

Harnessing Our Innovation Potential

Gender Equality in STEM



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Letter to Leaders

Dear Colleagues

A prosperous future depends on our capacity to innovate. We know that diverse perspectives and inclusive environments drive innovation. Yet, Australia's Science, Technology, Engineering and Mathematics (STEM) workforce continues to face significant challenges in attracting, advancing and retaining women.

In this report, we share the results of a survey conducted amongst nearly 3,000 people working in STEM in Australia to better understand their motivations, career experiences and priorities for action to accelerate gender equality in STEM. To test the needs of the future workforce, we also surveyed 2,000 undergraduates.

The data shows that while women and men enter STEM with high levels of motivation to solve complex problems facing the world, women are more likely than men to consider leaving STEM. Women in STEM experience significantly more barriers to progression than men and unacceptably high levels of everyday sexism, pointing to a culture in STEM that excludes women, minimises their contributions and devalues their voices.

We also learned that there is a gap between current action to address these issues, and what our people think will make a real difference.

The gender equality challenges in STEM are reflective of the larger Australian workforce where stark gender gaps persist in leadership, pay and who shoulders the responsibility for care. However, as the demand for STEM skills increase in the future of work, new approaches for attracting women and girls to STEM are needed to achieve a gender-balanced pipeline. The survey results also point to a need for employers and educational institutions to redefine how STEM and STEM careers are positioned, to emphasise their broader purpose and constructive impact on society. Interventions that shift our current workplace culture and systems of attraction, promotion and recognition must be urgently addressed.

If we don't act, our organisations risk losing highly STEM-qualified women and diminishing our national innovation potential. We cannot afford to pay this price.

We call on all STEM leaders to join us in using these insights to drive action and look forward to working together to accelerate change.

MALE CHAMPIONS OF CHANGE 
STEM

Foreword by Professor Lisa Harvey-Smith

Only 16% of Australia's STEM-qualified workforce is female. The reasons for women's low participation in STEM are well understood, as are the social and economic advantages of improving gender equity in STEM. As such, the time for deliberation has passed and leaders across the nation are in action and implementation mode.

As the Australian Government's Women in STEM Ambassador, I am focused on accelerating action to improve gender equity in STEM across government, research, education, industry and VET sectors. My work is informed by the Women in STEM Decadal Plan, a strongly evidence-based strategy prepared by the Australian Academy of Science and the Australian

Academy of Technology and Engineering, in collaboration with the Australian STEM research community, industry, education and government.

An urgent priority for Australian industry, research and education is growing the 'pipeline' of young women participating in STEM education. Factors that restrict the numbers of girls studying STEM subjects include biases in educational practices, attitudes of parents and teachers to girls' aptitudes to STEM, reduced access of girls to STEM-related play at an early age and fewer female role models in STEM professions.

Although pipeline issues are important to understand and address, unless we create



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An urgent priority for Australian industry, research and education is growing the 'pipeline' of young women participating in STEM education.



When we perpetuate the systems that entrench gender roles and disadvantage women, no number of training and support mechanisms for women will work.

organisational cultures in STEM where women can see a future for themselves, and where they can thrive, we will continue to fail to reap the benefits of their STEM capabilities. This report reveals a number of experiential factors that contribute to the disproportionate exodus of women from STEM careers. Notably, bias and discrimination in workplaces, a lack of senior female leaders and slower career progression are major factors.

The good news is, we can change the workplace experiences of all our staff with committed, sustained action. By ensuring that staff members who experience career interruptions are not unduly penalised, we make workplaces better for everyone by supporting women and men to embrace caring roles equally. Furthermore, a continued reliance on the 'male breadwinner' model to define what constitutes workplace success is harming all our workers. These measures (such as long hours in the office, assumed ability to travel and high levels of availability) are not working for anyone, leading to burnout and mental health issues, and contribute to workplace gender inequity and the pay gap, which stands at 14.1% in Australia across all industries.

When we perpetuate the systems that entrench gender roles and disadvantage women, no number of training and support mechanisms for women will work.

No amount of mentoring, nor sheer numbers of young women crammed into the pipeline will make up for a broken system that devalues women's perspectives, makes their contributions invisible and makes balancing their responsibilities at work and home impossibly hard.

As leaders, we must be committed to fixing our workplace systems, cultures and our measures of merit. We are all part of this journey, but this transformation is not the responsibility of a few dedicated women in our workplaces. It must be spearheaded by all of us – the leaders of Australia's institutions and businesses.

Thank you for engaging with this process. I applaud the Male Champions of Change in STEM for their ongoing commitment to increasing women's representation in STEM and building Australia's innovation capacity, and look forward to working together to build stronger, inclusive and more human-friendly workplaces.

Professor Lisa Harvey-Smith
Australian Government
Women in STEM Ambassador



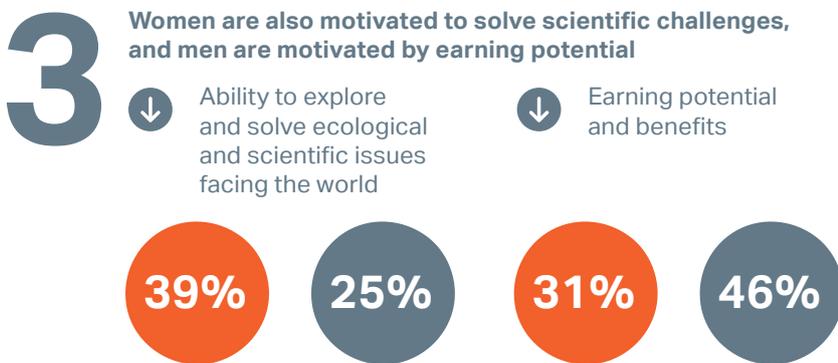
Women in STEM
Ambassador

Key Survey Insights

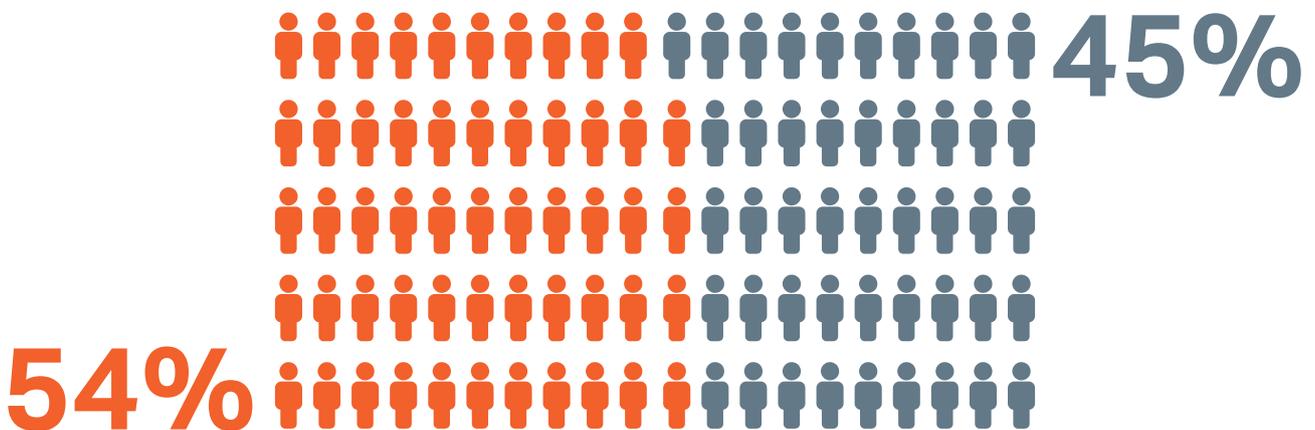
Women Men

Purpose is at the heart of STEM careers

Top reasons for pursuing a career in STEM



Women are more likely than men to consider leaving STEM, representing a loss of innovation potential

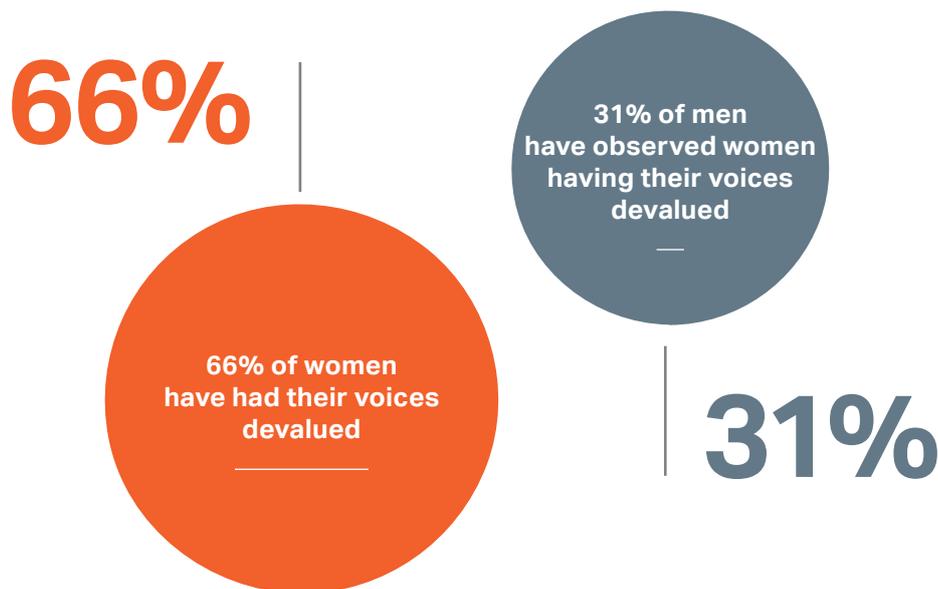


Women in STEM experience significantly more barriers than men

Barriers



Everyday sexism is pervasive and a driver of women's attrition from STEM



Women want to see systems shift to support their careers and culture change, to thrive in STEM

1 Career development and leadership programs

2 Visible sponsorship of women in STEM from senior leaders

3 Creating respectful and inclusive cultures

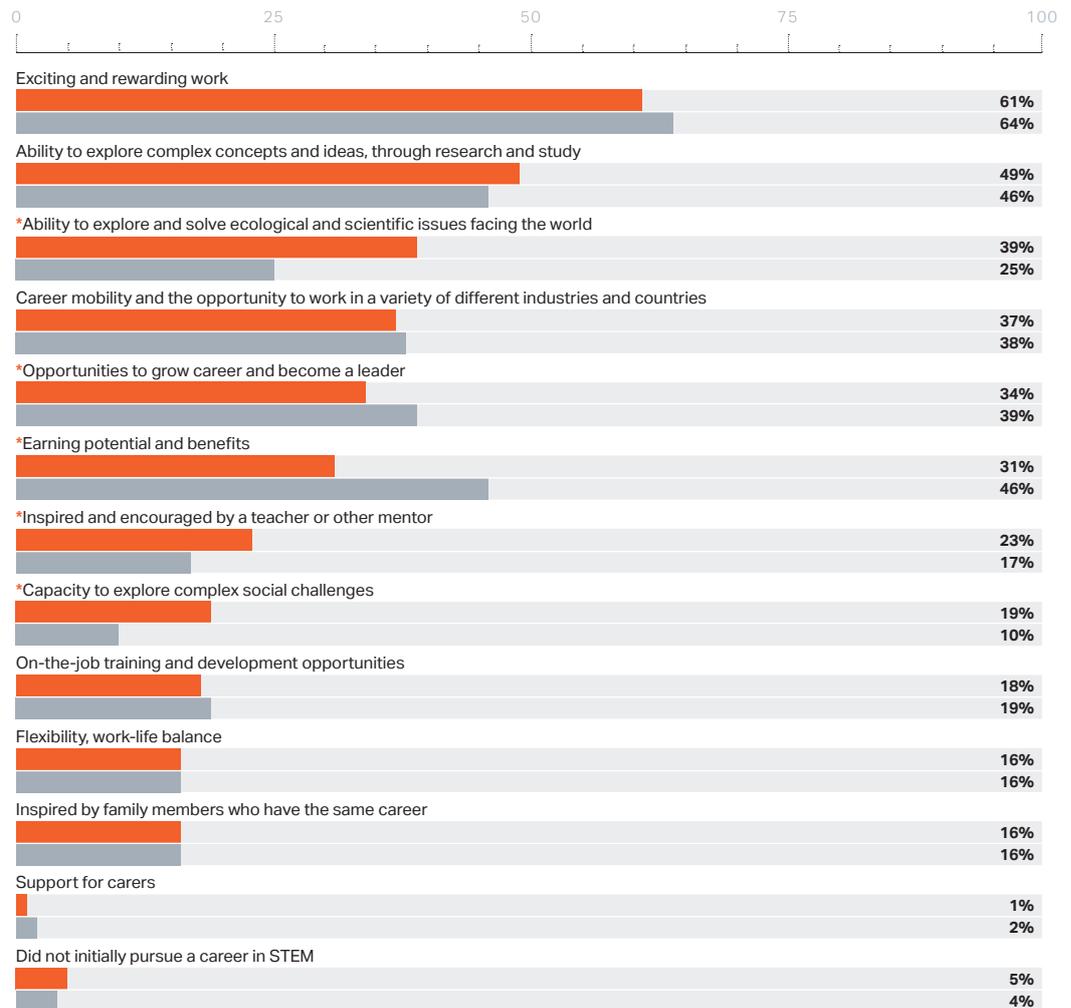
Purpose is at the heart of STEM careers

Women and men are equally motivated by the exciting and rewarding work offered by STEM careers, including the ability to explore complex concepts and ideas. However, when it comes to other reasons for pursuing STEM careers, there are notable differences between women and men. Women are significantly more motivated by the ability to explore and solve ecological and scientific issues facing the world (39% women vs 25% men). Significantly more men than women are attracted to a career in STEM for the earning potential and benefits (46% men vs 31% women) and the opportunities to grow their career and become a leader (39% men vs 34% women).



What are the main reasons that attracted you to pursue a career in STEM?

Women
Men



BASE: ALL WORKFORCE RESPONDENTS
(n= 2,971)

* Difference is statistically significant at 95% CI



Pamela Naidoo-Ameglio

ANSTO

Pamela Naidoo-Ameglio is the Group Executive of Nuclear Operations at ANSTO. She leads the team of around 150 people responsible for the OPAL research reactor and ANSTO's nuclear waste management services.

Her career in STEM started in South Africa's mining industry 25 years ago. When Pamela Naidoo-Ameglio entered the workforce as a graduate geologist, the South African mining industry was totally unprepared for professional women. There were no changing rooms for women, no uniforms to fit women and no underground facilities for women. Still, Pamela wasn't daunted by joining such a male-dominated industry.

In apartheid South Africa, there were other more challenging factors to contend with. "I started work in the year that South Africa held its first election where citizens of all races could vote. The mine where I started was not particularly hostile for me being a woman. It was more hostile for me being a non-white," explains Pamela, who has an Indian background. "In subsequent mines, being a woman was more challenging. Some of it was cultural; that part of society did not view women as having any authority. And part of it was, I guess, the newness of having a professional female in that role."

As a child fascinated by dinosaurs and volcanoes, Pamela set her sights on a science career. She earned a scholarship from a mining company to do her university

degree. "As a child, I was fascinated by the natural world around me and wanted to understand it," she says. "Geology was my first-choice career over chemical engineering because I wanted to discover and explore the world."

Early in her career as a mining geologist, senior colleagues became role models who showed faith in Pamela's ability. Their support, she says, helped set her up for future success. "I think having someone that believes in you is really important," she says.

When it comes to diversity and inclusion in the workplace, Pamela believes it's much broader than simply a gender issue. "The most diverse organisations I've been in, and I've been fortunate to work in a couple that have done it very well – are environments where people from all different backgrounds and orientations feel comfortable."

Pamela believes that the challenge is how to make a welcoming environment. "For me, it's all about openness and transparency, and the respect that people have for each other. It is important that when we are bringing different points of view our peers are willing to listen," she says.

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As a child, I was fascinated by the natural world around me and wanted to understand it. Geology was my first-choice career over chemical engineering because I wanted to discover and explore the world.



Katie Brown

AURECON

Katie Brown completed a Bachelor of Engineering, Civil and Structural, at the University of Adelaide in 2014. She joined Aurecon after graduation and now works in a project management role. Mentoring, role models and professional development programs have been critical to her career progression.

As a young engineer just four years into her career, Katie Brown is surprised by the breadth of opportunities that have come her way.

"The projects and types of roles I've been able to take at an early stage of my career have exceeded my expectations," she says.

"I assumed that I would be doing a very similar role at a very junior level for much longer than I have, and being able to stretch myself and take roles with more responsibility, while daunting at the start, has given me the ability to grow."

Katie's career role modelling started in high school, where her senior maths teacher opened her eyes to the possibility of an engineering career.

"My teacher's daughter went into an engineering degree, and part of her teaching involved bringing in real-life examples of her daughter's experiences. I think that resonated as a good application of what I enjoyed doing at school," she says.

"My mum was also very encouraging, and quite proactive in helping me understand where I could utilise my strengths. She took me to a careers counsellor and we did some tests to work out where your strengths lie and what careers potentially align with those. Engineering and project management actually came out of that."

In the workplace, Katie's manager has become a key sounding board for the young engineer. "Just having someone in a leadership role who is female particularly resonated with me because I was able to look up to someone in a similar role and feel that's someone and somewhere I can aspire to be," says Katie.

"It's important to help bring down some of the walls that are inside your own head – that imposter syndrome thing where you might be limiting yourself when you've got capabilities that other people do recognise."

Katie believes young women need to know more about potential careers in STEM.

"About two years ago, I did a presentation for our girls STEM network in Adelaide," she says. "It was a group of Year 10 students and one of the first questions I asked the group was 'Who knows what an engineer does?' Out of 40 girls, just one girl put her hand up. And the only reason she knew anything about engineering was because her father was a software engineer."

"If they had a similar experience to me with an encouraging teacher, or a visible role model, then it might actually encourage them to pursue a career in STEM."



Just having someone in a leadership role who is female particularly resonated with me because I was able to look up to someone in a similar role and feel that's someone and somewhere I can aspire to be.



Vicki Chen

UNIVERSITY OF QUEENSLAND

Professor Vicki Chen is the Executive Dean of Engineering, Architecture and Information Technology at University of Queensland (UQ). Prior to joining UQ, she was Head of the School of Chemical Engineering at the University of NSW.

As a female leader in a traditionally male-dominated area, Vicki considers herself fortunate that she started her academic career at a school with an unusually strong representation of senior females. "When you get critical mass, you're not the exception anymore," she says. "So when you walk down the corridor as a senior female academic, people don't bat an eye."

Looking back at her own career, Vicki was welcomed back into a supportive environment after taking some months' parental leave following the birth of twins.

She believes that the pathway for women at an entry level is easier these days, but cultural barriers within workplaces still impede the road to senior levels.

Despite a stellar resume and expectations within her school that she would get the promotion, she initially missed out on a Head of School role. "My visibility as a strategic leader wasn't there."

Vicki would eventually become Head of School, but only after making her own efforts to raise her visibility as a leader. "I took on some critical projects that needed to be done – you do not need to have a title to show leadership," she says.

Vicki says that building strong talent pipelines depends on identifying and nurturing the best people. "You need to have a very clear

idea of what the talent pipeline is internally and externally," she says. "Some people just look within a very narrow pool."

"You're not necessarily looking for the most outspoken person, but if you see capabilities that are worth cultivating, then we need to invest the effort. We haven't always done this as proactively as we should have. It particularly matters for women, because we have so few of them."

She recalls a time when she was a postgraduate researcher, and the Head of Department pulled her aside and suggested she consider an academic career. It wasn't something she had been thinking at all about pursuing at the time. "Someone who wasn't my direct supervisor knew who I was and got me thinking about a new opportunity, and I am forever grateful for that kind of foresight and encouragement," she says.

"There are certain pivotal times in people's careers that make a huge difference. That's what we want to be more in tune with, providing those particular little pushes, even if it's just a conversation in the hallway."

To young women contemplating a career in STEM, Vicki says it offers a multitude of opportunities. "Doing STEM is an enabler for you to go and do whatever you want in the future," she says. "It's not an end point. It's a pathway."

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When you get critical mass, you're not the exception anymore. So when you walk down the corridor as a senior female academic, people don't bat an eye.

Women are more likely than men to consider leaving STEM, representing a loss of innovation potential

Over half of the women surveyed, 54%, have considered leaving their STEM role, significantly more than the 45% of men.

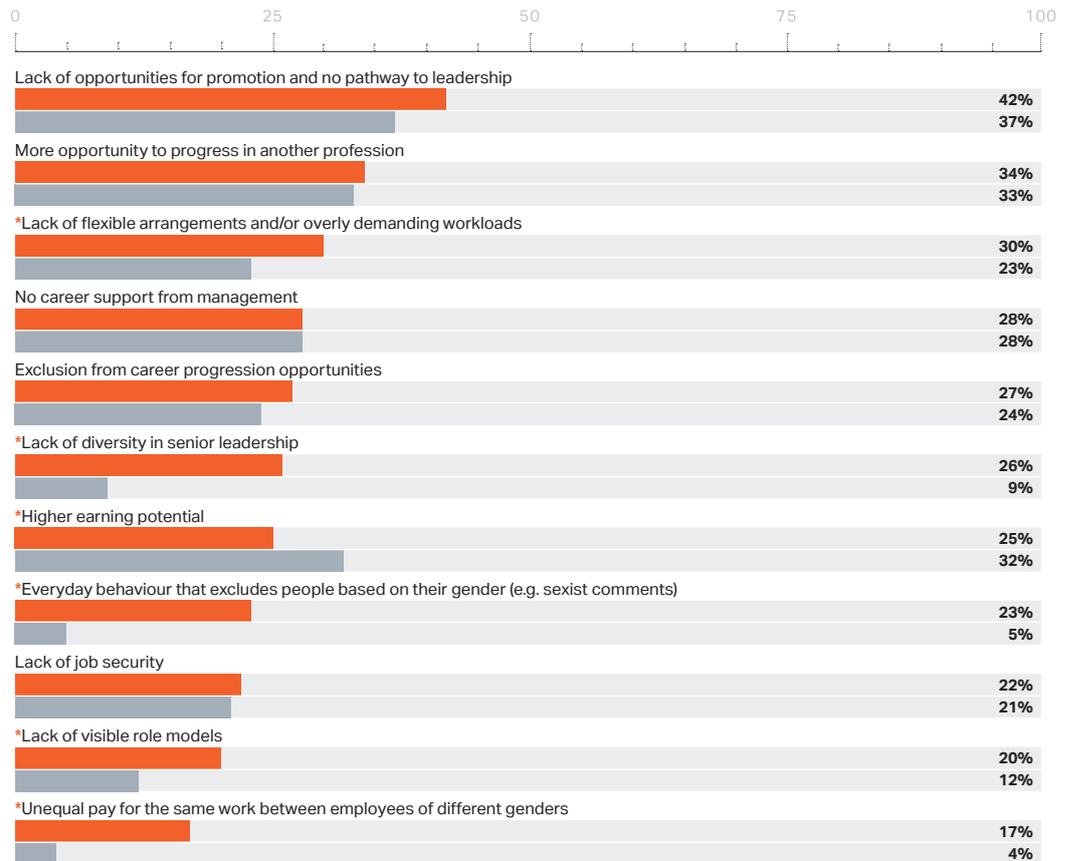
Over half of the women surveyed, 54%, have considered leaving their STEM role for one for which their STEM qualification was not directly relevant. This compares to 45% for men. With highly qualified employees seeking to leave STEM roles, this highlights a significant loss to Australia's innovation potential.

While both men and women have considered leaving their STEM role for opportunities elsewhere, there are significant differences in other reasons for wanting to leave. More women cite a lack of diversity in senior leadership (26% women vs 9% men) and behaviour that excludes people based on their gender (23% women vs 5% men). The most common reasons for men wanting to leave STEM roles include the lack of opportunities for promotion and no pathway to leadership (37%), more opportunity to progress in another profession (33%) and the higher earning potential in a non-STEM area (32%).



Why did you consider leaving your role?

- Women
- Men



BASE: ALL WORKFORCE RESPONDENTS
who considered leaving role (n= 1,344)

* Difference is statistically significant at 95% CI



Tony Worby

CSIRO

As Director of CSIRO Oceans and Atmosphere, Tony Worby leads more than 600 staff and affiliates around Australia. A Hobart-based scientist with a strong sense of social justice, he's made gender equality in the workplace both a personal and collective goal.

When it comes to workplace equality, Tony Worby leads from the front. Determined to see more women at a senior level, his commitment to change includes personal intervention on behalf of employees, as well as chairing his own department's Inclusion and Diversity Committee.

"I think it's very important for people to see their leaders talking about things that are important and talking about their values and driving change in areas that are important," he says.

"We've actually made a very conscious decision to call our committee the Inclusion and Diversity Committee and not the other way around."

"It's a subtle shift, but I think that it is about making people feel a part of the workforce and included in meetings, included in decision-making, included in information sharing, included in every aspect."

"If you've got a contribution to make in the workplace, then we want to create an inclusive space for you to do that."

While the ranks of early-career scientists under Tony's watch have a largely 50/50 gender balance, he's committed to changing a strong imbalance in the senior ranks.

"We've got what I call the scissor diagram," he says. "We've got increasing percentages of men and decreasing percentages of women at every step between our early-career researchers and our most senior scientists."

He's tackling the problem on a number of fronts. They include talking to senior women about their experiences. Their perspectives are helping to formulate support structures for the next generation of female scientists.

He's also been removing unconscious barriers around the appointment of women to shipboard roles at sea.

"Historically, there may have been more of a preference to recruit men to these roles, on the grounds that women might get pregnant and go on maternity leave," says Tony.

"I have zero tolerance for anyone who makes that argument and I've made that super clear."

Tony's career in science was inspired by his childhood fascination with Antarctica.

"Most scientists that I know have a fascination with the natural world, but then they realise this is actually a career where they can make a difference to the world as well," he says.

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We've got what I call the scissor diagram. We've got increasing percentages of men and decreasing percentages of women at every step between our early-career researchers and our most senior scientists.

Women in STEM experience significantly more barriers than men

The barriers women experience differ to those facing men. The biggest and most significant barriers women experience more than men are:

- 51% of women experience a lack of diversity in senior leadership as a barrier, compared to 22% of men
- 41% of women experience an everyday culture that excludes people based on gender compared to 8% of men
- 30% experience unequal pay for the same work as a barrier, compared to 6% of men.

The other top-ranked barriers women experience significantly more than men include:

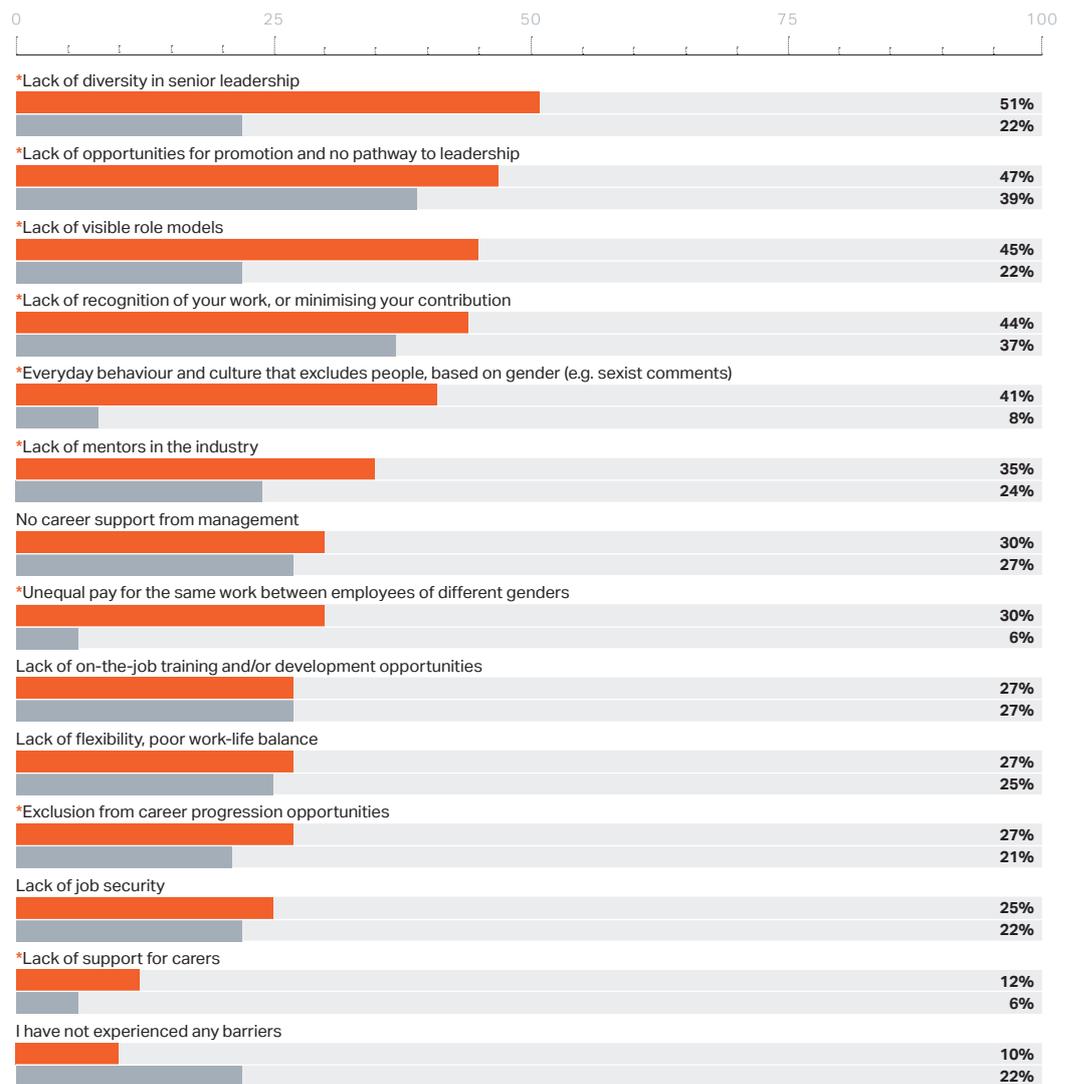
- Lack of opportunities for promotion and no pathway to leadership (47% women vs 39% men)
- Lack of visible role models (45% women vs 22% men).

The top-ranked barriers experienced by men include: a lack of opportunities for promotion and no pathway to leadership (39% men vs 47% women), a lack of recognition of their work, or minimising their contribution (37% men vs 44% women), and no career support from management (27% men vs 30% women).



Have you experienced any of the following barriers in your career in STEM?

Women
Men



BASE: ALL WORKERS RESPONDENTS
(n= 2,971)

* Difference is statistically significant at 95% CI

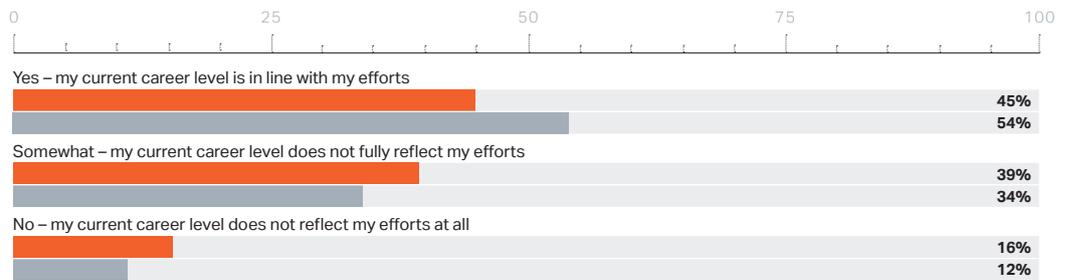
More men than women believe that their level of seniority reflects their work

More men (54%) than women (45%) believe that their current level of seniority reflects the level of effort and quality of their work. Men are also more confident they will reach the level of seniority they desire (24% responding 'Completely likely'). There are no significant differences in perceived recognition across age groups or for those with caring responsibilities.

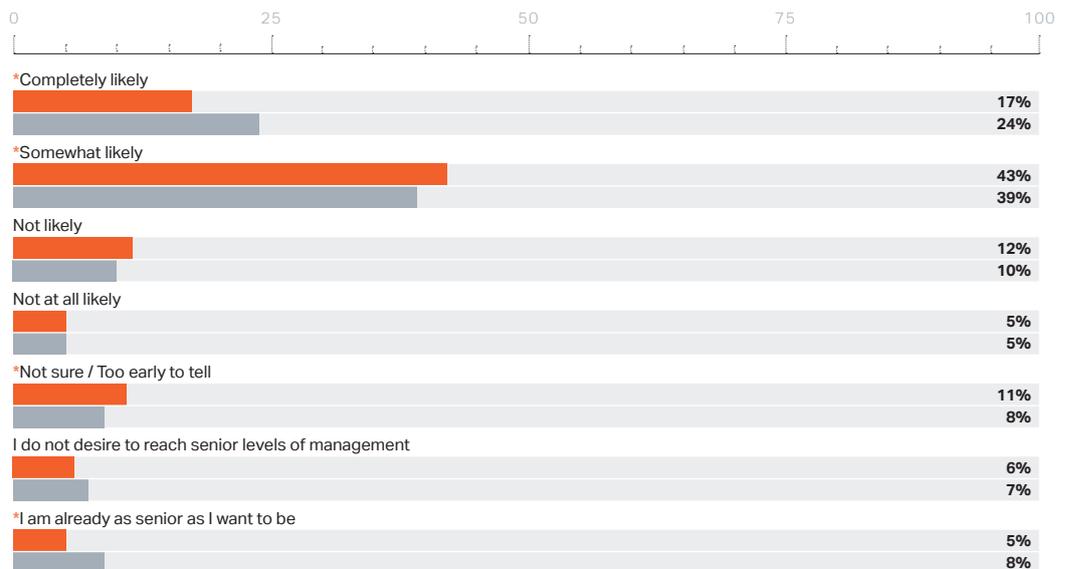
There is variation in the perceptions of career attainment across age groups. Not surprisingly, significantly more people aged 55 to 73 report having already reached the level of seniority they desire (23% compared to 9% of those aged 41 to 54). The workforce aged 22 to 54 are slightly more optimistic they will reach the level of seniority they desire (36% aged 22 to 55 responding 'Somewhat likely') compared to 20% of those aged 55 to 73. The differences in perceptions of career attainment across age groups can be related to the number of years engaged in and remaining in the workforce.



Do you believe that the level of seniority you are employed at reflects the level of effort and quality of the work you have undertaken over the lifetime of your career?



How likely is it that you will reach the level of seniority you desire?



■ Women
■ Men

% calculated across all women and men

*Differences in gender are statistically significant at 95% CI



Luke Higgins

ACCENTURE

Luke Higgins is the lead engineer building Accenture's global automated Operation Architect framework, Accenture's app store. As an executive leader, he oversees a global IT team of 500, including 120 local staff. The team he has built from scratch has equal gender representation, due largely to innovation in the recruitment process by using boot camps.

Luke Higgins estimates he's spoken to around 8,000 university students in the last three or four years. It's part of his mission to build a gender-equal pipeline of new recruits for Accenture.

He'd come to the conclusion that employing people based on a single assessment wasn't going to get him the best candidates. The solution was to change the way he recruited by targeting third and fourth-year university students.

"I thought it would be better to run a boot camp," he says. "We invite people to come and work with us for a week.

"We put them into groups and create projects that are similar to the work that we do, and mentor them through the week. That way the students can get some sense of what their future career may look like.

"The success of hiring women on the back of the boot camps was so much better," he says. "Before the camp, they might not have seen this as a career possibility, but by the end of the week they were quite confident that they could."

Luke says the benefits from the recruitment program started to show by the second year.

"It was actually really kind of eye-opening to see the difference in the workplace. The innovation coming out of it was so much better," he says.

Luke has taken advantage of Accenture's parental leave and flexible work policies, by working from home for three years when his children were younger.

"When guys take parental leave they come back to work with a lot more empathy for the women who take it," he says.

"When people are on parental leave, I call them every month and ask them how things are going and tell them what's been happening at work. So then they're in touch with the workplace, and come back feeling included."

Luke believes that creating a diverse and inclusive work environment begins at the grassroots.



When people are on parental leave, I call them every month and ask them how things are going and tell them what's been happening at work.



Alex Stonehouse

COCHLEAR

Alex Stonehouse was the first woman to join the Sound Processor mechanical engineering team at medical device company Cochlear. She now heads Cochlear's team of 15 engineers who develop the next generation of technology in sound processing. Alex studied Mechanical Engineering with a Masters in Biomedical Engineering.

As a mother of three, Alex Stonehouse has trod the well-worn path of parental leave, before transitioning from part-time back to full-time work.

"In a six-year period, I had three children," she says. "In that period, I had two promotions at Cochlear and three or four different roles. The fact that I wasn't always present didn't stop the opportunities coming, and that was really valuable."

As a woman in mechanical engineering, she's used to being the only female in the room.

"I've learned that I don't have to fit the mould of a strong, dominant male figure. I don't have to try to pretend to be that. I can be a very good leader being the shortest, youngest, only female person in the team," says Alex.

As the daughter of a mining engineer and a computer programmer, Alex believes a career in engineering was inevitable. Her two brothers also followed the same path.

"My favourite toy was Lego. At Christmas and birthdays I'd shake my gifts and if they didn't rattle like Lego, I'd be very disappointed," she says. "I also had a great four-unit maths teacher when I was in high school that was just so passionate about maths and really

engendered a love for numbers. Almost all of the females in that class have gone into STEM careers and very successful ones."

Now 15 years into her career, Alex has been part of a culture shift that she believes will enable more women to reach senior roles in STEM careers.

The broadening of flexible work options at Cochlear means she no longer feels guilty about taking advantage of flexibility.

"I was more or less one of only a couple of people in the whole department that was on any sort of flexible work arrangements, so it felt like a real kind of privilege and I needed to almost hide it a little bit," she admits.

"I wouldn't ever say to people 'I'm off looking after my children', I'd say 'I'm just not here today but I'll get onto it tomorrow.'"

Last year, Cochlear introduced a much broader flexible work policy, and Alex's male colleagues have reaped the benefits.

"A whole bunch of guys who've been in the team for 10-plus years and have never considered working from home now do it once a week and come back raving about how it's so productive," she says.

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I've learned that I don't have to fit the mould of a strong, dominant male figure. I don't have to try to pretend to be that.

Everyday sexism is pervasive and a driver of women's attrition from STEM

Women personally experience everyday sexism in all its manifestations at least twice as much as men.

The biggest difference between men and women experiencing everyday sexism in the STEM workforce occurs in the devaluing of women's views and voices. Two thirds of women experienced their views or voices being devalued in the workplace. Yet only one third of men observed this behaviour, suggesting that this behaviour may often be normalised and invisible. This is a particular concern for the STEM workforce, where the capacity to contribute ideas and views equally in a respectful and inclusive environment is critical to driving better innovation outcomes.

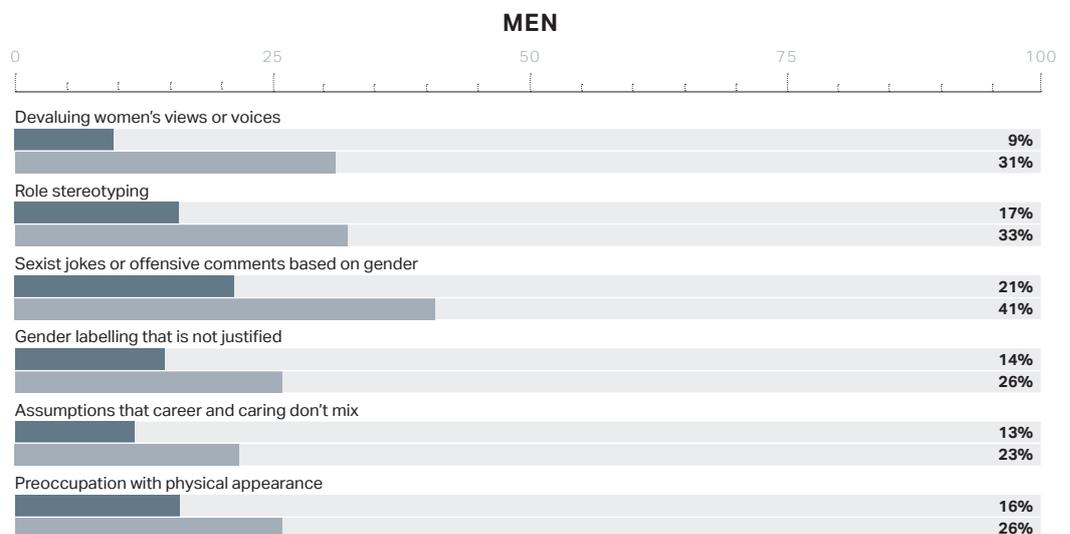
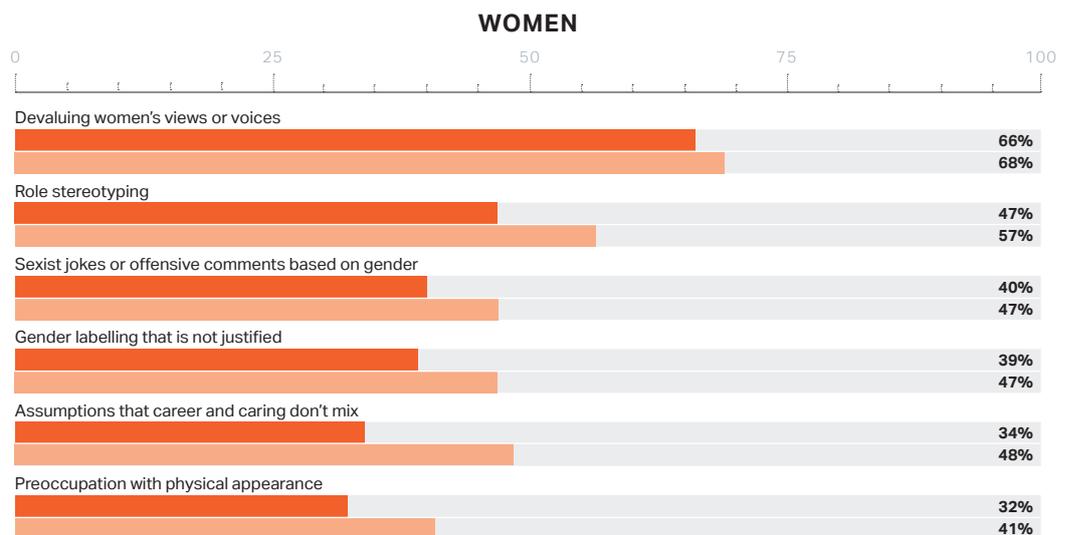
Significant gender differences are also seen in the finding that 47% of women personally experience role stereotyping compared to 17% of men. Other significant differences in everyday sexism include unjustified gender labelling (39% women vs 14% men), assumptions that career and caring don't mix (34% women vs 13% men) and a preoccupation with physical appearance (32% women vs 16% men). Men observe sexist jokes and offensive gender-based comments at the same rate at which women are experiencing this behaviour (41% men observed vs 40% women experienced).



In the past two years, have you personally experienced or observed any of the following at your organisation? (percentage saying at least once)

■ Personally
■ Observed

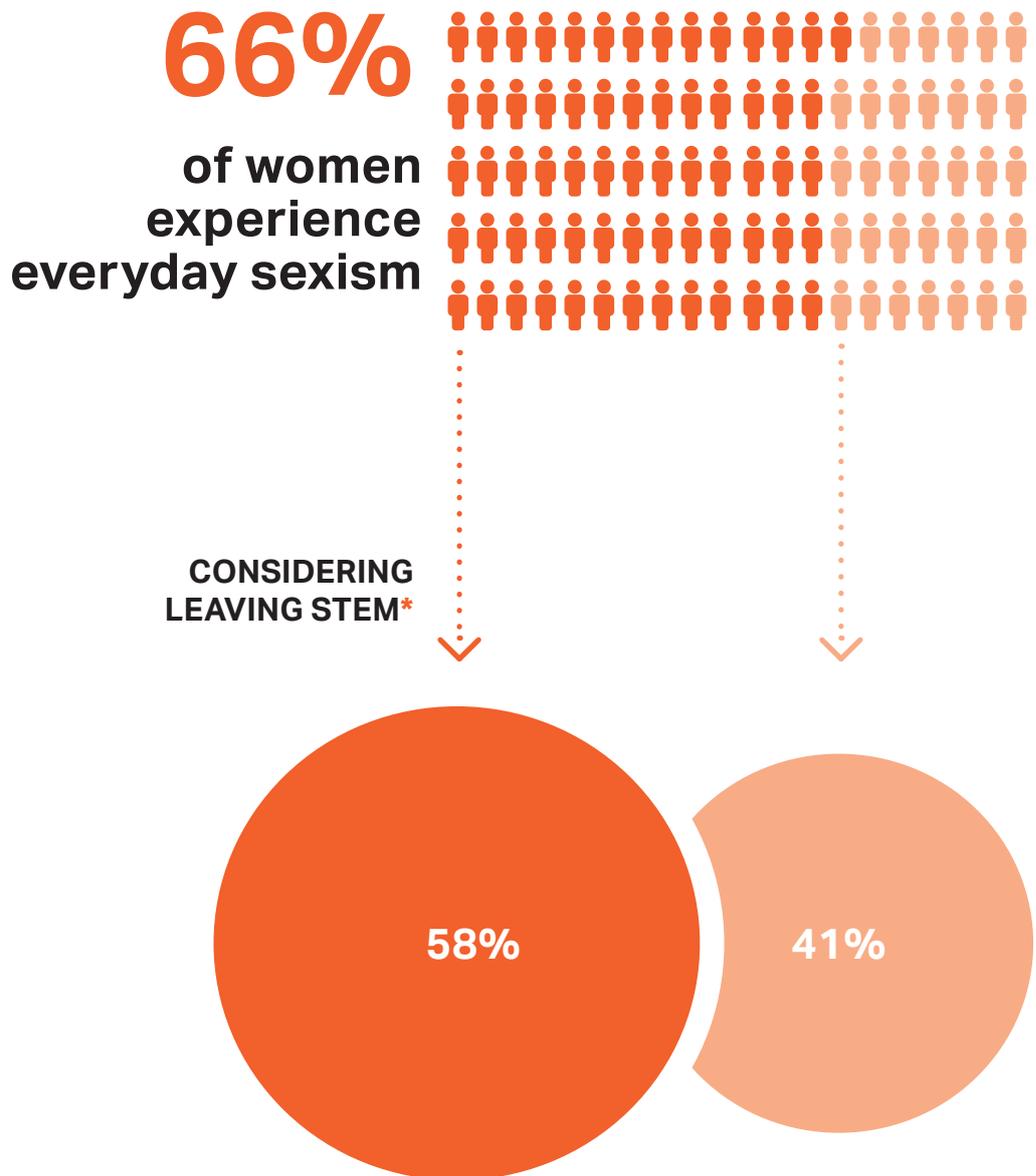
■ Personally
■ Observed



BASE: ALL WORKERS RESPONDENTS
(n= 2,971)

Differences in gender are statistically significant at 95% CI

There is a link between experiencing everyday sexism and attrition from STEM careers. Women who experience everyday sexism in the workplace are significantly more likely to want to leave their STEM career (58% compared to 41% of women who did not experience sexism). This finding suggests that even if more women are encouraged into the talent pipeline, there is a risk that they will continue to leave STEM unless there is a focus on creating a respectful and inclusive environment, free from everyday sexism.



Have you ever considered leaving your current role for one where your STEM qualification is not relevant?

- Experienced
- Did not experience

BASE: ALL WOMEN WORKERS RESPONDENTS
(n= 1,025)

*Difference is statistically significant at 95% CI



Tanya Windscheffel

MYOB

As Platform Delivery Manager for MYOB, Tanya Windscheffel manages a team of nearly 100 technical staff. For someone without university qualifications, her pathway to leadership has been unorthodox.

Tanya Windscheffel readily admits that she fell into her career and didn't realise she had a passion for STEM until she was already deeply involved.

She originally wanted a career as a physiotherapist but fell two marks short of a university entrance score. She worked as a lifeguard, an administrative officer and in a bakery, before a job in a contact centre eventually set the course for her career.

"I just loved to walk into the IT room at the contact centre and I would just stand by the door and listen," Tanya says. "The things they were talking about sounded really interesting and I was really intrigued by the problem-solving.

"When I sat down with them and they showed me how the systems were glued together, it was just like this massive jigsaw puzzle and I really enjoyed understanding the detail."

Tanya's career progressed from team leadership to change management and implementation management. She first started working closely with software development as a change manager/business analyst.

"I've never written a line of code in my professional career and yet, here I am," she says.

"There's the opportunity to be creative in many of our STEM roles. At the roadshows we do at schools, we talk about software development roles but we don't talk about

other roles that are more creative."

Tanya is passionate about pathways to female leadership in STEM. She mentors women, and is the co-creator of MYOB's DevelopHER program, which helps women get back into the workforce after having children.

A working mother of one, she says she couldn't have continued her career without the flexibility that enables her to work full-time hours over a four-day week.

Another potential obstacle for women is sexism in the workplace.

"I haven't seen it so much, but I've felt it," she says. "Things like peers who go out for lunch on a Friday and unconsciously they'll invite the blokes and forget the women.

"It's not malicious, but it's those very subtle things that can actually have a really big impact."

Tanya admits her greatest career struggle has been self-doubt, particularly about her lack of formal technical qualifications. But strong male mentors in technical roles have been crucial.

"Five years ago, the conversation was about getting a degree. Now the conversation is 'Well, do you want to work in an organisation that only values pieces of paper, or do you want to work in an organisation that values your general, natural skillset?'" she says.

“

I haven't seen it so much, but I've felt it. Things like peers who go out for lunch on a Friday and unconsciously they'll invite the blokes and forget the women.



Phil Walters

MYOB

As Head of Design at MYOB, Phil Walters runs a team of around 40 people who design how the company's products look and work. When he started his career as a furniture designer in his native New Zealand, he never anticipated he would one day work in technology. His career also includes working as an industrial designer in the UK, and as a user experience designer in the banking sector.

When Phil Walters joined the design team at MYOB four and half years ago, the group consisted of eight men. Once he moved into a leadership position with the team, he readily concedes that diversity in the workplace was something he hadn't really thought about.

There was no lightbulb moment, but the realisation prompted immediate action.

"I don't know what sparked it, but when it did happen I was pretty embarrassed by it," Phil admits.

"We just started to make a conscious effort to make sure we were looking for the right people and we were more open to all kinds of mindsets and the right gender mix as well. Once we started looking at it consciously, then the choices became easy.

"Now, it's just part of the conversation. Who should we be hiring? What are we looking for? It's about having a mindset of culture add rather than culture fit."

Now, his much bigger design team has a 50/50 gender split, and Phil says the group is more productive as a result.

"The idea is you know what's the problem you're trying to solve and how you're going to solve it. Have you thought about this? Have

you used that pattern? You might want to consider that type of thing? So we really foster that type of conversation. And because of the diversity of experiences the team has, we absolutely end up with better outcomes."

Flexible work also encourages high employee engagement and low staff turnover. A father of two, Phil sets an example by working at home during school holidays.

"As long as the job is being done, we don't really care where it is being done," he says. "I tell that to all of the new starters that come into my team. It could be you need to be home to let the plumber in. Or it could be school holidays or something like that."

Part-time roles and job sharing are encouraged within the team. "I make sure I have the conversation with the men, to let them know that it's not just for the women," says Phil. "If you want to take a longer period of time or do part-time, it's fine. They need to think about what they need and what they want and how we can structure it."



Now, it's just part of the conversation. Who should we be hiring? What are we looking for? It's about having a mindset of culture add rather than culture fit.

Women want to see systems shift to support their careers and culture change, to thrive in STEM

There is a gap between current action and priorities for the future

The gap between the current actions and the priorities for the future shows the actions organisations need to take for gender equality.

For current actions, family-friendly policies and flexible work are the most visible to both women (72%) and men (67%) who indicate their employers are normalising flexible work.

Women’s top-ranked future priorities include career development and leadership programs (59%), visible sponsorship of women from senior leaders (56%), and creating respectful and inclusive cultures (55%). Men cite family-friendly policies (76%), creating respectful and inclusive cultures (70%) and normalising flexible work (67%) as top priorities for the future.

While not cited in the top three priorities by women for the future, the lack of flexible arrangements and overly demanding workloads was one of the top reasons women considered leaving STEM (page 14), indicating that it is an area that requires sustained attention.



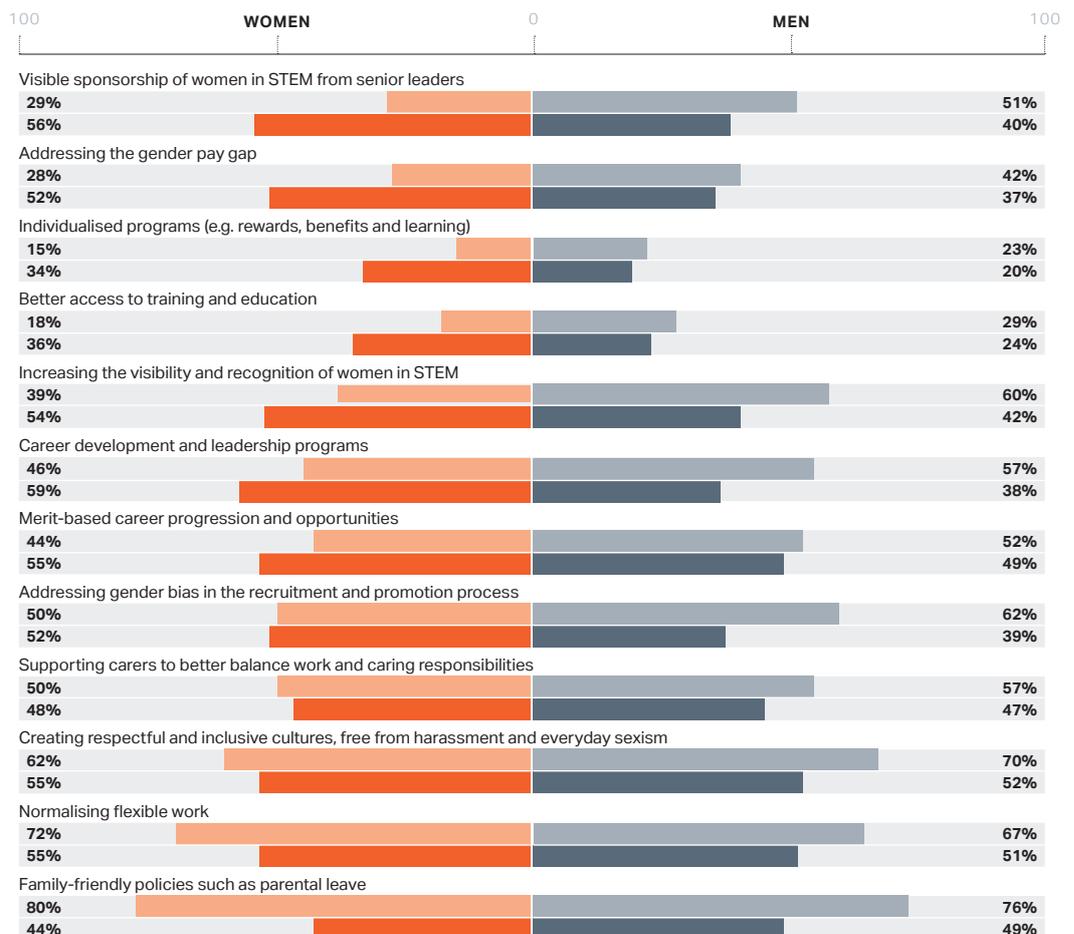
What initiatives does your organisation currently undertake to support more women to enter, stay and thrive in STEM roles?

- Currently doing
- Currently doing



In your opinion, what are the most important initiatives your organisation can undertake in the future to support more women to enter, stay and thrive in STEM roles?

- Should do in future
- Should do in future



All differences between current vs future initiatives are significant at a 95% confidence level, except for women: addressing gender bias in the recruitment and promotion process, and supporting carers to better balance work and caring responsibilities; and for men: individualised programs (e.g. rewards, benefits and learning) and merit-based career progression and opportunities.

BASE: ALL WORKERS RESPONDENTS
 women (n= 1,025) men (n= 1,927)

Looking at the gap between current and future actions, three areas stand out for women: the need to focus on visible sponsorship of women in STEM from senior leaders, addressing the gender pay gap, and individualised programs to foster and support women's careers in STEM.

There are gender differences. Over half (54%) of women want more done in the future to increase the visibility and recognition of women in STEM, with 39% reporting that this is a current action of their employer. In contrast, 60% of men see this as being currently addressed, and only 42% of men view it as a priority for the future.

These insights suggest that while initiatives such as flexible work and parental leave play an important role in creating gender equality, more targeted and visible action is needed to support and recognise the careers of women in STEM.

CREATING A RESPECTFUL AND INCLUSIVE CULTURE IS THE MOST IMPORTANT PRIORITY FOR THE FUTURE WORKFORCE

Creating a respectful and inclusive culture was ranked as the most important initiative by STEM undergraduates (56% overall, 63% of women and 49% of men), followed by family-friendly policies (49% overall, 58% of women and 39% of men).

Undergraduates place greater emphasis on addressing the gender pay gap (46% undergraduates vs 37% of the current workforce), access to training and education (44% undergraduates vs 25% of the current workforce) and individualised programs to support women in STEM roles (29% undergraduates vs 20% of the current workforce).

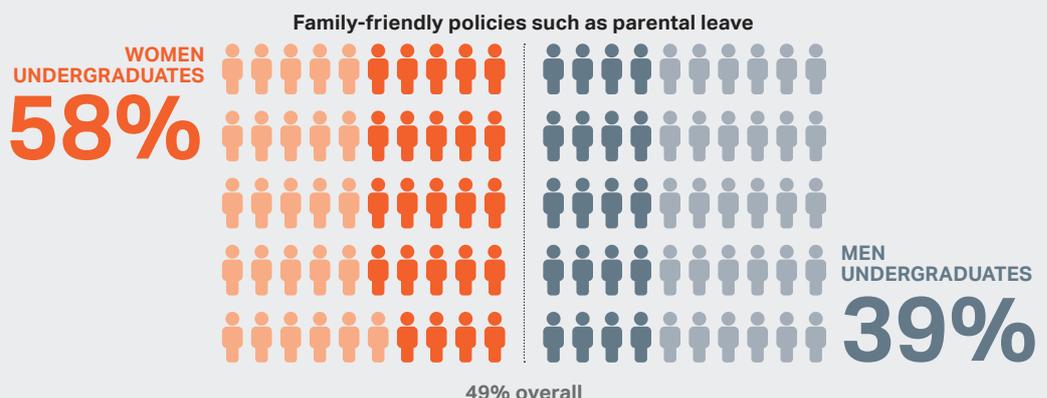
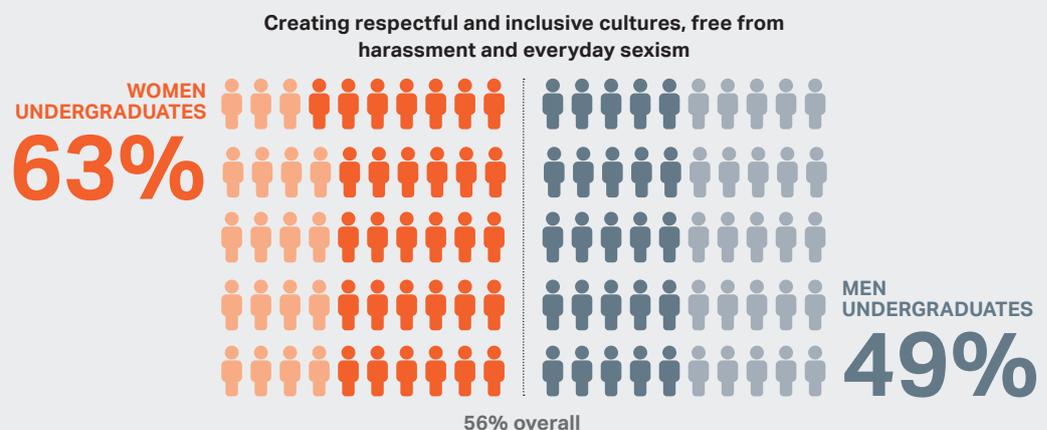
This highlights that the future workforce expects gender-equal workplace cultures which include family-friendly policies.



Future workforce (undergrads) priorities

- Women
- Men

UNDERGRADUATES
Men (n= 1,000)
Women (n=1,000)





Kim Harris

ACCENTURE

Kim Harris joined Accenture after graduating with a degree in Information Technology from the University of Queensland. In the 20 years since, she's had what she describes as three different careers within the company. In her present role as ANZ HR Systems Architect, her passion is getting people to the right data at the right time to make decisions quickly and easily.

At what she calls pivot points in her career, her managers effectively created roles that enabled her to continue working while she prioritised childcare responsibilities.

"I can pretty much guarantee I wouldn't be at Accenture without that flexibility," she says. "I know three other professional women who are doing teaching degrees part-time because it's the only solution they can come up with in terms of family-friendly work."

Kim's first pivot point came when she had her first child 11 years ago. Her daughter Sarah didn't take to childcare, and after a year of maternity leave, Kim went to her boss asking for another 12 months.

"She was very, very supportive," Kim says. "I couldn't go back to project work, I couldn't work out of home for 60 hours a week and I couldn't go back to travelling.

"So I started my second career here, around 10 hours a week, around Sarah's naps. Cath said that nothing was time dependent, just get it done when you can."

After 10 years, and a second child, Kim moved into her current full-time role.

"I didn't pursue a STEM career as being something out of the ordinary for women to do."

Kim recalls her mother teaching her how to write a program on a Commodore 64 when she was around 8 years old.

"Computer programming made more sense to me than anything. It was a good fit for me."

Returning to a STEM-related position after years in organisational roles has come with some challenges. She hasn't always felt included.

"The guys in my area get a lot of value out of knowing a lot of jargon and a lot of technical terms," she says. "It's almost like this cult of technology and there are high priests who need to know all the technical words, so that's been a bit of a barrier to entry for me."

Still, she's ambitious and motivated about the third phase of her career with Accenture.

"I'm really excited about what we're doing and what we're offering," Kim says.

"At the moment our people spend a lot of time in Excel pulling a lot of data together, so my ultimate goal is to remove any need for anyone in our HR team to ever touch Excel again.

"I want to take away the need for them to think about where their data comes from, or how it fits together, and give them a good experience."



I didn't pursue a STEM career as being something out of the ordinary for women to do.



Katie Sizeland

ANSTO

Katie Sizeland is a Research Program Manager in Human Health at ANSTO.

Katie Sizeland got her big break in science with a sense of determination and a door knock. She'd just finished her PhD, and decided she'd ask the director of the Australian Synchrotron for a job. Katie knew that career opportunities at the Synchrotron were limited, but says she was determined to find an opening.

"When I knocked on the door, I was told they didn't have any jobs or a postdoc scheme, but the director said if you can find half the funding needed we can talk about it from there. So a couple of weeks later I went back in and said I've got the funding."

Katie joined the previously all-male team on the SAXS beamline as a postdoctoral fellow.

"They were all so supportive and they completely accepted me," she says. "I had some great mentors and every one of them gave me so much of their time and effort."

While she says she's been "living the dream" with her career, there have been a couple of occasions where she's been told she only got her job because of her gender.

"It was pretty rough," she says. "The first time it happened it took me aback. I felt that I've worked really hard to get here and that's something you can't take away from me."

"It took me a while to get over that and since then I'm starting to find my voice. I'm trying to advocate more for women in STEM, to celebrate women and empower women."



Tom Cresswell

ANSTO

Tom Cresswell is an environmental research scientist at ANSTO. He uses nuclear techniques to study how pollution impacts animals, plants and our waterways.

Tom Cresswell loves the fact that his 21-month old son attends a childcare centre at his worksite at ANSTO. If there's ever a problem, he's just minutes away.

Tom has just reduced his work days to a nine-day fortnight to allow his partner to transition back to full-time work. "I've just decided, well, I have to make it work because the little fella is the one who's going to benefit."

Tom is a member of ANSTO's Diversity and Inclusion Project. Among its roles is to explore the effectiveness of the organisation's parental leave policies.

"We were pleased to find that the majority of people that we surveyed had taken some sort of parental leave, or were planning to,

and the vast majority were really happy with the system and how it works."

"Those who gave us negative responses were those people that had some issues with their manager. So we've learned that we need to educate managers about how the system actually works."

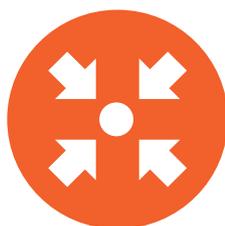
Tom says there's a good gender balance in environmental sciences, but believes that unconscious biases in the workplace can make career progress more difficult for women.

"The biggest difference in encouraging more women to have careers in STEM is going to be cultural change from all involved."

A call to action for creating a gender-equal future in STEM

Achieving gender equality in STEM requires new approaches to attract and retain women in STEM, and support women and men to equally thrive in their STEM careers. Building a culture of inclusion and respect is key to enhancing innovation outcomes and creating an environment where women's and men's contributions and views are equally valued.

The actions below are not an exhaustive list of strategies to achieve gender equality in STEM, but specific actions that are derived from the survey insights.



Attract

Survey insights

Women and men are equally motivated by exciting work in STEM, while women are more motivated than men by the opportunity to solve issues facing the world

Lack of visible role models, lack of diversity in leadership and lack of opportunities for promotion are the top barriers for women

Actions

- ✓ Attract diverse candidates by making the purpose and impact of the work a key component of your employee value proposition (EVP) as well as offerings such as flexible work and parental leave
- ✓ Review the external presentation of your organisation for gender balance, and intentionally make visible stories of women delivering impact¹
- ✓ Set recruitment targets for women in STEM roles, including leadership roles, link them to key performance indicators for senior leaders, and regularly monitor progress
- ✓ Address bias in the definition of merit used in your organisation's recruitment and promotion processes such as requirements relating to years of experience, and instead focus on skills and capabilities to meet future organisational objectives²



Retain

Survey insights

Women are more likely than men to consider leaving STEM

Top reasons that women and men consider leaving STEM are a lack of opportunities for promotion and pathway of leadership and more opportunities in another profession

Actions

- ✓ Review your organisation's last 10 STEM hires and last 10 STEM leavers every quarter to scrutinise talent processes for gender bias
- ✓ Scrutinise your promotion and performance data and processes for STEM roles for gender bias
- ✓ Redesign exit interviews and conduct comprehensive reviews to learn why women and men leave STEM roles and to understand patterns:
 - Is it concentrated in specific areas?
 - Is it at a particular level of seniority?
 - Is it women and men with caring responsibilities?
 - Is it linked to a lack of individual promotion and pay reviews?
- ✓ Specifically include questions about employee experiences of inclusion and diversity in employee engagement surveys, and act on the results

¹ Male Champions of Change, Building a gender-balanced and inclusive presence, 2017, <https://malechampionsofchange.com/wp-content/uploads/2017/11/Test-the-Messages-You-Project.pdf>

² Male Champions of Change, In the Eye of the Beholder: Avoiding the Merit Trap, 2016, <https://malechampionsofchange.com/wp-content/uploads/2016/08/MCC-CEW-Merit-Paper-FINAL.pdf>



Support to Thrive

Survey insights

Women are less likely to believe that the level of seniority today reflects the level of effort and quality of work

There is a gap between current and future action expected by women on the visible sponsorship of women in STEM from senior leaders, the gender pay gap, and individualised programs to foster and support women's careers in STEM

Top future priorities for women in STEM are career development and leadership programs; visible sponsorship of women in STEM from senior leaders; and creating respectful and inclusive cultures

Actions

- ✓ Visibly sponsor women working in STEM roles across their careers and ask all leaders to do the same, ensuring that this sponsorship leads to career progression
- ✓ Review your personal network of STEM professionals for gender balance
- ✓ Enable equal opportunities in projects for women and men to contribute new ideas and develop skills in STEM and innovation
- ✓ Set a target of 50/50 gender balance for leadership development opportunities and specifically target women in STEM roles



Build Inclusion & Respect

Survey insights

Women personally experience everyday sexism across all its manifestations at least twice as much compared to men

Two thirds of women in STEM experienced their views or voices being devalued in the workplace, yet only one third of men observed this behaviour

Women who experienced everyday sexism in the workplace are significantly more likely to want to leave their STEM career

Actions

- ✓ Extend the panel pledge commitment to all internal meetings and ensure the voices of women are elevated and respected³
- ✓ Develop an inclusive meeting checklist and apply it to all internal meetings, including practical guidance on ensuring everyone's voices are heard and checking in with meeting participants at the end of a meeting
- ✓ Listen and learn to understand what everyday sexism looks like in your organisation, and empower all employees to call it out⁴
- ✓ Personally role model inclusive behaviour calling out everyday sexism such as gender stereotyping and sexist comments, and ask all leaders to do the same

³ Male Champions of Change, The Panel Pledge: Gender Balance in Every Forum, 2019, <https://malechampionsofchange.com/wp-content/uploads/2019/06/MCC-Panel-Pledge-Guide-2019.pdf>

⁴ Male Champions of Change, We Set the Tone: Eliminating Everyday Sexism, 2017, https://malechampionsofchange.com/wp-content/uploads/2018/04/We-Set-The-Tone_Eliminating-Everyday-Sexism.pdf

Survey Methodology

This report contains the findings of two surveys conducted by Accenture for the Male Champions of Change: one of the STEM workforce and the other of STEM undergraduates.

STEM workforce survey

The STEM workforce survey was informed by early interviews conducted by the Male Champions of Change and further developed by the MCC STEM group, in partnership with Accenture. The survey was carried out online, with all MCC STEM organisations and other MCC organisations that wished to participate. The survey was disseminated through organisations via a CEO communication.

The survey was open for two weeks from 29 January until 12 February 2019. Of the total 4,668 responses, 1,697 did not meet the inclusion criteria of being STEM qualified or working in STEM roles. Of the remaining 3,048 who met the inclusion criteria, 2,971 completed the survey. Among the survey respondents, women represented 35% of the sample, 65% of respondents were men, and other genders represented 1% of respondents.

GENDER		
Women	1025	35%
Men	1927	65%
Others	19	1%
Total	2971	100%

AGE		
Born 1998 to 2001	34	1%
Born 1979 to 1997	1562	53%
Born 1965 to 1978	1032	35%
Born 1935 to 1964	343	12%
Total	2971	100%

STEM EDUCATION LEVEL		
Vocational Education & Training	230	8%
Undergraduate Qualification	1385	50%
Postgraduate Qualification	1138	41%
Other	31	1%
Total	2784*	100%

*187 (6%) survey participants do not have a STEM qualification

STEM AREA						
	Overall		Females		Males	
Science	710	17%	344	48%	366	52%
Technology	1452	35%	380	26%	1072	74%
Engineering	1575	38%	339	22%	1236	78%
Mathematics	202	5%	77	38%	125	62%
Medicine	96	2%	58	60%	38	40%
Other STEM	139	3%	70	50%	69	50%
Total*	4174	100%	1025	-	1927	-

*Total is greater than sample size – response options were not exclusive to account for increasingly cross-discipline work

TYPE OF ORGANISATION		
Private Sector	1695	57%
Government	1022	34%
University/Education	165	6%
Research Institute	53	2%
NGO/Not for profit	4	0%
Other	32	1%
Total	2971	100%

The survey represents a highly qualified STEM workforce with most respondents (91%) having an undergraduate qualification or higher. Women in the survey were more highly qualified than men, with 92% of women and 86% of men holding undergraduate or higher qualifications, and 18% of women compared to 13% of men holding a PhD or professional doctorate.

All areas of STEM were represented in the survey, with the most responses coming from technology (n=1,452) and engineering areas (n=1,575). STEM was defined as: science including natural and physical sciences, agriculture, environment and related studies; technology including information technology; engineering including engineering and related technologies (ERT) mathematics; and medicine including medical and health sciences.

The gender breakdown of responses from the technology and engineering workforce reflects the gender imbalance within those areas (approximately one women to four men) with 26% of women in technology and 22% of women in engineering.

The survey included respondents from the private sector, government, university and research institutes. The majority of responses were from the private sector, with 1,695 respondents (57% of the sample).

Survey Methodology

STEM undergraduate survey

The STEM undergraduate survey was informed by the STEM workforce survey and developed in partnership with Accenture. The survey ran concurrently with the STEM workforce survey from 25 January until 22 February 2019. The 2,000 undergraduate STEM students responding to the survey (50% male and 50% female) were from all states and territories in Australia, representing Vocational Education and Training (VET) and university students.

STEM EDUCATION LEVEL						
	Overall		Women		Men	
Vocational Education & Training	528	27%	255	48%	273	52%
Vocational training/Certificate program	197	10%	94	48%	103	52%
Diploma/Advanced diploma	331	17%	161	49%	176	51%
Undergraduate Qualification	1466	73%	745	51%	721	49%
Associate degree	86	4%	40	47%	46	53%
Bachelor degree	1070	54%	558	52%	512	48%
Bachelor degree with honours	310	16%	147	47%	163	53%
Total	2000	-	1000	-	1000	-

STEM AREA OF STUDY						
	Overall		Women		Men	
Science	532	27%	311	58%	221	42%
Technology	575	29%	195	34%	378	66%
Engineering	350	18%	106	30%	244	70%
Mathematics	110	6%	56	51%	54	49%
Medicine	433	22%	330	76%	103	24%
Total	2000	100%	1000	-	1000	-

STATE		
Australian Capital Territory	44	2%
New South Wales	604	30%
Northern Territory	8	*
Queensland	399	20%
South Australia	157	8%
Tasmania	32	2%
Victoria	560	28%
Western Australia	196	10%
Total	2000	100%

AGE		
Born 1998 to 2001	1003	50%
Born 1979 to 1997	860	43%
Born 1965 to 1978	117	6%
Born 1935 to 1964	18	1%
Total	2000	100%

Our Thanks

The work of the MCC STEM is informed by the ideas, learning and experience of people in our organisations. Thank you for all MCC STEM Implementation Leaders for their expertise and guidance in shaping the design of this survey and analysis of the results.

Thank you to all the participant organisations and respondents for taking the time to add their voices to this study. Thank you also to all the interviewees for their time and stories, which bring the findings to life.

We would like to thank Accenture for their support in designing and implementing the survey, and preparing this report, particularly Dr Alice Ames, James Hogarth, Kate Schofield and Laura Sprules, under the leadership of Bob Easton.

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