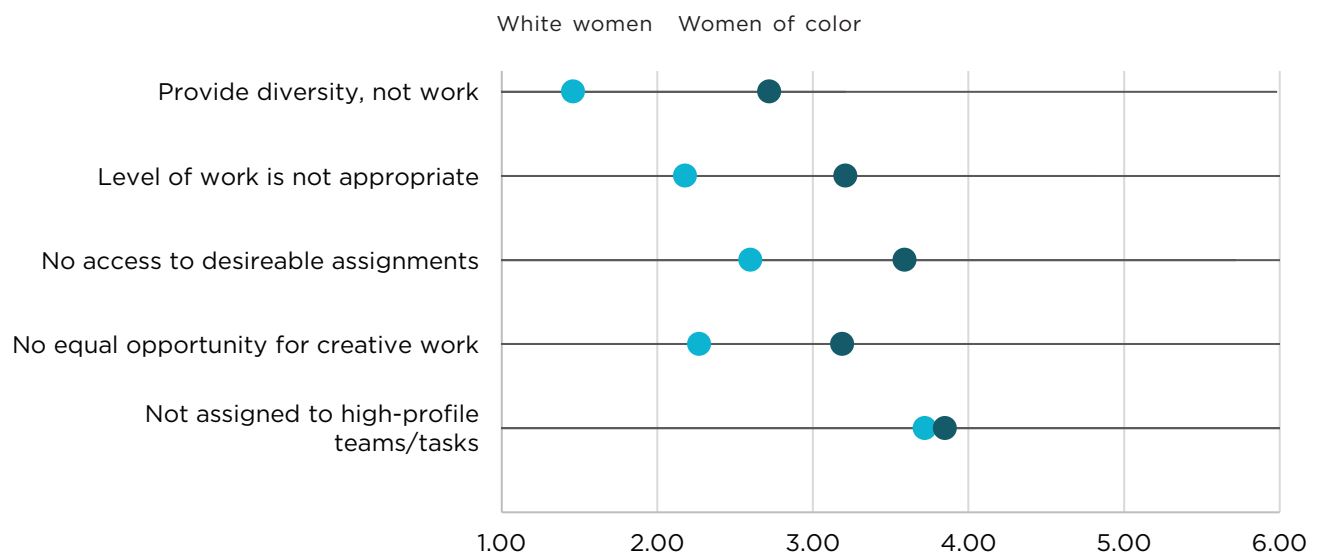
"Black women say they have to navigate these super low expectations, where it's like you don't expect that I know anything, and you don't expect that I have anything to contribute, to then— maybe finding out that a Black woman has a PhD in computer science, and it's like, 'Oh, well, then, now I expect you to be able to do everything within these unreasonable time frames.'"– Black woman.

Women of color reported less access to the best opportunities (3.41 vs 4.40, a 19.8 percentage point difference). For example, the women of color reported less of an opportunity to develop and present creative ideas compared to white women (3.81 vs. 4.73, an 18.4 percentage point difference), an experience that is not only fulfilling but also essential for distinguishing yourself as a valuable member of a team.

"I was unfairly discriminated [against] because of my gender — and shunned from opportunities, meetings, and other aspects of the project because it's basically an "all white boys club" … I am shocked as to how I have been treated and left to fend for myself." — Latinx woman.

In a bright spot, women of color in our study reported approximately the same level of access to high-profile work and teams as white women (3.15 vs. 3.28). However, simply having access to higher-profile work and teams is not enough, because women of color are still more likely to be put on teams as tokens of diversity and have less of an opportunity to share creative ideas. These factors are all highly correlated.

The opportunities allocation process has far-reaching impacts: individuals who get the plum assignments have an opportunity to do well and have that noted in their performance evaluations, which will be taken into account for promotions and compensation decisions. Individuals who don't have opportunities to do the career-enhancing work will not have that same advantage, no matter how well they do on the low-profile work. Organizations looking to improve their access to opportunities systems can start by looking at our Bias Interrupters toolkits for solutions that work within their existing systems.

Most salient experiences

All groups of women of color in our study experienced bias in access to opportunities. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

ACCESS TO OPPORTUNITIES

Latinx women

Latinx women found not being assigned to high-profile work and teams at a level consistent with similarly situated colleagues especially salient.

Asian women

Particularly salient for East and Southeast Asian women was being asked to perform work that was lower than was appropriate for them, given their experience and expertise.

South and Southeast Asian women found not having access to desirable opportunities in their workplaces especially salient. Also salient for Southeast Asian women was having less access to opportunities to develop and present creative ideas.

Multiracial women

Multiracial women found not having the same access to career-enhancing opportunities as similarly situated colleagues especially salient.

Indigenous women

Very salient for Indigenous women was getting less access to high-profile work and teams than similarly situated colleagues, and not having equal opportunities to develop and present creative ideas. Also salient was being treated as a token rather than a valuable worker.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color found not getting the same access to high-profile work or teams as similarly situated colleagues to be particularly salient.

First-generation women of color

First-gen women of color found not getting the same access to high-profile work or teams as similarly situated colleagues and not getting the desirable opportunities particularly salient.

Access to opportunities: Office Housework

Women are under pressure to do the office housework: work that makes you a good organizational citizen, but doesn't lead to promotion.[144] Women often report higher levels of office housework that takes away time and energy that could be spent on career-enhancing work.[145]

Women of color reported doing high levels of the four different types of office housework.

Women of all races tend to report doing more office housework than men in similar positions. However, the allocation of office housework depends on the gender and racial/ethnic makeup of the group. In our study, respondents who noted doing more office housework than their colleagues were likely to be thinking about white men, given that tech workplaces tend to have white men at every level of the organization. Respondents may or may not have been comparing themselves to other women or women of color, depending on the diversity of their teams.

OFFICE HOUSEWORK

White women   Women of color
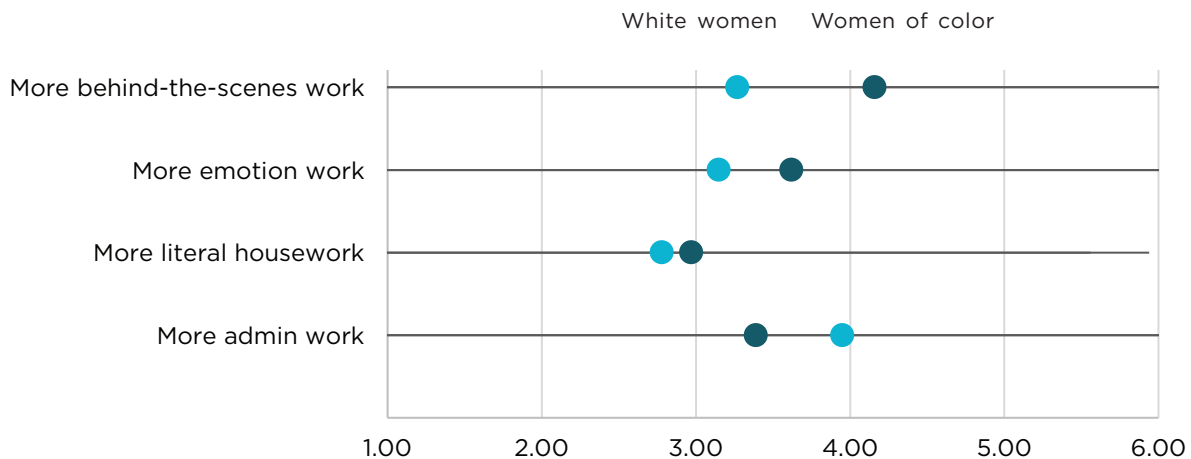
Literal Housework: includes cleaning up after meetings, ordering food for parties, making sure everyone signs the birthday card. Women of color reported doing approximately the same amount as white women in our study (2.97 vs. 2.78).

> *"Some of the smaller tasks in the office, for some reason, are falling on my shoulders, and I'm the only woman...and I brought it up in another leads meeting.... I said, 'When we have these housekeeping issues, or refilling the napkins, or we don't have an office assistant, I am not that person.'" — Hispanic woman.*

Admin work: includes taking notes during a meeting, scheduling a conference call, setting up the video call software. All groups of women reported doing more of this than similar colleagues, although white women reported doing somewhat more admin work than women of color (3.39 vs. 3.95, an 11.2 percentage point difference).

One woman had the support of her coworkers to avoid being treated like an administrative assistant:

> *"If I go into a room with a department who's not familiar with me or my talents, my teammates will make it perfectly clear I'm not the secretary. That I'm not there to take notes. And they're also quick to defer to me to ask questions... they've gotten really good at that...especially, making it clear to other departments and other teams that we might be working with, that they defer to me." — Native American woman.*

Emotion work: includes calming someone who is upset, playing the peacekeeper role, or letting a coworker vent about the boss. Women of color reported doing slightly more of this than white women (3.62 vs. 3.15, a 9.3 percentage point difference).

Black women have to contend with an additional barrier rooted in historical stereotypes, the "Mammy" stereotype: a Black woman who is supportive, nurturing, and motherly.[146] Black women who face the "Mammy" stereotype are expected to be support systems in the workplace, spending time and energy taking care of others — which means less time and energy for all other job duties.[147]

Non-promotable work: Work that is essential, but undervalued. This varies from place to place but is real work that takes time but still doesn't seem to count when it's time for promotion. This might include running the summer intern program, or making the PowerPoint for a presentation on a new piece of software. Women of color reported more of this than white women (4.16 vs. 3.27, a 17.8 percentage point difference).

Women of color do not enter the field of computing to clean up after parties, take notes, play peacekeeper, or stay behind the scenes. Relegating women of color to the office housework is a waste of talent, and organizations hoping to retain employees should take steps to make sure that office housework is allocated equitably amongst all demographic groups.

Most salient experiences

All groups of women of color in our study reported doing the office housework. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.
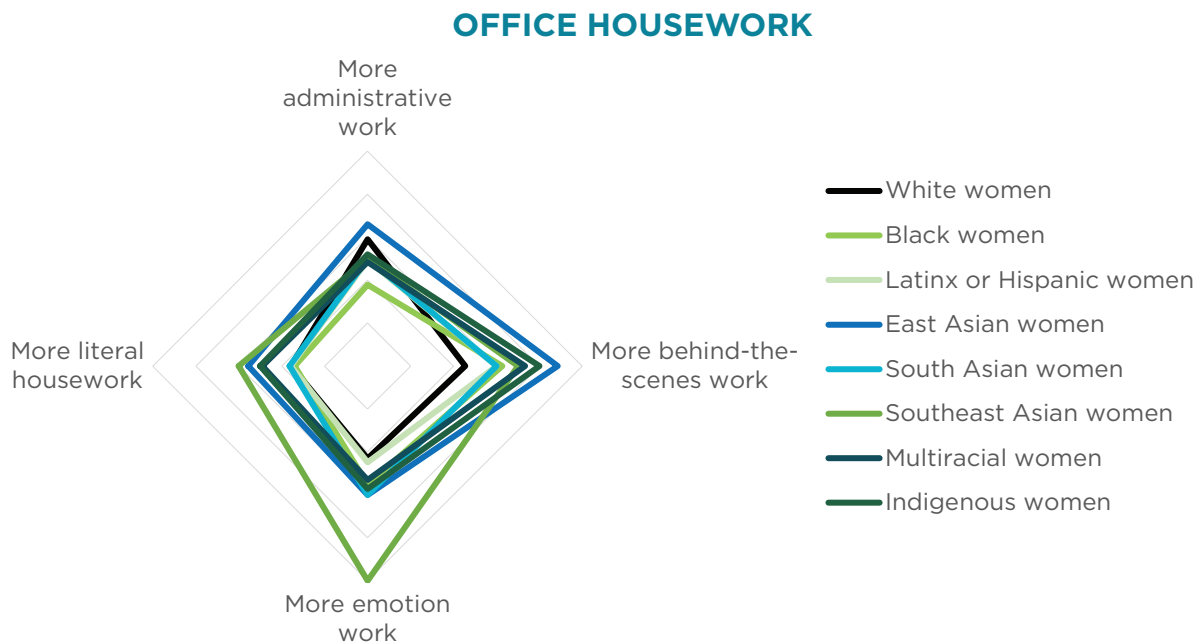
OFFICE HOUSEWORK

Asian women

Women of Asian descent reported high levels of all types of office housework compared to other women of color in computing. They shared that they often had to do more administrative work, literal housework, emotional labor, non-promotable work, and underappreciated work than colleagues.

Multiracial women

Multiracial women found having to do the literal housework and the non-promotable work especially salient.

Indigenous women

Particularly salient for Indigenous women having to do more of all of the types of office housework than similarly situated colleagues.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color found having to do more literal housework and more emotion work than similarly situated colleagues salient.

Performance Evaluations

Performance evaluations help determine who gets promotions, raises, and access to opportunities — but they are also a vector of bias. Open-ended evaluations are a petri dish for bias, as is the increasingly-common practice of eliminating formal evaluations in favor of feedback-on-the-fly.[148]

PERFORMANCE EVALUATIONS
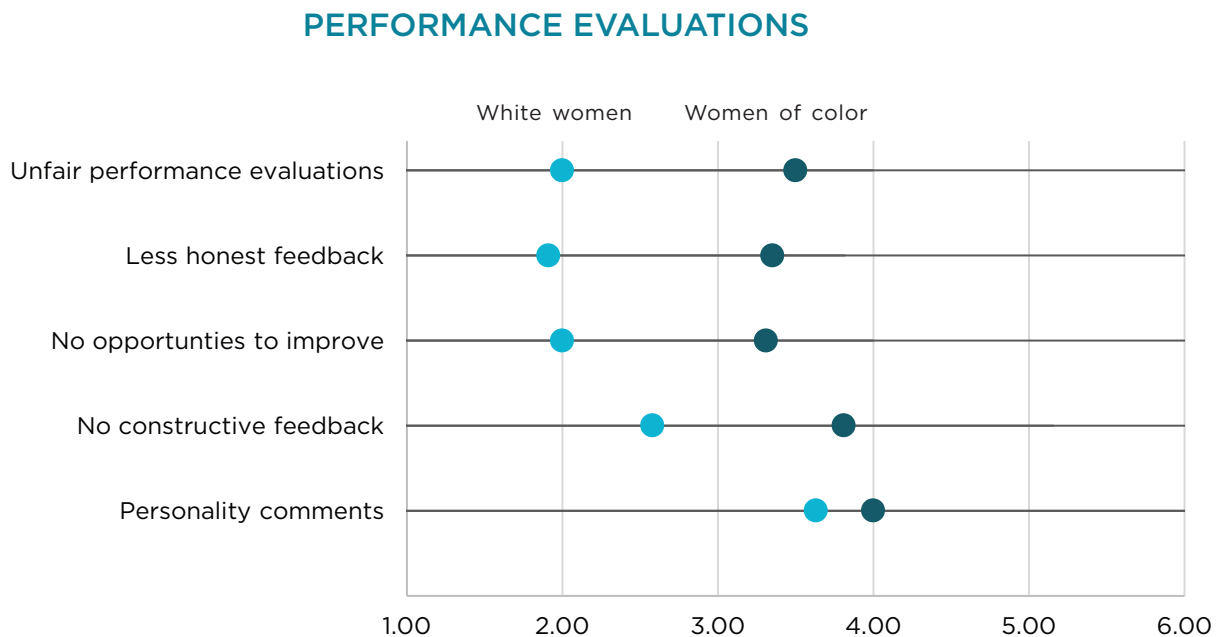
Some organizations also use performance evaluations to determine bonuses. One study found that without any systems in place to avoid bias, white men were getting higher bonuses than women and people of color with identical evaluations.[149]

In addition to pay, performance evaluations are also used to determine promotions. Another study found that 30-50% of the gender gap in promotions can be attributed to differences in ratings of "potential:" predictions of future performance. Women tend to receive low ratings of their potential, even when they are high performers.[150]

In our study, women of color reported getting fair performance evaluations at a substantially lower level than white women (3.50 vs 5.00, a 30 percentage point difference).

> *"You clearly see systemic bias in the performance data. Oh, it looks like the majority of the poor, lower performance ratings and lower stock ratings are given to Black people..." — African American woman.*

Performance evaluations are supposed to give helpful feedback to employees so that they know what they need to do to improve their performance and develop their careers. This outcome necessitates both constructive and honest feedback. A recent study found that women are less likely to get honest feedback in their evaluations: they get told white lies (less accurate but kinder feedback) instead, which hinders their ability to learn and grow from the feedback.[151] Another study of the performance evaluations of tech workers found that when women's evaluations contained the feedback that they need to acquire new skills, their ratings were lower than men who received the same type of comments.[152]

In our study, women of color reported getting less honest feedback much more often than white women (3.35 vs 1.91 a 28.8 percentage point difference) and much less constructive feedback as well (3.19 vs. 4.42, a 24.5 percentage point difference). This has consequences: women of color reported that they are not given opportunities to improve and excel because people are afraid to give them constructive feedback (3.31 vs. 2.00, a 26.2 percentage point difference).

An informal study of the performance evaluations of tech companies found that 66% of women received personality criticism in their reviews, compared to only 1% of men.[153] In our own research, we found that in unstructured reviews, people of color were 2.5 times as likely as white women to receive negative personality feedback. [154] For example, a Black man received this feedback: "his demeanor can project a lack of energy and enthusiasm." Another example: Black people also receive the feedback that they are intimidating when they behave assertively.

Women of color in our study reported getting personality comments in their evaluations at a slightly higher level than white women (4.00 vs 3.63, a 7.4 percentage point difference).

Performance evaluations help determine many important outcomes in the workplace: promotions, bonuses, raises, and access to career-enhancing opportunities. If the performance evaluations of women of color are artificially low due to bias, it means that women of color who are just as good as anyone else in the workplace will have a harder time getting ahead, they won't feel valued, and they are going

to be more likely to consider moving to an organization that appreciates their talents. Organizations that want to head off bias in their performance evaluations process can take a look at our Bias Interrupters toolkit for low-lift tweaks to their existing systems.

Most salient experiences

All groups of women of color in our study experienced bias in performance evaluations. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

PERFORMANCE EVALUATIONS
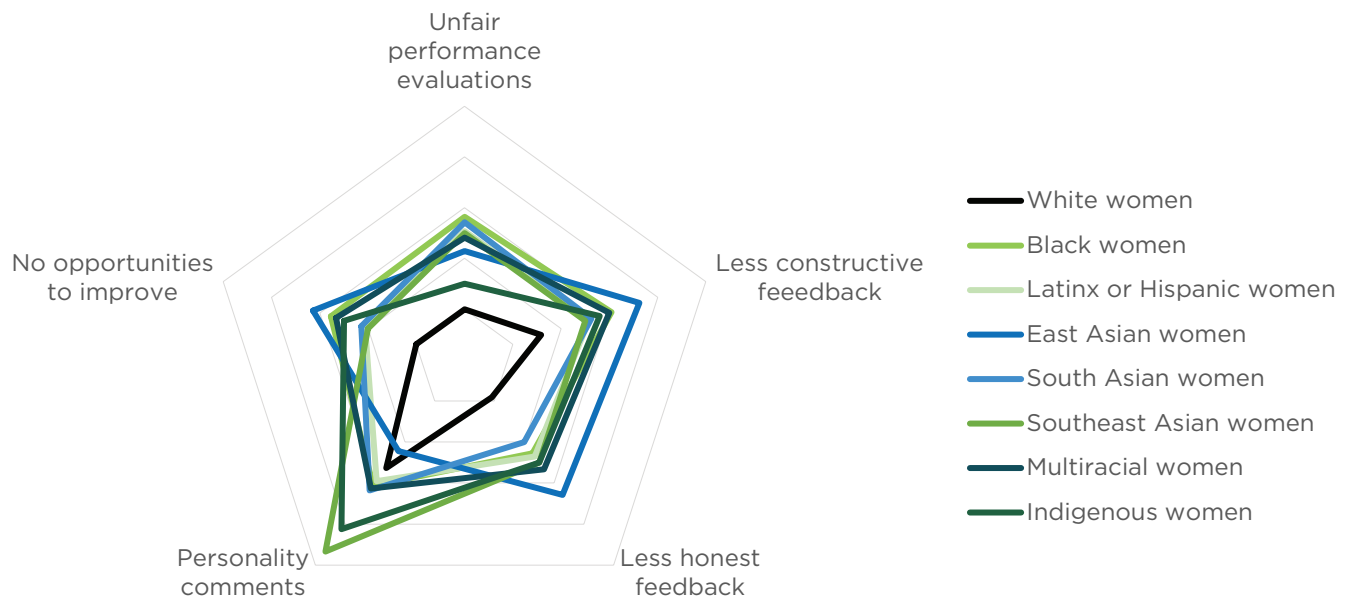
Black women

Black women found having unfair performance evaluations salient, as well as not getting constructive feedback in their performance evaluations. Also salient was their inability to improve and excel in their careers due to that lack of constructive feedback.

Asian women

Particularly salient for East Asian women was getting less honest feedback in their evaluations. They, too, reported they could not excel and improve in their careers due to a lack of constructive feedback.

Multiracial women

Multiracial women found getting less honest feedback salient, as well as not getting constructive feedback that allows them to improve and excel in their careers.

Indigenous women

Indigenous women found getting personality feedback in their evaluations and missing out on opportunities to improve and excel due to a lack of constructive feedback particularly salient.

LGBQ+ women of color

Very salient for LGBQ+ women of color was getting personality feedback and getting less honest feedback than colleagues.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Salient for trans, non-binary, genderqueer, and gender non-conforming people of color was getting personality feedback in their evaluations.

First-generation women of color

First-gen women of color found getting less honest feedback on evaluations than similarly situated colleagues salient, as well as missing out on opportunities to improve and excel in their careers due to a lack of constructive feedback.

Sponsorship and Networking

People tend to gravitate towards people of their own social groups: that is why networks tend to be made up of people who are similar.[155] In workplaces, networks play an important role: they determine who gets the good opportunities, and they can be even more important for promotions than someone's actual body of work.[156] When workplaces have primarily white men at the top, women of color are at a disadvantage and may have trouble accessing the key networks.

SPONSORSHIP AND NETWORKING
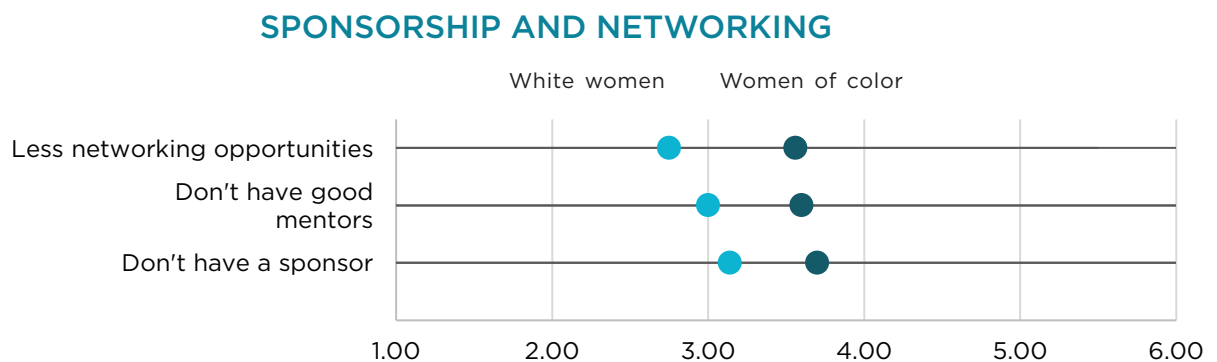
"Early on I did also find that a lot of your male counterparts, they hang out and they get together for lunch, they may do things after work and it helps to kind of cement that kind of comradery that comes into the office with them." — African American woman.

In our study, women of color were less likely to report having access to networking opportunities than white women (3.44 vs. 4.25, a 16.2 percentage point difference). Sometimes women feel less welcome due to the nature of the activities that are being used for networking:

> *"Team activities used to be mostly male focused — pool at a sports bar, four-wheeling trip, there tended to be drinking involved. That is less true these days".*
> *— Latinx/white woman.*

However, sometimes the lack of access to networking opportunities is due to women of color being less welcome at all types of social events in the workplace. As we referenced earlier, women of color reported feeling more excluded and less welcome to socialize with their colleagues than white women. Informal networking opportunities may be nominally open to anyone, but women of color may still not feel welcome.

Mentorship is also important — a mentor can provide career guidance and support. Mentorship is even more important for people who are in historically excluded groups in their workplaces, because it can provide a sense of belonging and a person to share key workplace information that isn't available through formal channels.[157]

Women of color in our study were also less likely to report having good mentors in their workplaces compared to white women (3.40 vs. 4.00, an 11.9 percentage point difference).

Sponsorship is different from mentorship: a sponsor is someone above you who is willing to spend their political capital to help advance your career. A sponsor can be essential for getting promoted and getting access to key opportunities: one study of women in science, engineering, and technology found that women who had a sponsor were 200% more likely to see their ideas implemented at work.[158] They were also 22% more likely to be promoted, 37% more likely to ask for a raise.[159]

Again, women of color were less likely than white women (3.30 vs. 3.86, an 11.2 percentage point difference) to report having a sponsor who uses their influence to help their career.

Sponsorship is a key part of career advancement in any organization and was also strongly correlated with perceptions of the promotions process for women of color in computing. Perceived (un)fairness of sponsorship systems was negatively linked to intentions to stay at ones' organization long-term, even after controlling for the effects of other workplace systems. The bottom line: organizations that work to ensure women of color can access the benefits of sponsorship should expect to see corresponding increases in the retention of women of color.

Most salient experiences

All groups of women of color experienced sponsorship and networking bias. Yet again, women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

SPONSORSHIP AND NETWORKING
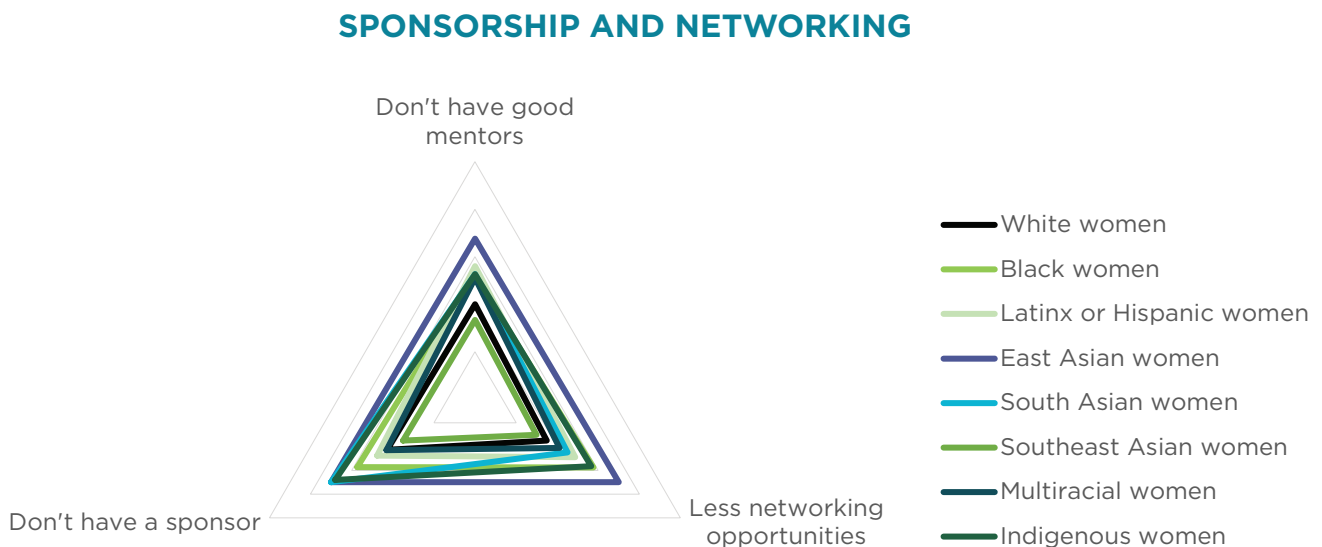
Black women

Black women found networking difficulties particularly salient: they reported both lack of access to networking opportunities and lack of sponsorship.

Latinx women

Latinx women found lack of mentorship especially salient.

Asian women

Very salient for Southeast Asian women was not having a sponsor who is able to help them advance in their careers.

Indigenous women

Indigenous women found both a lack of access to networking opportunities and not having a sponsor to help their careers especially salient.

First-generation women of color

Particularly salient for first-gen women of color was a lack of access to networking opportunities.

Compensation

The pay gap in tech is well documented: women of color get paid less.[160] A 2020 report found that women in tech are offered lower starting salaries than men 63% of the time, and the gender wage gap in tech was highest for Black and Latinx women.[161] In computer programming, women earn an average of 11.6% less than men—one of the highest gender wage gaps within a specific field.[162]

In tech and computing, salary gaps between white men and women of color only provide part of the picture, as tech employees often earn additional compensation in the form of company shares. A 2018 study revealed that women in tech held only 20% of company shares, and 6% of founder shares, or just 47 cents for every dollar in equity owned by men in tech.[163] Though the study didn't analyze disparities by race, the disparities in equity ownership are likely even greater for women of color. When looking at founder funding alone, less than 1% of all venture capital funding goes to Black and Latinx engineers.[164]

Our study confirms that women of color feel the effects of pay inequity to an even greater extent than white women.

COMPENSATION

White women   Women of color

	1.00	2.00	3.00	4.00	5.00	6.00

Get paid less — White women ~3.2, Women of color ~4.3
Don't get paid fairly — White women ~3.4, Women of color ~3.7
Promotion without raise — White women ~2.8, Women of color ~3.0

One woman noted that she was substantially undervalued:

"I have a lot of training and education. I am not paid what I am worth. Any other old white guy with 3 masters degrees from different disciplines in my industry would be treated as a God and given a 7 figure income." — Latinx woman.

Women of color reported that they were paid less at a level much higher than white women (4.35 vs. 3.23, a 22.3 percentage point difference), and reported being paid fairly at their organizations at a level slightly lower than white women (3.29 vs. 3.54, a 5.1 percentage point difference)

In workplaces where Prove-it-again bias is widespread, sometimes people will be given the work but not the promotion that typically goes with it, or the promotion but not the pay raise that typically goes with it. These are classic forms of "Prove-it-again" bias often reported in tech: you have to "prove you can do the job" even though you have been *doing* the job. This experience was equally common for women of color and white women in our study (2.80 vs. 2.95), and plays a role in the gender pay gap for all women.

"[I asked,] 'Is there some process I can go through to have my experience evaluated to see if I can have a title change?' I wasn't even asking for more money. I just wanted the title... I ended up with like sixty some odd pages of documentation of me asking and being told, 'We're looking into it. We're thinking about it. We have to come up with criteria,' before I was laid off. — Asian Woman

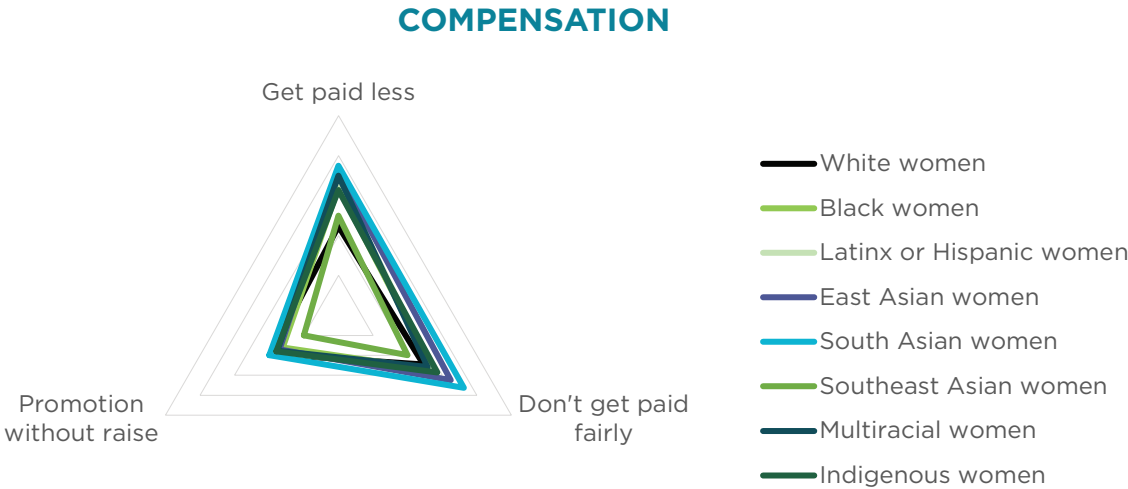One women's experience highlighted the negative career consequences:

"They said, "You know, we're going to convert you immediately... however—your title is not going to change until maybe six months from now,"... and then six months later during the reorg... [I was] laid off... all of the work that I had done up to that point was out the window. And I had nothing to say I had been promoted." — Hispanic woman.

"I was doing all the work of a senior business analyst. I was even taking on... work of the product manager role... and I was told... 'As you know, we don't do mid-year promotions or pay increases.... But you're performing like this. This is great.... Just keep on working hard, and one day, we will, hopefully, reward you, with a permanent title.'" — African American woman.

Compensation doesn't happen in a vacuum, so when people are paid unfairly it impacts the rest of their workplace experiences as well. As noted in the Impacts of Bias section, bias in compensation systems was negatively linked to career satisfaction at one's organization, even after controlling for the effects of other workplace systems: meaning that if you don't pay people fairly, they aren't going to be satisfied with their jobs, no matter how great the rest of the workplace is.

Most salient experiences

All groups of women of color in our study experienced bias in compensation. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

COMPENSATION

Legend:
- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

Asian women

Particularly salient for Southeast Asian women was feeling that they were paid unfairly compared to similarly situated colleagues.

Multiracial women

Multiracial women found being paid less than similarly situated colleagues especially salient.

LGBQ+ women of color

Very salient for LGBQ+ women of color were promotions that don't come with an associated raise or title change.

First-generation women of color

First-gen women of color reported more salient experiences across the board in terms of compensation bias than women of color who were not first-gen: they reported being paid less than similarly situated colleagues, not being paid fairly, and getting promotions without the raise or title change that would be expected.
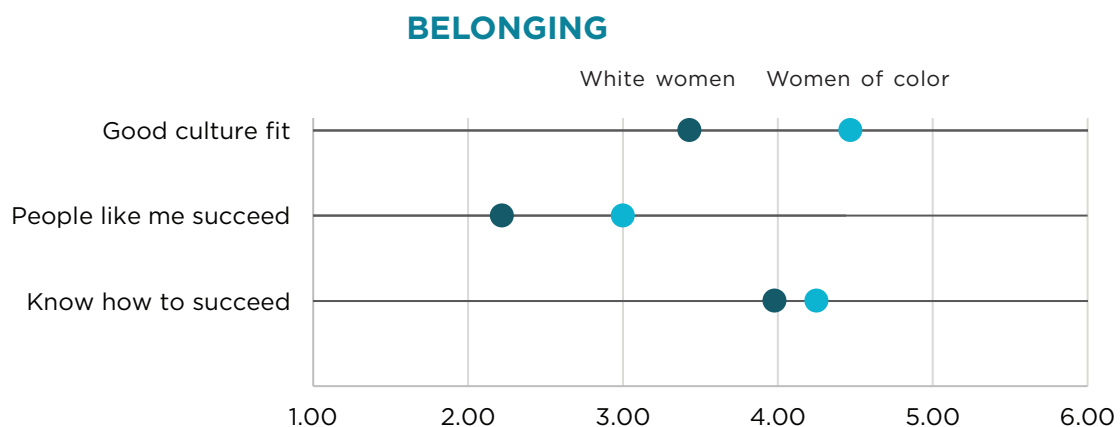
OUTCOMES

A sense of belonging at work results in fewer sick days, increased job performance, and decreased turnover.[165]

In our study, women of color reported a lower sense of belonging than white women. As compared to white women, women of color found their workplace culture was a much worse fit for them (3.43 vs 4.47, a 20.9 percentage point difference), did not see others like themselves succeeding in the workplace (2.22 vs 3.0, a 15.7 percentage point difference), and had a slightly worse sense of what was needed to succeed in their workplaces (3.98 vs 4.25, a 5.4 percentage point difference).

Women of color reported less engagement — which costs companies a lot of money. Employee engagement matters for the bottom line: disengaged employees cost their employers 24% of their annual salaries.[166] High employee engagement can make organizations 21% more profitable.[167]

As compared with white women, women of color in tech were much less engaged (3.44 vs 4.63, a 23.9 percentage point difference) and less satisfied with their careers (3.29 vs 4.00, a 14.2 percentage point difference) at their current organizations. They were more likely to report feeling stalled in their careers (4.10 vs. 3.18, an 18.4 percentage point difference) and slightly less able to see paths for advancement (3.33 vs 3.67, a 6.7 percentage point difference). And, they were much less likely to be willing to recommend the organization to a peer as a good place to work (3.42 vs 4.50, a 21.7 percentage point difference). Quite a sobering litany.

BELONGING
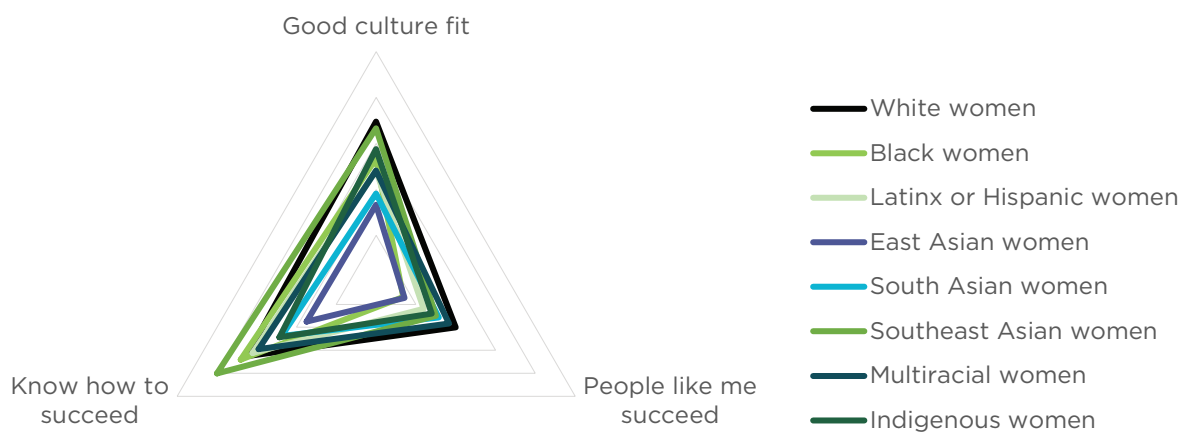
OUTCOMES
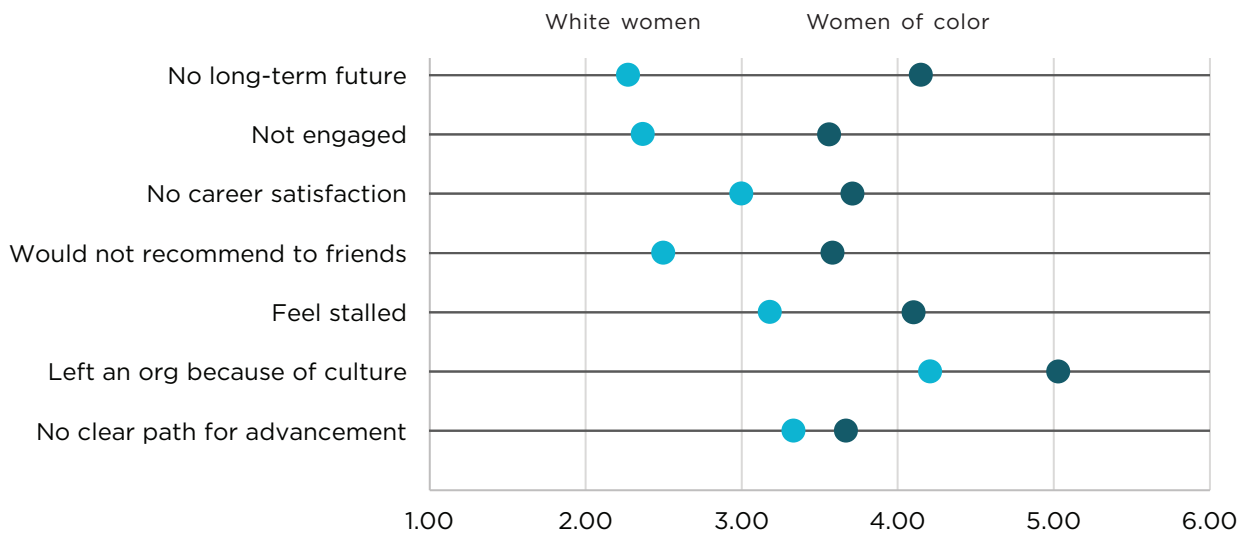
Turnover is a huge cost for organizations: it costs an average of 6 to 9 months of an employee's salary.[168] Women of color were substantially less likely than white women to report seeing a long-term future for themselves at their current organizations (4.15 vs 2.27, a 37.6 percentage point difference). Women of color were also more likely than white women to report having left or having considered leaving a company because of the culture (5.03 vs. 4.21, a 16.4 percentage point difference). If organizations are spending time and money to hire women of color to boost their diversity metrics, it's a huge waste to let them be pushed out because of bias.

> *"[I]t got down to the point where I went to HR, and I was just like, 'Listen, this is what it is. This is all of the nonsense I've been dealing for the past year. I'm fully vested now. I want out. I want a severance package. I want to get out of this place.'" — Latina.*

> *"I experience[d] Bro culture there from my management, I had a new role in the organization and the environment was hostile and toxic from the start. Basically, people made it impossible for me to succeed. I was intimidated to quit but I held my ground until I was finally laid off a year later." — Latinx woman.*

BELONGING

Good culture fit

People like me succeed

Know how to succeed

- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

OUTCOMES

No clear path for advancement

Wouldn't recommend to friends

Left an org because of culture

No long-term future

Feel stalled

Not engaged

Not satisfied with career

- White women
- Black women
- Latinx or Hispanic women
- East Asian women
- South Asian women
- Southeast Asian women
- Multiracial women
- Indigenous women

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Most salient experiences

All groups of women of color in our study experienced a lower sense of belonging and worse outcomes. Women of color tended to cluster quite close together, and far away from white women. However, different experiences were particularly salient for specific groups of women of color.

Black women

The most salient experiences for Black women were not seeing others like them succeed in their workplaces, and not being able to envision a long-term future at their companies.

Asian women

Asian women reported the worst overall workplace outcomes in this study. This finding may be linked to the timing of our study: survey data was collected in late 2019 and early 2020—the start of the COVID-19 pandemic and a time when there was a steep spike in acts of racism against Asian Americans.[169]

East and South Asian women found not belonging in their workplaces particularly salient: they didn't see other people who looked like them succeeding, and did not have a good sense of what was needed to succeed. Also salient for these women was feeling stalled, unsatisfied, disengaged, and unable to see a clear path for advancement at work.

In addition, East and Southeast Asian women also found having to leave or consider leaving an organization due to the culture salient.

For all groups of women of Asian descent, not seeing a long-term future at their current workplace was particularly salient.

Multiracial women

Very salient for multiracial women were not having a good sense of what is needed to succeed in their workplaces, and not being able to see a clear path for advancement for themselves.

Indigenous women

Indigenous women in computing found being unable to see a clear path for advancing to be salient.

LGBQ+ women of color

Particularly salient for LGBQ+ women of color were feeling that they did not belong in their current workplace, that they could not perform their best, and that they had left or considered leaving a company due to the culture.

Trans, non-binary, genderqueer, and gender non-conforming people of color

Trans, non-binary, genderqueer, and gender non-conforming people of color found being unable to perform their best at their current workplaces and having a workplace culture that was not a good fit to be very salient.

First-generation women of color

First-gen women found low career satisfaction especially salient, as well as having to leave or consider leaving their jobs due to the culture. Not feeling like they belong in their workplace was also salient.
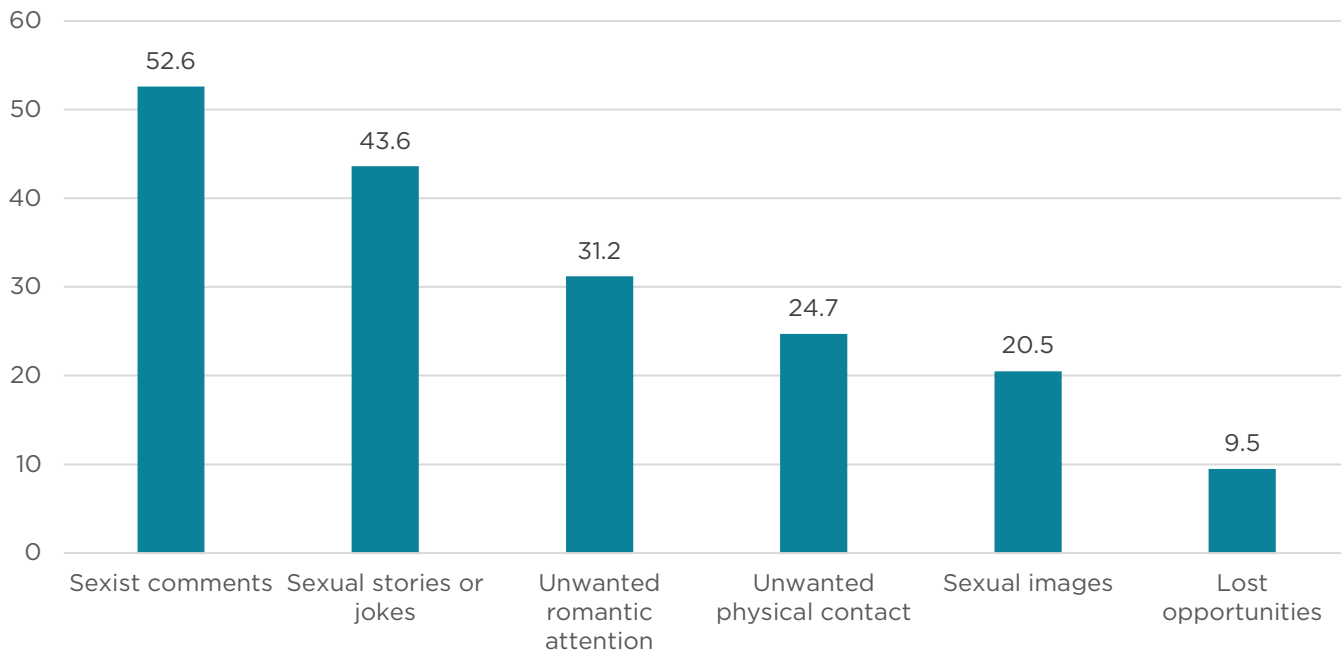
SEXUAL HARASSMENT

The National Academies of Sciences, Engineering, and Medicine report on sexual harassment found that women who are sexually harassed in the workplace experience a host of negative outcomes including increased stress and disillusionment, and decreased job satisfaction and intent to stay at their job.[170]

Additional research exploring the negative impacts of sexual harassment found that 46% of women who have experienced sexual harassment at work report that the harassment made them leave their job.[171] Sexual harassment impacts the long-term career trajectories of women of color in computing, which also means that organizations seeking to boost their numbers of women of color will be unable to do so unless they take action on this serious issue.[172]

Due to the low prevalence of some of these experiences of sexual harassment, in order to protect participant privacy we present the numbers in the following section as percentages of all women of color who completed our survey.

Over two-thirds of women of color in our study reported some form of sexual harassment.

SEXUAL HARASSMENT

A bar chart titled "SEXUAL HARASSMENT" with the following values:
- Sexist comments: 52.6
- Sexual stories or jokes: 43.6
- Unwanted romantic attention: 31.2
- Unwanted physical contact: 24.7
- Sexual images: 20.5
- Lost opportunities: 9.5

The most commonly reported form of sexual harassment reported was uncomfortable sexist comments, reported by 52.6% of women of color in our study.

"I found out many years later that I had actually been the subject of rumors because I was the only female developer on my team... and people I guess had assumed...I was sleeping with my male best friend 'cause we went everywhere together." — Asian woman.

This was followed by uncomfortable sexual stories or jokes, reported by 43.6% of women of color.

"[M]en in leadership... weren't shy a bit about being crass and really being inappropriate with their sexual jokes and whatnot in the workplace." — African American woman.

"[My male colleague is] very comfortable telling me about his App dating life... I basically just said, 'How was your weekend?' And he goes, 'Oh, my God. I met with this girl. She was amazing. She gave it up the first night,' ... I was, just, like, 'I really don't want to hear about that,'... and, [he was] like, 'What? You've never sent a nude selfie?'." — Latina.

Unwanted romantic or sexual attention in the workplace was reported by 31.2% of women of color.

"A co-worker tried to kiss me at a work event while our other colleague went to the restroom. It was a bar and it was uncomfortable. I didn't know what to do, so we never addressed it. I told my colleague after it happened and she laughed about it. I didn't want to report or get him in trouble because I considered him a friend. I ended up moving teams." — Latinx woman.

"There was a man I met at our company coffee shop who seemed really intent on making conversations... I intentionally stood far from him because he made me uncomfortable. He walked over to me and started up the conversation again leaning in as we talked. After I got my coffee he followed me all the way to the elevator until I got off at my floor." — Native Hawaiian or Pacific Islander woman.

A quarter of women of color reported unwanted physical contact.

"One time we were riding in the limo, me, a couple of the PR people, and some of the other male designers. And one of them kept accidentally throwing himself across the limo and landing with his hand on the boob of one of the PR ladies. And she finally told him, 'If you do that one more time, I'm gonna kick you in the nuts.'" — Asian woman.

"When I worked in a production line as a technical operator, there was a mechanic that would always come and talk to me. It didn't seem harmful at first it seemed like he just wanted to give me tips. Until he started saying things about the way I looked and he began to touch my arm almost rubbing it and I pulled away completely disappointed." Latinx woman.

Sexual or inappropriate images were reported by 20.5% of women of color in our study.

9.5% of women of color in our study reported losing opportunities as a result of rebuffing sexual advances. These lost opportunities range from being taken off plum assignments to not receiving a deserved promotion or raise, or even having to leave a job entirely. Although the number of women who reported this was smaller than other forms of sexual harassment, the consequences are severe and career-damaging for every woman who experiences it.

"[I was] laid off from my job after I filed a sexual harassment complaint related to my boss's behavior with an intern who reported to me. His boss agreed it was sexual harassment. I suggested training which was never implemented and then I was let go." — South Asian woman.

"I left my last job because my boss made me uncomfortable by touching me frequently and standing too close to me." — Latinx woman

> *"Much of my work for the past four years has been remote, a calculated decision to help reduce the likelihood of physical harassment and sexual harassment." — Latinx woman*

LGBTQ+ people of color in computing

In professional workplaces and more broadly, LGBTQ+ people often report higher levels of bullying,[173] sexual violence,[174] and sexual harassment.[175] However, due to our small sample size of LGBTQ+ people of color, we were not able to examine this issue in more depth in this study.

MASCULINITY CONTEST CULTURE

Some workplaces revolve around masculinity contests, placing a high value on sometimes extravagant displays of masculine signaling.[176] A validated scale measures Masculinity Contest Cultures (MCC).

Masculinity Contest Culture contains four distinct conceptual elements, which are operationalized as four scales within the MCC scale:[177]

- Dog eat dog: only the strongest can survive in these organizations, and competition among employees is fierce.

- Show no weakness: showing any sign of weakness will lead to a loss of respect in these organizations.

- Put work first: work is of the highest priority in these organizations, meaning employees are expected to put in long hours and not take time off, even if they have families at home.

- Strength and stamina: physical strength and athleticism are key to getting ahead in these organizations.

Masculinity Contest Cultures have been linked to negative workplace outcomes: hostile coworkers, toxic leadership, worse work-life balance, lower well-being, and alienation at work.[178]

Tech workplaces tend to be male-dominated, so we expected some of our survey participants to be in workplaces with masculinity contest cultures. Survey participants took the short version of the MCC scale, and we examined how MCC was related to the other variables in this report by calculating correlation coefficients, which represent the strength of a linear relationship from -1 to 1. Correlations close to -1 represent strong negative relationships (for example, the higher the masculinity contest culture, the lower the intent to stay), correlations close to 1 represent strong positive relationships (for example, the higher the masculinity contest culture, the higher the bias), and correlations close to 0 represent no relationship between the variables.

Masculinity Contest Culture was highly correlated with the five bias patterns. For the women of color in our study, the correlations were as follows:

Prove-it-again bias: r = .69

Tightrope bias: r = .67

Maternal Wall bias: r = .66

Tug of War bias: r = .63

Distinct experiences of different groups: r = .60

Masculinity Contest Culture was also highly correlated with the outcomes we studied. For the women of color in our study, the correlations were:

Intent to stay long-term: r = -.47

Career satisfaction: r = -.53

Belonging: r = -.52

Engagement: r = -.59

Clear path for advancement: r = -.51

Recommend to a friend: r = -.54

Stalled in career: r = .57

Our study provides another piece of support for the hypothesis that masculinity contest cultures are linked to negative workplace outcomes, using a sample that is made up of women of color.

	MASCULINITY CONTEST CULTURE	PROVE-IT-AGAIN	TIGHTROPE BIAS	MATERNAL WALL BIAS	TUG OF WAR BIAS	DISTINCT EXPERIENCES OF DIFFERENT GROUPS	BELONGING	CLEAR PATH FOR ADVANCEMENT	RECOMMEND ORG TO A FRIEND	SEE A LONG-TERM FUTURE	ENGAGEMENT	SATISFACTION
PROVE-IT-AGAIN	0.69											
TIGHTROPE BIAS	0.67	0.86										
MATERNAL WALL BIAS	0.66	0.66	0.62									
TUG OF WAR BIAS	0.63	0.72	0.68	0.65								
DISTINCT EXPERIENCES OF DIFFERENT GROUPS	0.60	0.69	0.65	0.60	0.67							
BELONGING	-0.52	-0.68	-0.63	-0.49	-0.53	-0.48						
CLEAR PATH FOR ADVANCEMENT	-0.51	-0.64	-0.61	-0.40	-0.52	-0.45	0.71					
RECOMMEND ORG TO A FRIEND	-0.54	-0.58	-0.55	-0.44	-0.46	-0.38	0.76	0.76				
SEE A LONG-TERM FUTURE	0.47	0.53	0.57	0.39	0.40	0.37	-0.62	-0.75	-0.78			
ENGAGEMENT	-0.59	-0.69	-0.69	-0.50	-0.52	-0.47	0.81	0.82	0.80	-0.68		
SATISFACTION	-0.53	-0.65	-0.62	-0.41	-0.41	-0.44	0.73	0.65	0.78	-0.70	0.74	
FEEL STALLED IN CAREER	0.57	0.65	0.64	0.49	0.46	0.52	-0.54	-0.63	-0.60	0.65	-0.66	-0.69

Conclusion

Women of color remain underrepresented in computing workplaces for a variety of reasons — but bias is a big one. There is a pervasive idea that all organizations need to do is to increase the number of women and people of color they employ. However, simply hiring more women of color does nothing if those women are placed into a hostile climate where it is more difficult for them to survive and thrive. If organizations fail to address the role bias plays in everyday workplace interactions, they risk hiring one woman of color after another only to see them leave for greener pastures.

When we try to address issues that women of color face, the conversation tends to get derailed by two major arguments:

- It's a pipeline problem: It's easy to understand why companies find this answer appealing. If they can blame their lack of women of color on a problem that takes place before they ever get to the workplace, they don't have to do the hard work of fixing the company culture. While it is true that work is still needed to address points in the leaky pipeline, it is also true that women of color who make it through the pipeline are pushed out of computing workplaces due to bias.

- Tech is a meritocracy: Meritocracy is a cherished self-image in tech, and fuels the belief that the most skilled employees make it to the top. But as our study shows, and as women of color have known for years, bias in workplaces makes it more difficult for some groups (women of color) to make it to the top than other groups (majority white men.).

The most consistent finding in our study was that women of color face many different forms of bias at a level much higher than white women; earlier work shows that white women report bias at a level much higher than white men.[179]

Sexual harassment was also a major problem for women of color in our study, with two-thirds of our participants reporting some form of sexual harassment. Sexual harassment is a career-killer, it is illegal, and organizations need to address it.

Organizations need to dedicate the same sustained attention to addressing systemic bias that they would devote to solving any major business problem. Implicit bias trainings and employee resource groups are a start, but they aren't enough.[180] Just as systemic racism in policing needs to be addressed by changing systems, the same is true of systemic bias in computing. We have curated our top bias interrupters for the tech industry in the next section.

Tech companies can make progress on bias by using the tools that businesses commonly use to address any major business problem: evidence, goals, and metrics. Well-intentioned people can sincerely wish for inclusion, but if their organizations do not build evidence-based, metrics-driven bias interrupters into hiring, work opportunities, performance evaluations, meetings, and address worklife concerns, progress will remain stalled.

Methodology

PARTICIPANTS

216 individuals in computing completed the Workplace Experiences Survey, a 10-minute survey about bias in their workplaces. Individuals answered survey questions about their experiences at their current or most recent employer. Recruitment strategies focused heavily on women of color, as that was our target population.

The gender and racial/ethnic breakdown of the selected identities of our participants was as follows. These numbers represent what individuals selected, and they were able to select multiple gender and racial/ethnic categories. For example, a person who selected Black or African American and Latinx or Hispanic would be counted in both the Black or African American and the Latinx or Hispanic categories.

	WOMEN	MEN	TRANS, NON-BINARY, GENDERQUEER, GENDER NON-CONFORMING
BLACK OR AFRICAN AMERICAN	44	3	1
LATINX OR HISPANIC	64	3	3
EAST ASIAN	16	5	
SOUTH ASIAN	19	2	
SOUTHEAST ASIAN	9		
MIDDLE EASTERN OR NORTH AFRICAN	3	1	1
NATIVE AMERICAN OR ALASKA NATIVE	10		
NATIVE HAWAIIAN OR PACIFIC ISLANDER	2		1
2 OR MORE	14	1	
ANOTHER IDENTITY	4		
WHITE	42	12	3

Descriptives for women of color in our study:

Role		Disability Status	
Individual contributor	109	Disability coworkers know about	18
Manager	37	No disability coworkers know about	142
Another role	14		

First-generation status		Family care responsibilities	
First-generation	73	Dependent children	55
Continuing generation	86	Elder care	14
		Other family care	21
		No care responsibilities	80

Sexual Orientation	
Straight	129
Lesbian, Bisexual, Queer, or another sexual orientation	37

QUALITATIVE DATA

To begin our examination of the types of bias women of color face in computing, we started with a series of one-on-one interviews with women of color in computing. The experiences these women spoke about confirmed that the types of bias we study in our survey are also relevant to women of color in computing. They also spoke about unique experiences that we used to create new survey questions (for example, questions about DEI work). The survey also included two open-ended text boxes for participants to share more information about their experiences. These sources of qualitative data are used throughout the report as quotes to lend nuance and detail to the quantitative data.

QUANTITATIVE DATA

The WES data were collected primarily using a 1-6 Likert scale: strongly agree to strongly disagree. Throughout the report, comparative data is presented using the Likert scale scores of indicated groups. In addition, we present percentage point comparisons using the Likert scores: the full range of the 1-6 scale is 100 percentage points, and a score of 3 is 20 percentage points higher than a score of 2. This approach is meant to help readers immediately understand the magnitude

of differences on a small scale. The sexual harassment questions and demographic questions used relevant answer choices.

SCALES

Our survey and report focus heavily on the day-to-day experiences of bias faced by women of color in computing. Throughout the report, we have grouped questions into larger constructs that reflect patterns of bias. The patterns of bias in this report are multifaceted: for example, Prove-it-again bias includes having to work harder to prove oneself, navigating the "stolen idea," assumptions about qualifications, and expertise being disregarded. In order to capture the multiple elements of each construct, we created a scale that incorporates all questions asking about a central issue (so, these questions that address Prove-it-again elements were used to create the Prove-it-again scale). For some of the statistical analyses in this report, including the Impacts of Bias and Masculinity Contest Culture sections, we have used these composite variables.

ANALYSES

This study set out to examine the unique experiences of different racial/ethnic groups of women of color in computing workplaces. It is no secret that the number of women of color in computing is small, and it was difficult for us to recruit a large enough sample size to achieve statistical significance on our results. On top of that, we had the unfortunate timing of starting our survey recruitment at the end of 2019, which led to us cutting off recruitment in early 2020 so as not to put another burden on women of color at an already difficult time.

Although the sample sizes in this survey were small, the Center for WorkLife Law has collected data using the Workplace Experiences Survey from approximately 18,000 individuals in different industries. This existing data gave us a useful baseline to understand how the experiences of women of color in computing compare on average to women of color in other industries (letting us know that women of color in computing are reporting high baseline levels). At the same time, we were able to compare the effect sizes of the differences between white women and women of color, and among women of color in different racial/ethnic groups, in the current study to the average effect sizes of the differences we find in other industries. This approach allows us to understand what the data for this study are saying, even if we are unable to conduct null hypothesis significance testing. Because the topic is so important, we did not find it acceptable to simply report "there are not enough women of color in computing to thoroughly study their experiences," so we are presenting the data we have in hopes that it can be used to help improve the lives of women of color in computing while also supporting future research on the same topic.

BIAS INTERRUPTERS
TOOLS FOR TECH

Tech workplaces can improve diversity and make progress toward eliminating bias by using the same tools that businesses use to solve any major problem: evidence, goals, and metrics. Research shows that diverse workgroups perform better and are more committed, innovative, and loyal.[181] Gender-diverse workgroups have higher collective intelligence, which improves the performance of both the group and the individuals in the group, in addition to improving the company's financial performance.[182] Racially diverse workgroups consider a broader range of alternatives, make better decisions, and are better at solving problems.[183] Bias, if unchecked, affects many different groups: women, people of color, modest or introverted men, LGBTQIA+ people, individuals with disabilities, and professionals from non-professional backgrounds ("class migrants"). We've distilled the huge literature on bias into simple steps that help you and your organization perform better.

We know now that workplaces that view themselves as being highly meritocratic often are *more* biased than other organizations.[184] Research also shows that the usual responses to workplace bias—one-shot diversity trainings, mentoring and networking programs—typically don't work.[185]

What holds more promise is a paradigm-changing approach to diversity: bias interrupters are tweaks to basic business systems that are evidence-based and can produce measurable change. Bias interrupters change systems, not people.

Printed here are 6 toolkits for computing workplaces, with information for how to interrupt bias in the following business systems:

1. Bias in Hiring
2. Access to Opportunities
3. Performance Evaluations
4. Bias in Meetings
5. Family Leave
6. Workplace Flexibility

For additional worksheets and information visit BiasInterrupters.org

Our toolkits take a 3-step approach:

1. **Use Metrics:** Businesses use metrics to assess whether they have progressed towards any strategic goal. Metrics can help you pinpoint where bias exists, and assess the effectiveness of the measures you've taken to prevent or combat bias. (Whether metrics are made public will vary from organization to organization, and from metric to metric.)

2. **Implement Bias Interrupters:** Bias interrupters are small adjustments to your existing business systems. They should not require you to entirely abandon your current systems.

3. **Repeat As Needed.** After implementing bias interrupters, return to your metrics. If they have not improved, you will need to ratchet up to stronger bias interrupters.

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Interrupting Bias in Hiring

THE CHALLENGE

From 2001-2009, 20% of Black computer science graduates attended Historically Black Colleges and Universities (HBCUs). Despite that number, Silicon Valley did not look at HBCUs to recruit new talent.[186] If tech companies really want to hire more diverse teams, they need to reconsider where they focus their recruiting efforts.

When comparing identical resumes, "Jamal" needed eight additional years of experience to be considered as qualified as "Greg," mothers were 79% less likely to be hired than an otherwise-identical candidate without children, and "Jennifer" was offered $4,000 less in starting salary than "John."[187] An audit study found that queer women, were 30 percent less likely to get a call back than straight women,[188] and gay men had to apply to 5 more jobs in order to receive a positive response than straight men.[189] Unstructured job interviews do not predict job success,[190] and judging candidates on "culture fit" can screen out qualified candidates who don't look the same as the majority of your existing employees.[191]

THE SOLUTION: A 3-STEP APPROACH

1. Use Metrics

Businesses use metrics to assess whether they have progressed towards any strategic goal. Clear metrics can help you pinpoint where bias exists, and assess the effectiveness of the measures you've taken. (Whether metrics are made public will vary from organization to organization, and from metric to metric.)

For each metric, examine:
- Do patterned differences exist among majority men, majority women, men of color, and women of color? (Include any other historically excluded group that your organization tracks, such as military veterans, LGBTQIA+ people, etc.)

Important Metrics to Analyze:
- Track the demography of the candidate pool through the entire hiring process: from the initial pool of candidates considered, to who survives resume review, who gets invited to interview, who survives the interview process, who gets job offers, who accepts those offers, and who doesn't. Analyze where historically excluded groups are falling out of the hiring process.
- Track whether hiring qualifications are waived more often for some groups.

- Track interviewers' reviews and/or recommendations to ensure they are not consistently rating majority candidates higher than others.

Keep metrics by: 1) individual supervisor; 2) department; 3) location if relevant; and 4) the organization as a whole.

2. Implement Bias Interrupters

All bias interrupters should apply both to written materials and in meetings, where relevant. Because every organization is different, not all interrupters will be relevant. Consider this a menu.

To understand the research and rationale behind the suggested bias interrupters, read the Identifying Bias in Hiring Worksheet, which summarizes hundreds of studies.

Empower and Appoint

Empower people involved in the hiring process to spot and interrupt bias by using the Identifying Bias in Hiring Worksheet. Read and distribute to anyone involved in hiring.

Appoint Bias Interrupters. Provide HR professionals or team members with special training to spot bias, and involve them at every step of the hiring process. Training is available at BiasInterrupters.org.

Assemble a Diverse Pool

- **Limit referral hiring ("friends of friends").** If your existing organization is not diverse, hiring from your current employees' social networks will replicate the lack of diversity. If you use referrals, keep track of the flow of candidates from referrals. If referrals consistently provide majority candidates, consider limiting referrals or balance out referral hiring with more targeted outreach to ensure a diverse candidate pool.

- **Tap diverse networks.** Reach out to candidates from historically excluded groups where they are. Identify job fairs, affinity networks, conferences and training programs that are aimed at women and people of color in computing and send recruiters.

- **Consider candidates from multi-tier schools.** Don't limit your search to candidates from Ivy League and top-tier schools. This favors majority candidates from elite backgrounds and hurts people of color and professionals from non-professional backgrounds (class migrants).[192] Studies show that top students from lower ranked schools are often similarly successful.[193]

- **Get the word out.** If candidates from historically excluded groups are not applying to your jobs, get the word out that your organization is a great

place to work for women and people of color. One company offers public talks by women at their company and writes blog posts, white papers, and social media articles highlighting the women who work there.

- **Change the wording of your job postings.** Using masculine-coded words like "leader" and "competitive" will tend to reduce the number of women who apply.[194] Tech alternatives (see: Textio[195]) can help you craft job postings that ensure you attract top talent without discouraging women.

- **Insist on a diverse pool.** If you use a search firm, tell them you expect a diverse pool, not just one or two candidates from historically excluded groups. One study found the odds of hiring a woman were 79 times greater if there were at least two women in the finalist pool; the odds of hiring a person of color were 194 times greater if there were at least two people of color.[196]

Resume Review

- **Distribute the Identifying Bias in Hiring Worksheet.** Before resumes are reviewed, have reviewers read the worksheet so that they are aware of the common forms of bias that can affect the hiring process.

- **Pre-commit to what's important—and require accountability***. Pre-commit in writing to what qualifications are important, both in entry-level and in lateral hiring. When qualifications are waived for a specific candidate, require an explanation of why they are no longer important—and keep track to see for whom requirements are waived.[197]

- **Ensure resumes are graded on the same scale.** Establish clear grading rubrics and ensure that everyone grades on the same scale. Consider having each resume reviewed by two different people and averaging the score.

- **Remove extra-curricular activities from resumes.** Including extra-curricular activities on resumes can artificially disadvantage class migrants. A recent study showed that law firms were less likely to hire a candidate whose interests included "country music" and "pick-up soccer" rather than "classical music" and "sailing"—even though their work and educational experience was exactly the same.[198] Because most people aren't as aware of class-based bias, communicate why you are removing extracurricular activities from resumes.

- **Avoid inferring family obligations.** In one study, mothers were 79% less likely to be hired than an identical candidate without children.[199] Train people not to make inferences about whether someone is committed to their job due to parental status and to not count "gaps in a resume" as an automatic negative.

- **Try using "blind auditions" where the evaluators don't know who they are reviewing.** If women and candidates of color are dropping out of the pool at the resume review stage, consider removing demographic info from resumes before review. This way, candidates can be evaluated based solely on their qualifications.

Interviews

- **Use structured interviews.** Ask the same list of questions to every person who is interviewed. Ask questions that are directly relevant to the job the candidate is applying for.[200]

- **Ask performance-based questions.** Performance-based questions, or behavioral interview questions, ("Tell me about a time you had too many things to do and had to prioritize") are a strong predictor of how successful a candidate will be at the job.[201]

- **Try behavioral interviewing.**[202] Ask questions that reveal how candidates have dealt with prior work experiences, as research shows that structured behavioral interviews can more accurately predict the future performance of a candidate than unstructured interviews.[203] Instead of asking, "How do you deal with problems with your manager?" ask, "Describe for me a conflict you had at work with your manager." When evaluating answers, a good model to follow is the STAR[204] model: the candidate should describe the Situation they faced, the Task that they had to handle, the Action they took to deal with the situation, and the Result.

- **Do work-sample screening.** If applicable, ask candidates to provide a sample of the type of work they will be doing in the job they will be filling.

- **Develop a consistent rating scale and discount outliers.** Candidates' answers (or work samples) should be rated on a consistent scale, with ratings for each factor backed up by evidence. Average the scores granted on each relevant criterion and discount any scores that are much higher or lower than the average.[205]

- **If "culture fit" is a criterion for hiring, provide a specific work-relevant definition.** Culture fit can be important, but when it's misused it can disadvantage people of color, class migrants, and women.[206] Heuristics like the "airport test" (who would I like to get stuck in an airport with?) can be highly exclusionary and not work-relevant. Questions about sports and hobbies may feel exclusionary to women and to class migrants who did not grow up, for example, playing golf or listening to classical music. Google's work-relevant definition of "culture fit" is a helpful starting point.[207]

- **"Gaps in a resume" should not mean automatic disqualification.** Give candidates an opportunity to explain gaps by asking about them directly during the interview stage. Women fare better in interviews if they are able to provide information upfront, rather than having to avoid the issue.[208]

- **Provide candidates and interviewers with a handout detailing expectations.** Develop an Interview Protocol Sheet that explains to everyone what's expected from candidates in an interview.

- **When hiring, don't ask candidates about prior salary.** Asking about prior salary when setting compensation for a new hire can perpetuate the gender

pay gap.[209] (A growing legislative movement prohibits employers from asking prospective employees about their prior salaries.[210])

3. Repeat As Needed

- Return to your key metrics. Did the bias interrupters produce change?

- If you don't see change, you may need to implement stronger bias interrupters, or you may be targeting the wrong place in the hiring process.

- Use an iterative process until your metrics improve.

Interrupting Bias in Access to Opportunities

THE CHALLENGE

Every workplace has high-profile assignments that are career-enhancing ("glamour work") and low-profile assignments that are beneficial to the organization but not the individual's career. Research shows that women do more "office housework"[211] than men.[212] This includes literal housework (ordering lunch), administrative work (scheduling meetings), emotion work ("she's upset, comfort her"), and non-promotable work (preparing the PowerPoint for a presentation). When women of color don't have access to the high-profile work, organizations miss out on tapping all of their top talent.

When employees become "overburdened" with office housework, it reduces the amount of time that they can spend on more important, career-enhancing work, which can hurt their compensation and chances for promotion.

In some organizations, women of color in technical roles are forced to do all of the HR, DEI, or office management work — in addition to their regular job duties. This is unacceptable, hurts the careers of women of color, and can cause organizations to lose these employees quickly. Companies can choose to distribute the tasks equally among the team, or to hire someone else whose job it is to do HR, DEI, or office management, but expecting women of color to take on this extra burden is not an option.

Diversity at the top can only occur when a diverse pool of employees at all levels of the organization have access to opportunities that let them take risks and develop new skills. If the glamour work and the office housework aren't distributed evenly, you won't be tapping into the full potential of your workforce. Most organizations that use an informal "hey, you!" assignment system end up distributing opportunities based on factors other than experience and talent.

If women and people of color keep getting stuck with the same low-profile assignments, they will be more likely to be dissatisfied and to search for opportunities elsewhere.[213]

THE SOLUTION

Fair allocation of the glamour work and the office housework are two separate problems. Some organizations will want to solve the office housework problem

before tackling the glamour work; others will want to address both problems simultaneously. We have created a Road-Map for Implementation.

1. Use Metrics

A. Identify and Track

The first step is to find out if, and where, you have a problem. Find out:

- What is the office housework and glamour work in your organization?
- Who is doing what and for how long?
- Are there demographic patterns that indicate gender and/or racial bias at play?
- Is the HR, DEI, or office management work being done by someone whose job it isn't?

To do this:

1. Distribute the Office Housework in Tech Survey to your employees to find out who is doing the office housework and how much of their time it takes up.

2. Convene relevant managers (and anyone else who distributes assignments) to identify what is the glamour work and what is the lower-profile work in the organization. Use the Assignment Typology Worksheet to create a typology for opportunities, and the Protocol for more details.

3. Input the information from the typology meeting into the Manager Assignment Worksheet and distribute to managers. Have managers fill out the worksheets and submit them, identifying who they assign the glamour work and lower-profile work to.

B. Analyze metrics

Analyze survey results and worksheet for demographic patterns, dividing employees into (i) majority men, majority women, men of color, and women of color, (ii) parents who have just returned from parental leave, (iii) professionals working part time or flexible schedules, and (iv) any other historically excluded group that your organization tracks (veterans, LGBTQIA+ people, individuals with disabilities, etc.) Identify:

- Who is doing the office housework?
- Who is doing the glamour work?
- Who is doing the low-profile work?
- Create and analyze metrics by individual supervisor.

2. Implement Bias Interrupters

C. Diversity work interrupters

- **Don't assume** women or people of color can take on DEI work on top of their technical roles.

- **Pay employees** for doing DEI work. This is real work that takes time and benefits the company — it should be compensated as such.

- **Provide administrative support** for people working on women's and diversity initiatives. Then, the technical employee only has to make one call to get the ball rolling, rather than do all of the work on their own.

- **Create Employee Resource Groups (ERGs)** to support a diverse workforce, and provide the groups with adequate support and funding.

- **Consider hiring a DEI director** whose sole job function is to do the DEI work.

- If people of color at your organization are spending more time doing DEI work or mentoring other people of color, indicate that this is valued work. Mentorship service should be compensated and valued in performance evaluations and promotion decisions.

D. Office housework interrupters

- **Don't ask for volunteers.** Women are more likely to volunteer because they are under subtle but powerful pressures to do so.[214]

- **Hold everyone equally accountable.** "I give it to women because they do it well and the men don't," is a common sentiment heard from managers. This dynamic reflects an environment in which men suffer few consequences for doing a poor job on office housework, but women who do a poor job are seen as "prima donnas" or "not team players." Hold men and women equally accountable for carrying out all assignments properly.

- **Use admins.** If possible, assign office housework tasks to admins, e.g. birthday parties, scheduling meetings, ordering lunch.

- **Establish a rotation.** A rotation is also helpful for many administrative tasks (e.g. taking notes, scheduling meetings.) Rotating housework tasks like ordering lunch and planning parties is also an option if admins are unavailable.

- **Shadowing.** Another option for administrative tasks is to assign a more junior person to shadow someone more senior—and take notes.

E. Glamour work interrupters

- **Avoid mixed messages.** If your organization values such things as mentoring and committee work (like serving on the Diversity Initiative), make sure these things are valued when the time comes for promotions and raises. Sometimes organizations say they highly value this kind of work—but they don't. Mixed messages of this kind will negatively affect women and people of color.

- **Conduct a roll-out meeting.** Gather relevant managers and supervisors to introduce the bias interrupters initiative and set expectations using our key talking points.

- Provide a bounceback: identify individual supervisors whose glamour work allocation is lop-sided, hold a meeting with that supervisor, and bring the problem to their attention. Help them think through why they only assign glamour work to certain people or certain types of people. Work with them to figure out if either 1) the available pool for glamour work assignments is diverse but is not being tapped fully, or 2) only a few people have the requisite skills for glamour work assignments. Read the Responses to Common Pushback and Identifying Bias in Assignments worksheets before the bounceback meetings to prepare. You may have to address low-profile work explicitly at the same time as you address high-profile assignments; this will vary by organization.

If a diverse pool has the requisite skills...

- **Implement a rotation.** Have the supervisor set up a rotation to ensure fair access to high-profile assignments.

- **Formalize the pool.** Write down the list of people with the requisite skills and make it visible to the supervisor. Sometimes just being reminded of the pool can help.

- **Institute accountability.** Have the supervisor track their allocation of glamour work going forward to measure progress. Research shows that accountability matters.[215]

If the pool is not diverse...

- **Re-visit the assumption** that only one (or very few) employees can handle this assignment: is that true or is the supervisor in question just more comfortable working with those few people?

- **Analyze how the pool was assembled.** Does the supervisor allocate the glamour work by relying on self-promotion or volunteers? If so, that will often disadvantage women and people of color. Shift to more objective measures to create the pool based on skills and qualifications.

If the above suggestions aren't relevant or don't solve your problem, then it's time to expand the pool:

- **Development plan.** Identify what skills or competencies an employee needs to be eligible for the high-profile assignments and design a plan to help the employee develop the requisite skills.

- **Succession planning.** Remember that having "bench strength" is important so that your department won't be left scrambling if someone unexpectedly leaves the company.

- **Leverage existing HR policies.** If your organization uses a competency-based system, or has a Talent Development Committee or equivalent, that's a resource to help employees develop competencies so that career-enhancing assignments can be allocated more fairly.
- **Shadowing.** Have a more junior person shadow a more experienced person during the high-profile assignment.
- **Mentoring.** Establish a mentoring program to help a broader range of junior people gain access to valued skills.

If you can't expand your pool, re-frame the assignment so that more people could participate in it. Could you break up the assignment into discrete pieces so more people get the experiences they need?

If nothing else works, consider a formal assignment system. Appoint an assignments czar to oversee the distribution of assignments in your organization.

3. Repeat As Needed

Return to your metrics. Did the bias interrupters produce change?

If you still don't have a fair allocation of high- and low-profile work, you may need to implement stronger bias interrupters, or consider moving to a formal assignment system.

Use an iterative process until your metrics improve.

Interrupting Bias in Performance Evaluations

THE CHALLENGE

A recent study of performance evaluations in tech found that 66% of women's performance reviews contained negative personality criticism ("You come off as abrasive") whereas only 1% of men's reviews did.[216] Performance evaluations determine who is eligible for raises, high-profile assignments, and promotions, so it is essential that organizations strive to level the playing field for all employees.

Our study found that women of color in computing reported getting less fair, honest, and constructive performance evaluations than their white counterparts.[217] Performance evaluations help determine promotions and compensation, so ensuring fairness in this system will have lasting ripple effects throughout the organization.

THE SOLUTION: A 3-STEP APPROACH

1. Use Metrics

Businesses use metrics to assess whether they have progressed towards any strategic goal. Metrics can help you pinpoint where bias exists, and assess the effectiveness of the measures you've taken. (Whether metrics are made public will vary from organization to organization, and from metric to metric.)

For each metric, examine:

- Do patterned differences exist among majority men, majority women, men of color, and women of color? Include any other historically excluded group that your organization tracks, such as military veterans, LGBTQ+ people, individuals with disabilities, etc.
- Do patterned differences exist for parents after they return from leave, or tech professionals who reduce their hours?
- Do patterned differences exist between full-time and part-time employees?

Important Metrics to Analyze:

Do your performance evaluations show consistent disparities by demographic group?

Do women's ratings fall after they have children? Do employees' ratings fall after they take parental leave or adopt flexible work arrangements?

Do the same performance ratings result in different promotion or compensation rates for different groups?

Keep metrics by: 1) individual supervisor; 2) department; 3) location if relevant; and 4) the organization as a whole.

2. Implement Bias Interrupters

All bias interrupters should apply both to written evaluations and in meetings, where relevant. Because every organization is different, not all interrupters will be relevant. Consider this a menu.

To understand the research and rationale behind the suggested bias interrupters, read the Identifying Bias in Performance Evaluations Worksheet.

Empower and Appoint

Empower people involved in the evaluation process to spot and interrupt bias by using the Identifying Bias in Performance Evaluations Worksheet. Read and distribute.

Appoint Bias Interrupters. Provide HR professionals or team members with special training to spot bias, and involve them at every step of the performance evaluation process. Training available at BiasInterrupters.org.

Tweak the Evaluation Form

- **Begin with clear and specific performance criteria directly related to job requirements.** Try: "She writes maintainable code, tests her work thoroughly, offers clear and useful suggestions during code reviews, and communicates well with clients to gather requirements," instead of: "She's a great programmer."

- **Require evidence from the evaluation period that justifies the rating.** Try: "This year, he did a great job in helping us win X project, writing a clear client proposal that defined a tight scope and communicated our fee structure in a way that was carefully and strategically considered." instead of: "He's great at helping us win projects."

- **Consider performance and potential separately for each candidate.** Given the tendency for majority men to be judged on their potential while others are judged on their performance, the two criteria should be evaluated separately.

- **Separate personality issues from skill sets for each candidate.** Personal style should be appraised separately from skills because a narrower range of behavior often is accepted from women and people of color. For example, women may be labeled "difficult" for doing things that are accepted in majority men.

Tweak the Evaluation Process

- **Level the playing field when it comes to self-promotion.** Distribute the Writing an Effective Self-Evaluation Worksheet to ensure that everyone knows how to promote themselves effectively and send the message that they are expected to do so.

- **Offer alternatives to self-promotion.** Encourage or require supervisors to set up more formal systems for sharing successes, such as a monthly email that lists employees' accomplishments.

- **Provide a bounceback.** Supervisors whose performance evaluations show persistent bias should receive a bounceback (i.e. someone should talk through the evidence with them).

- **Have Bias Interrupters play an active role in calibration meetings.** In many organizations, managers meet to produce a target distribution of ratings or cross-calibrate rankings. Have managers read the Identifying Bias in Performance Evaluations Worksheet before they meet. Have a trained Bias Interrupter in the room.

- **Don't eliminate your performance appraisal system.** Eliminating formal performance evaluation systems and replacing them with feedback-on-the-fly creates conditions for bias to flourish.

WHAT'S A BOUNCEBACK?

An example: in one organization, when a supervisor's ratings of an underrepresented group deviate dramatically from the mean, the evaluations are returned to the supervisor with the message: either you have an undiagnosed performance problem that requires a Performance Improvement Plan (PIP), or you need to take another look at your evaluations as a group. After implementing this bounceback message, the organization found that a few people were put on PIPs—but that over time supervisors' ratings of underrepresented groups converged with those of majority men. A subsequent survey of the organization found that employees of all demographics groups rated their performance evaluations as equally fair (whereas bias was still reported in hiring—and every other business system).

3. Repeat as needed

- Return to your key metrics. Did the bias interrupters produce change?

- If you don't see change, you may need to implement stronger bias interrupters, or you may be targeting the wrong place in the performance evaluation process.

- Use an iterative process until your metrics improve.

Interrupting Bias in Meetings

THE CHALLENGE

Having expertise increases men's influence—but decreases women's.[218] This is just one way subtle biases play out in meetings.

Men tend to interrupt in meetings more than women.[219] And, sometimes other people get the credit for an idea originally posed by a woman. In our survey, we found that women of color in computing report both interruptions and the stolen idea phenomenon at a much higher rate than their white counterparts.[220]

If organizations don't interrupt bias playing out in meetings, they may lose the talent and insight they pay for.

In addition, as many companies have begun to transition into a hybrid workplace model, it is vital to create an inclusive space. Bias within in-person meetings may also translate and exacerbate within virtual meeting spaces.[221]

THE SOLUTION: A 3-STEP APPROACH

1. Use Metrics

Businesses use metrics to assess whether they have progressed towards any strategic goal. Metrics can help you pinpoint where bias exists, and assess the effectiveness of the measures you've taken. (Whether metrics are made public will vary from company to company, and from metric to metric.)

Options for finding out whether you have a problem are listed from least to most time-consuming.

A. **Employ new technologies:** who is talking during your meetings?
   - GenderEQ: an app that analyzes the ratio of men and women speaking time

B. Use our **free 2-minute downloadable survey** to assess bias issues.

C. **Appoint a Bias Interrupter** to gather metrics over the course of several meetings. Metrics to gather:
   - Floor time: Who speaks at meetings: is it representative of who attends?

- Interruptions: is there a culture of interrupting in your meetings? If so, is there a gender or racial difference among who does the interrupting and who gets interrupted?

- Stolen idea. Research shows that women and people of color report that others get credit for ideas they originally offered much more than white men do.[222] Keep track of who gets credit for ideas offered and who originated them.

- Attendees: Are the right people getting invited? Be sure everyone who has a part to play is at the meeting.

- Ideas: whose contributions get lauded or implemented?

- Office housework. Track who takes the notes, who keeps the minutes, who gets coffee, and other office housework tasks.

- Meeting scheduling: are meetings scheduled at times or at locations that make it difficult or impossible for parents and caregivers to attend?

2. Implement Bias Interrupters

Because every organization is different, not all interrupters will be relevant. Consider this a menu.

To understand the research and rationale behind the suggested bias interrupters, read our Identifying Bias in Meetings Worksheet which summarizes hundreds of studies.

- **Rotate office housework tasks.** Women are more likely to be asked to do the "office housework" tasks for meetings: taking notes, scheduling the conference rooms, ordering lunch/snacks for meetings, cleaning up afterwards. If admins are available to do these tasks, use them. If not, don't ask for volunteers. Instead, figure out a fair way to spread the housework tasks evenly by rotating based on arbitrary criteria (birthday, astrological sign, seniority, etc.) For more bias interrupters about office housework, see the Identifying Bias in Assignments Worksheet.

- **Mind the "stolen idea."** Make sure people get credit for ideas they offered. When you see ideas get stolen, you can say, "I've been thinking about that ever since Pam first said it. You've added something important, Eric, here's the next step."

- **Avoid personality double-standards**. Make sure women and people of color can speak up without backlash. Decades of research have shown that women face social pressures to hedge (Ex., "Don't you think?"). Both women and people of color may face backlash for speaking in a direct and assertive manner.[223] Have your team read the Identifying Bias in Meetings Guide to help level the playing field.

- **Ask people to speak up.** Women and people of color often face social pressure to speak in a tentative, deferential manner. If someone isn't speaking up, ask them to weigh in. And if you know someone has expertise in an area, ask them directly.[224] This strategy can help class migrants and introverts feel included.

- **Have a policy for interruptions.** Create and enforce an overall policy for interruptions. One option is a no-interruptions policy, where you make it clear that interruptions are not to be tolerated, and ding people when they interrupt. A gentler policy is to keep track of who is continually interrupting and getting interrupted, and talk to them later about the problem.

- **Don't give interrupters free reign.** If a few people are dominating the conversation, address it directly. Take them aside and explain that your workplace employs a broad range of people because you need to hear a broad range of viewpoints. Point out that some people are good at "shooting from the hip" while others need to be given more time and space to feel comfortable speaking up. Some may not even realize they're frequent interrupters.

- **Schedule meetings appropriately.** Schedule meetings in the office, not at the golf course. For an off-site, schedule lunch or afternoon coffee. Overall, stick to working hours and professional locations for work meetings. Otherwise, you're putting mothers and other caregivers at a disadvantage.

- **Avoid arranging furniture in ways that signal an in-group.** When there is an inner- and outer-circle of chairs it can create hierarchy.[225] Pay attention: do all the men sit in the inner circle and the women sit in the outer circle, or is race playing a role? If this happens routinely, have everyone trade places with the person in front of them, or rearrange chairs so there is only one circle.

- **Signal everyone's role.** Let your team know what everyone in the meeting brings to the table.[226] "Monique has five years of programming experience and I'm excited to have her on this project," or "Sam managed a similar project last spring and we'd like him to run point with the client." When people know the reason behind everyone's inclusion on the project, and their role, it's much easier to have productive and inclusive conversations about the tasks at hand — people are more likely to listen to their ideas and respect their air-time. If you're not sure everyone with influence understands why you've tapped someone into a meeting, be sure to mention it explicitly beforehand.

- **Use gender neutral terms.** When addressing a diverse group, it is best to not use gendered terms such as "ladies and gentleman" or "you guys." Address a diverse group using "you all," "folks," "individuals," "people" and so forth. Encourage the use of pronouns when introducing each other.

- **Establish ground rules for diverse groups.** When meetings are diverse, people may fail to speak up: individuals belonging to in-groups may fear offending individuals in out-groups, while individuals in out-groups may fear rejection or retaliation. To combat this, simply state at the beginning of the meeting that everyone should try their best to speak in a way that's respectful and

mindful of the diversity of experiences represented in your working group (aka "politically correct"). Research shows that this simple statement can decrease uncertainty and increase creativity from participants.[227]

- **Encourage risk takers.** It's tough to speak up against a majority opinion—especially for someone who's not in the majority group.[228] Research shows that people are more likely to voice minority opinions when at least one other person expresses a minority opinion –even if the minority opinions don't agree with each other.[229] Some ideas that make it easier to voice minority opinions:

  - State explicitly at the beginning of meetings that you want to hear devil's advocate ideas.

  - Support people who diverge from the majority. If someone starts to voice an opinion and senses that nobody wants to hear it, s/he will likely pipe down. If you see this happening, say "Let's hear this idea out."

- **Empower people** to spot and interrupt bias by reading our Identifying Bias in Meetings Worksheet. Read and distribute the worksheet to help you understand the rationale behind the steps suggested below.

3. Repeat as needed

- Return to your key metrics. Did the bias interrupters produce change?

- If you don't see change, you may need to implement a stronger bias interrupter.

- Use an iterative process until your metrics improve.

Interrupting Bias in Family Leave

THE CHALLENGE

According to a report by Better Life Lab at New America, nearly half of parents didn't take two days off work after the birth or adoption of a child.[230] Studies show that paid parental leave can reduce infant mortality rates and improve long-term child and maternal health.[231]

Family leave is not just about children. While 30% of Americans say they anticipate needing to take leave to care for a new child, twice as many (60%) say they anticipate needing to take at least some family leave in the future (including caring for ill, disabled, or aging family members).[232] In fact, one-sixth of Americans spend an average of 20 hours a week caring for a sick or elderly family member.[233]

The need for family leave policies is already here, and with a rapidly aging population, these needs are only growing.[234] In order to retain the best workers, companies need to step up and create comprehensive leave and work/life balance policies that work. While employers are expected to comply with all applicable Federal, State, and local laws regarding leaves of absence, employers can and should do more to truly support and retain a diverse workforce with caregiving responsibilities.

FAMILY & MEDICAL LEAVE ACT

FMLA requires employees to give their employer 30 days' notice prior to leave that is foreseeable. Ideally, your employees who can foresee their need for leave will notify you at the same time that they notify their larger network of friends. By creating a workplace culture that is welcoming and encouraging of taking leave, employees will be more likely to give you notice earlier in the process. Consider adding this model policy into your employee handbook and reference leave availability and your leave transition process in employee onboarding trainings to set the right tone from the start.

The Solution

1. **If you offer disability leave, you need also to offer it for childbirth** (otherwise, that's pregnancy discrimination). Typically, this means that six weeks of leave will be covered by your disability policy for a vaginal birth; eight weeks for the cesarean section.

2. **Determine the maximum paid parental leave your organization can afford.** Keep in mind that typically few employees will have children in any given year, but that without paid leave you will often lose one employee after another when they have children. Don't assume you will only lose women; increasingly,

we hear from men who insist on taking parental leave and walk away from companies that don't provide it (although men often don't tell the companies they're leaving for this reason). Some states have paid laws to help cover the company's costs and extend the available paid leave time.[235]

3. **Offer equal parental (not "primary caregiver") leave and allow intermittent leave.** So-called "primary caregiver" leave reflects a breadwinner/homemaker model that does not fit most families today, and opens an organization up to potential liability if someone openly states that primary caregivers are expected to be women, not men. Determine the amount of time your organization can afford to offer equal parental leave to all parents, regardless of gender, and adoptive as well as birth parents. Also, allow leave to be taken in small chunks rather than all at once; leave takers can work with their supervisors to create schedules that work for their teams.

4. **Offer equal leave for everyone, including hourly workers (who are typically less able to afford replacement care).** Again, paid parental leave is critical for helping families balance work and caregiving responsibilities, and is tied to better maternal and child health.

5. **Offer leave for all types of caregiving responsibilities.** Offering leave only to parents risks breeding resentment on the part of those who need to care for elders, or a family member with a disability or illness. If your organization is worried that non-birth-related caregiving leave will be abused, require permission from HR or supervisors to ensure substantial caregiving responsibilities exist.

6. **Set strong norms that everyone is expected to take their entire paid leave for childbirth/adoption.** Leaders need to send a strong message that employees are expected to take the full amount of paid leave available to them, and that taking additional unpaid leave will not count against them. The best way to do this is to celebrate a pregnancy/adoption announcement (for employees of all gender identities) by offering a company-logo onesie and group announcement signaling that children are something to be celebrated, not hidden. Once that norm is set, pregnancy/adoption announcements can be followed by having HR (or supervisors, if they are on-message) tell men as well as women that they are expected to take their full leave. Supervisors may need training to do this effectively. If there is a cultural expectation to come back early, then that is exactly what most employees will do. If men are not taking leave, your messaging is not effective, and men who want work-life balance are likely leaving your company for this reason.

7. **Eliminate the flexibility stigma.** Effective policies depend on cultural shifts in your organization. If you tell employees– and you should — that taking leave won't undercut their progress in the organization, then walk the talk. Make sure to plan for leaves effectively so that employees don't feel slighted when they return, and their colleagues don't feel like they are taking on undue burdens.

8. **Don't violate the Family and Medical Leave Act.** It is illegal to interfere with or discourage any employee, regardless of gender, from taking leave under the FMLA. Although employers are not completely forbidden from contacting employees while they are on leave, these calls should limited to brief, necessary business-related calls. Communications to return to work early, weekly status checks, or calls to perform work while on leave can make an employer liable for interference with FMLA rights.[236] Calls to employees out on leave should be managed through Human Resources. It is illegal to penalize employees for requesting or taking leave, either before or after they do so.

9. **Use a three-meeting model for off-ramping.** Effective on- and off-ramping is vital, both to ensure smooth transitions and to eliminate the flexibility stigma.

   • After a pregnancy announcement, the employee's supervisor should ask for a meeting, congratulate the future parent, hand out the company onesie (see # 6 above), and say: "We expect everyone to take their full paid leave—and the entire amount of unpaid leave available to them if they wish. We will develop a transition plan that works for you." At the initial meeting, assign a leave liaison if you have that program (see. #12 below).

   If your employee is an adopting or foster parent, or if your employee is taking family leave for elder care or medical reasons, the two meetings may be on an accelerated schedule.

   • Three months before the leave is set to start, the employee's supervisor should schedule a meeting, saying: "Come prepared with a list of all your ongoing projects and who you think might be a good fit to take them while you're on leave. If no one comes to mind, don't worry. We can figure it out together at the meeting, even if we need to hire temporary help—your list is just a jumping off point."

   • Shortly before the expected leave date arrives, meet again to finalize the plan for transitioning job duties. The supervisor should ask about the employee's thoughts about post leave (understanding that plans may change). Are they thinking about returning on a part-time or flex schedule? For equity and legal reasons, make sure everyone taking family leave, regardless of gender, is asked the same questions.

10. **Don't forget to ramp up when they return.** Often women return for maternity leave and find it is very difficult to gradually work up to their previous workload due to assumptions that they have limited time, and perhaps limited commitment, to work. That's why it's important to schedule a meeting immediately when someone returns, with at least two weekly check-ins thereafter, to ensure that an employee returning from leave isn't being sidelined for projects because colleagues are benevolently (or not so benevolently) concerned about the returned employee's workload. Doing this helps avoid attrition—and helps prevent maternal wall bias from becoming a legal problem.

11. **The best practice is a gradual-return-to-work policy.** The best way to ensure that employees do not return to an overwhelming wall of work, and end up leaving the company, is a gradual-return-to-work policy. Typically these start with a 50% schedule and gradually build back to full-time. Without a formal policy, companies often find that some supervisors handle the return-to-work well, but that others do so poorly, resulting in high attrition.

12. **Designate leave liaisons.** Create a workplace mentorship program that links leave-takers with mentor colleagues. Mentors then act as guides on issues like off- and on-ramping and the transition into parenthood. Some organizations expand these programs by offering employees outside coaching sessions or classes for new parents and paid travel expenses for care support, enabling parents to bring their children on work-related travel. See #9 for more ideas.

13. **Broaden the scope of support.** Organizations can continue to support all employees beyond leave by offering family caregiving benefits. To start, here are some ideas:

   • Flexible and part-time schedules, see our Toolkit for Workplace Flexibility for guidance.

   • Get your employees a membership for regular or back-up childcare through providers like Care@Work, or better yet, offer on-site childcare.

   • You can also offer eldercare services through providers like Bright Horizons.

   • Help employees navigate pregnancy and postpartum with platforms like Mahmee or Maven.

   • Offer a travel allowance for caregivers on work-related travel and breastmilk overnight mailing services.

14. **Schedule the time to review your family leave and work/life balance policies.** Like anything else that's a priority, add discussions on these policies to your strategic plan and budget meetings.

Interrupting Bias in Workplace Flexibility

THE CHALLENGE

Surveys show time and time again that employees want more flexibility at work, with one finding that 96% of white-collar professionals say they need flexibility.[237] Workers value workplaces that value them. In one study, attrition was cut in half when workers went remote, and telecommuting employees took fewer sick days and less time off.[238]

There is ample evidence that women professionals do have more caregiving responsibilities than male professionals as a group,[239] although increasing numbers of younger men are equal caregivers and are willing to leave their employers for reasons of work-life balance.[240] So, it is in the employers' best interest to retain not only women but all young people by providing time flexibility in the workplace.

When workplaces rely on an outdated model of a breadwinner who is always available for work, not only do they exclude most people working today, they also hurt the company's bottom line. According to Cisco, their mobile or remote employees have a voluntary attrition rate a third the size of their office-based employees.[241] Cisco credits this lower attrition rate with $75 million in annual savings for recruiting, hiring, and training replacements.[242] Other studies have found sharp gains in productivity when workplaces move to telework or build-your-own schedules.[243]

In our study of women of color in computing, we found that women already thought that asking for flexible arrangements would hurt their careers.[244] This data was collected before the COVID-19 pandemic forced many workers into months or years of remote work, and the long-term impact of the pandemic remains to be seen.

Building a flexible workplace enables employers to promote people based on their talent instead of their schedule.

THE SOLUTION

1. **Recognize the difference between crisis work and full-time/part-time telework.** Working remotely in the midst of a crisis, like the COVID-19 pandemic, is not the same as telework during normal times. The first steps to successful telework are childcare and a place to work. Organizations designing a permanent telework scheme typically will balance the productivity gains of telework with

the innovation gains of in-office work. For tips on creating a telework policy that works for your organization visit: https://trello.com/remote-work-guide.[245]

2. **Allow for flex time.** Flex times allows employees to start and end work at times of their own choosing, often within limits (e.g. start times between 7-11 a.m.). Don't assume hourly employees can't participate: having one receptionist work 8-5 and another work 9-6, for example, often benefits an organization.

3. **Use reduced schedules to expand your talent pool.** Offer reduced scheduling to employees without compromising career advancement opportunities by offering proportional pay, benefits, and advancement. This strategy has been used successfully in law firms, enabling part-time attorneys to become partners. Only 18.2% of professional women and less than one-third of men work more than 40 hours per week, so if your workplace isn't offering a reduced schedule with advancement opportunities, you're missing out.[246]

4. **Consider offering a wider range of work arrangements.** Are you able to make some positions project-based? This enables employees to take on as much or as little work as they want, giving the company their best on select projects. Elite part-time track programs that continue to offer glamour work assignments to employees with lower hours help level the playing field and ensure that the plum work opportunities continue going to the best-suited for the job. What makes these programs effective is that employees are still able to transition into more senior roles within the organization.

5. **Eliminate the flexibility stigma.** Don't stigmatize people based on schedule. Message clearly and often that promotion depends on talent and work, not on "face time" at the office—and practice what you preach.

6. **Don't overvalue overwork.** Encouraging your employees to regularly burn the midnight oil hurts more than it helps. Studies dating back to WWI find that chronic overwork (more than 40 hours a week) hurts productivity and more recent studies find that working less than 40 hours a week can increase productivity.[247] In one study, managers couldn't tell the difference between employees who actually worked 80 hours a week and those who pretended to.[248] Pay attention to what an employee's efforts lead to, not how many hours it takes them to get there.

7. **Your benefits send a message; make sure it's the one you want.** Look again at your work culture and employee benefits. Do they match up with the work-life balance values your company claims? Having a power-napping room, dry-cleaning, and free dinner for those who work after 8 p.m. are great, but if those are your only employee benefits, you are sending a strong message that you only value a certain group of employees. Provide a range of benefits that will appeal to employees from different demographics if that's what you want to attract and retain.

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