

**GIRL
GEEK
ACADEMY**

ENOUGH TALK

A GIRL GEEK ACADEMY submission to
the National Diversity in STEM Review

**GIRL GEEK
SOLUTIONS
FOR ACTION &
INVESTMENT
IN GENDER
EQUITY IN STEM/
TECHNOLOGY.**

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ACKNOWLEDGEMENT OF COUNTRY

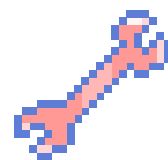
Girl Geek Academy acknowledges the traditional owners of the lands and waterways on which this report has been prepared and pays its respects to elders past and present. We commit our organisation to truth-telling, treaty and justice and to the success of the Uluru Statement of the Heart and the Yes Campaign.

CONTRIBUTORS

This report has been researched and written by Staff of Girl Geek Academy, with support from Kovac & Co.



EXECUTIVE SUMMARY



FIX THE SYSTEM; NOT THE GIRLS.

Too often solutions to the lack of gender diversity in STEM are blamed on girls and women with a focus on programs that aim to “fix” them. Whether it is assuming girls don’t like science and maths, focussing on how to teach code to girls, or researching why they don’t choose to enter the engineering profession, too much focus has been on analysing how or why women exclude themselves rather than looking at all the ways STEM works to exclude interested and talented girls and women.

That’s why in this submission to the “Diversity in STEM review: Let’s talk solutions”, we decided to survey Girl Geeks – the girls and women already interested and engaged in STEM, especially technology - to listen and learn about the barriers to their participation, passion and retention in this vital workforce and area of innovation.

We’ve had an overwhelming response to our survey. Girl Geeks have a lot to say about the ways education and industry blocks their progress.

And their big message to the Australian Government is that they are sick of talking about it.

They want action. They want investment to turn things around.

In 2019, the Australian Government commissioned a strategy with the Australian Academy of Science in collaboration with the Australian Academy of Technology and Engineering, to produce a Decadal Plan[i] to attract more women into STEM.

This document, while flawed, sets out a substantive roadmap for gender equity in STEM.

What it lacks is commitment, coordination and most importantly, investment.

Girl Geek Academy did not mince words when the review into gender equity design for the STEM industry was announced. We believe conducting another review so soon after a previous one that had already interrogated a number of recommendations was **unnecessary**.

Australia will not live up to its economic and technological potential if:

36% 

Women only make up 36% of enrolments in university STEM courses, and just 16% of enrolments in vocational STEM courses.^[iii]

27% 

Women only make up 27% of the workforce across all STEM industries, a 1 percentage point drop from 2020.^[iii]

12% 

Only 12% of tech engineers are women, 19% of game developers are women.^[iv]

23% 

Just 23% of senior management and 8% of CEOs in STEM-qualified industries are women.^[v]

18% 

On average, women still earn 18% less than men across all STEM industries (that's a gap of \$26,784!^[vi]

3% 

And a tiny 3% of Australia's venture capital goes to women-led companies and even less to women of colour.^[vii]

Australia needs women in STEM to thrive. A recent Deloitte report into digital entrepreneurship of Australian women highlighted a \$1Billion dollar return from targeted investments to tech-based start-ups led by women.

And still there are reviews on what to do.

The treatment of STEM as a monolith is also part of the problem.

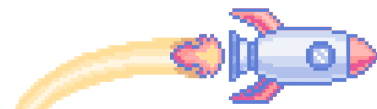
Science, Technology, Engineering, Maths share some gender equity problems – such as a lack of visibility of women, a failed gender lens on education and career pipelines, and sexual harassment and discrimination in the workplace. However, there are other industry specific challenges that need industry specific solutions.

Grouping STEM gender equity activities together in this way does not do justice to the nuance and needs of women Scientists, women Coders and Game Developers, Women Engineers or Women Mathematicians.

To date the Federal Government's main funding framework for addressing gender inequity in STEM has been one pool for Science, Technology, Engineering, & Maths. The Women in STEM & Entrepreneurship (WISE) Grants, of which Girl Geek Academy has been a welcome beneficiary, has only had an annual pool of around \$13M.

\$13 million sounds like a lot for gender equity - until you do the Maths!

Spread \$13M across three years – that's \$4.3M annually. Now share that across the four STEM industries AND Entrepreneurship.



We know what works to advance gender equity:

WOMEN-LED SOLUTIONS



That allows only \$806,000 annually for tackling gender equity in technology. All the many programs needed in early childhood education, schools, universities and TAFE and within the industry are meant to fit into an envelope that is not enough to run Girl Geek Academy, let alone address gender inequity across four industries and innovative start-ups across the STEM career life course.

The reason gender equity is going backwards in tech is not because of a lack of evaluation of equity programs, it is a lack of investment in the solutions that we already know work.

Like women-designed; women-centred and women-run affirmative action programs, such as Girl Geek Academy.

INVESTMENT IN WOMEN-LED ORGANISATIONS, ENTREPRENEURS AND BUSINESSES.



That's why Girl Geeks say - Enough Talk. Time for action backed by investment.


This is not just about educating a few more Girl Geeks. This is about the future of our economy.

As the Federal Government's National Gender Equality Strategy Discussion Paper identifies, the underrepresentation of women in the workforce has a great impact on the Australian economy with as much as \$30.7 billion being lost to our economy^[viii].

Addressing gender equity in STEM goes to the heart of a thriving, gender equal economic future of the nation.

SETTING GENDER TARGETS





GIRL GEEK METHODOLOGY HOW WE LISTEN TO GIRLS AND WOMEN IN STEM

We believe that girls and women who have experienced learning and working in technology are best placed to offer solutions to increasing their diversity and participation.

That is why Girl Geek Academy prioritises listening to and amplifying the voices of girls and women in everything we do.

Our submission has been underpinned by our values. With a vast network of people in STEM, we went out into our GirlGeek community to find out their views.

GIRL GEEK SURVEY

Girl Geek Academy developed a Diversity in STEM survey which could be completed anonymously online. Our survey contained 48 questions, broken into three sections:

Section 1: Demographic data

Section 2: Experiences with STEM, particularly Technology, in early childhood, school, universities and within industry settings, workplaces and government funded initiatives.

Section 3: Experiences of being excluded, isolated or feeling “pushed out” of STEM particularly Technology

The survey was designed to deliver both quantitative and qualitative data, with several questions inviting longer, open-ended responses and the sharing of experiences.

GGA published the survey on LinkedIn, Facebook, Instagram and in their newsletter between 2 May 2023 and closed submissions on 22 May 2023. 302 respondents completed or partially completed the survey.

Survey responses were compiled by GGA staff and summarised for the purposes of this report.

From the survey we have derived a mix of quantitative and qualitative data on which we have based our findings and recommendations.

TOP 5 KEY FINDINGS

The rich contributions of hundreds of Girl Geeks with lived experience in the STEM industry has provided us with insight into just how deep the problems are in education, recruitment, and retention across various sectors, but especially technology. While each participant in the survey had very personal experiences to share – including some that were distressing – there were themes that emerged across all responses. We present them to the review as our key findings from the research.

WHAT THE GIRL GEEKS TOLD US:

SOLUTION:

1

Girls and women passionate and interested in STEM are squeezed out of learning and industry at all stages of their career.

**FIX THE VIOLENCE,
NOT THE GIRLS.**

2

The STEM career pipeline is designed for men, not women, and there is no gender lens on career advice and progression opportunities at school or within the tech industry.

**FIX THE CAREER
PATHS,
NOT THE GIRLS.**

3

The STEM industry fails to provide effective role models for women, men or non-binary people.

**FIX THE ROLE-
MODELLING,
NOT THE GIRLS.**

4


Investment in talented girls & women is inadequate and discriminatory, resulting in a loss of innovation and economic benefit to Australia.

**FIX THE FUNDING,
NOT THE GIRLS.**

5

Being a gender change agent in technology is exhausting and traumatising and the backlash is REAL.

**FIX THE BACKLASH,
NOT THE GIRLS.**



SUMMARY OF KEY SOLUTIONS

QUICK FIXES & RECOMMENDATIONS FOR CHANGE

1

Invest in and build on the Women in STEM Decadal Plan and the Advancing women in STEM strategy

2

Develop a discrete National Action Plan to lift Diversity in Technology with diversity goals/targets with a focus on the following barriers:

- Systemic. This includes reviewing and developing industry policies that cover workplace climate, wages and compensation that will reduce or eliminate institutional barriers to diversity in Technology.
- Norm and Behaviour change. This includes strategies to promote mentoring, support systems, the perception of Technology programs, stereotypes and stereotype threat, bias, and designer identity.

3

Establish multiple, annual Diversity in STEM funding sources with targeted streams including:

- Supporting diversity and inclusion in schools
- Diversity Innovations within key industries
- Diverse innovators & pioneers - Investing in start-ups

4

Prioritise increasing the participation of women in STEM by including STEM based initiatives in a National Gender Equality Strategy.

5

Partner with women led education, training and communities of practice in STEM through the provision of annual, stable funding.



6

Adopt a “guided pathway” approach to career development in STEM, resourcing a gender lens on career advice at all stages of professional development.

7

Improve diversity and inclusion data capture across STEM so that participation can be easily disaggregated.

8

Incentivise industry to foster diversity and inclusion by setting diversity employment targets as a condition of the receipt of:

- a. Tech subsidies and grants
- b. Government procurement and tenders

9

Ensure all projects to address gender discrimination in technology are approached through an intersectional gender equity lens.

Incentivise Diversity and Inclusion more broadly in the technology sector, through Government procurement processes.

10

Prioritise addressing gender economic inequality through:

- a. Improving and increasing funding for Early Childhood Education and Childcare
- b. Investing in education, training and skills development with a gendered lens
- c. Addressing superannuation gender gap
- d. Monitoring and improving the gender pay gap and gendered workforce segregation

11

Encourage students to study Technology in Years 11 and 12 by offering bonus points for completing Digital and other Technology Subjects and applying for Technology related courses.



12

Create a gender equity jobs guarantee in the Technological sector, by ensuring the 1.2 Million jobs created in the industry are gender equal. Ensure government Subsidies to the technology industry include gender equality reporting requirements.

13

Ensure the Australian education workforce receives regular digital technology professional development. Technology is moving very fast. Our teachers need to be equipped with regular curriculum refreshers, skills updates and training on new devices.

Australia should aspire to be a global leader in technological education.

14

Recognise the role Girl Geeks play in driving gender equity change at organisational and systemic levels by supporting programs that enable them to debrief, coach, mentor and support each other. Empower women-led organisations to drive and support women led solutions in the industry.

15

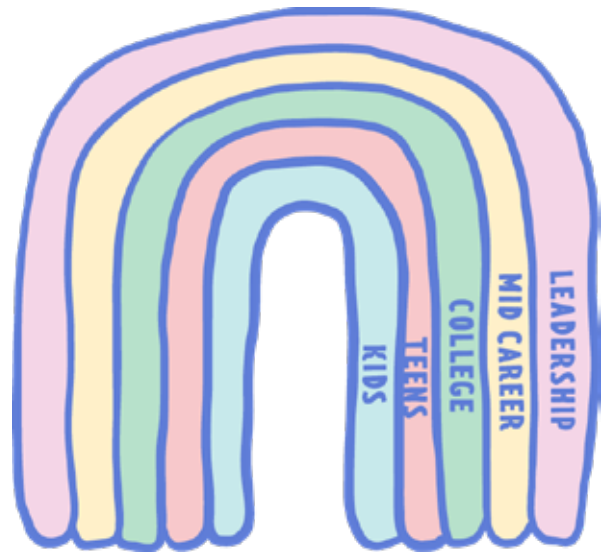
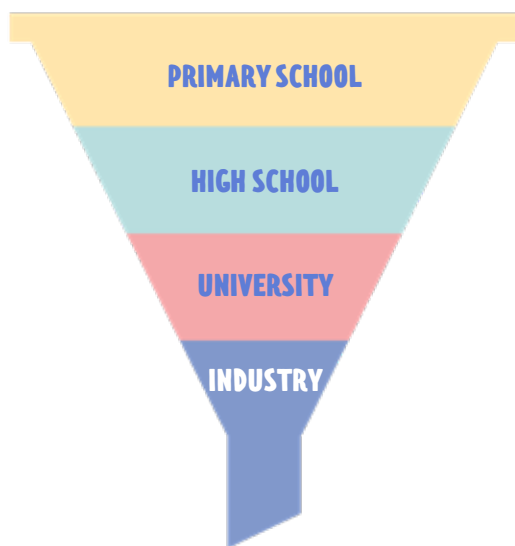
Nudge the technology sector towards gender equity by recognising organisational achievements with a National Gender Equity in Technology award for high performing companies.

16

Encourage behavioural change within the technology industry by requiring commitment to the following before Ministerial visits, attendance at events or other forms of government endorsement or support:

- That all speaking panels will be gender equal
- That all advocacy delegations are gender equal
- That a snapshot of gender equity performance is provided ahead of all meetings.

TECH MUST STOP PUSHING PEOPLE OUT & KEEP THOSE WE ALREADY HAVE



Tech has a pipeline problem. Let's talk about the holes in the pipe.

By the age of 6
**CHILDREN CLASSIFY
JOBS AS MALE AND
FEMALE.**

By the age of 8
**THEY ARE LIMITING
ASPIRATIONS.**

By 13 they rule out
**CAREERS THAT DON'T
FIT WITH GENDER
STEREOTYPES.**

And 60% of girls aspire to stereotypically
FEMALE' JOBS BY THE AGES OF 16-17.

PROGRAMS TO SCALE UP

SCALING UP IN PRIMARY SCHOOL

Girl Geeks told us:



When I was young I would have liked to have been in a space with other kids (especially where there were more girls) to learn about computers and for that interest to flourish. I learnt to use computers because my parents worked from home and I had access to use computers after school. My parents noticed my interest in computer and were happy for me to explore that.



I had a group of female students work on a project for First Lego League that involved engineering aspects. The local council was really supportive and we were able to have their engineers come out to speak to the team of students. They were absolutely amazed at the engineering ideas the female student team had proposed, and this affirmation of their ideas was such a positive experience for my Year 6 female students. They were just thrilled that their ideas were reinforced as excellent ideas, and their hard work was rewarded with these confirmations that their ideas were useful, practical and sustainable.

Girl Geeks Recommend:

PRIMARY SCHOOL PROGRAMS

✓ In-school programs:

- increased access to technology
- excursions / incursions / guest speakers
- teacher training and upskilling
- all-girl tech classes

✓ Coding / robotics / tech programs:

- school holidays
- after school
- weekends

✓ Programs for parents

✓ Programs for boys about inclusion of girls

SCALING UP IN SECONDARY SCHOOL

Girl Geeks told us:



My teenage daughter and I talk about it/ games/esports clubs at her high school. For her, participating in these clubs involve being one of “those kids”. There is a stigma around enjoying certain types of tech publically (and in front of high school peers) which goes beyond tech opportunities



Connecting them with likeminded techy kids - it goes a long way for them to have a group of mates similar to themselves. Programs like this need to be funded.



“Timetabling IT classes to run regardless of class size” really hits home for me. While my classes did go ahead, my teacher was unable to take the few girls on an excursion to some women in tech event because the school wouldn’t fund it due to low numbers.



As a whole, IT is often an elective subject, so not valued by students and parents. I think IT should be a mandatory subject for all students through junior years of high school. This would need more robust teaching resources for teaching IT, data science and coding.

Girl Geeks Recommend:

SECONDARY SCHOOL PROGRAMS

✓ **Timetabling IT classes to run regardless of class size (currently if a class isn’t large enough it doesn’t run, regardless of interest).** This is especially important in the transition from Year 10 to Year 11.

✓ **In-school programs:**

- excursions / incursions / guest speakers
- increased access to technology for girls
- teacher training and upskilling in technology skills
- all-girl tech classes
- teacher training about how to increase inclusion of girls in tech
- Men as Allies programs for male teachers and / or male students

✓ **Coding / robotics / tech programs:**

- after school
- school holidays
- weekends

✓ **Competitions: e.g. Computer Science, Robotics, Cybersecurity competitions**

✓ **Work experience programs focussed on tech**

✓ **Programs for parents helping them support their student to pursue tech education**

✓ **Camps - in-school programs, for example the class goes to visit a camp where a hackathon is run**

✓ **Camps - inter-school opportunities for advanced students, such as the National Youth Science Forum but for those interested in pursuing tech careers technology**



SCALING UP IN UNIVERSITY & TAFE

Girl Geeks told us:



In group projects, there were many times I was given the least amount of work, or was in charge of making everything look 'pretty'. This was upsetting and further made me feel I didn't belong there. I wish the teachers had been a little more supportive of us few women in the course.



A lot of condescending talk from male students and male teaching force.



Wish there was a way to leave reviews on bad professor's, the Universities won't kick them out if they are bringing in grant money. I get calls from girls who have studied with my old professor in tears, the last one he failed her PhD confirmation, what a waste of her time.



Boys who attended all-boys schools were particularly dismissive of women in tech at university, special attention needs to be paid to teach private school boys who have never had women in their classroom that women are just as capable as they are.

Girl Geeks Recommend:

UNIVERSITY PROGRAMS

- ✓ Scholarships and grants for women and NB folk
- ✓ Women in Tech clubs for women and NB folk
- ✓ Networking events and conferences for women and NB folk
- ✓ Mentorship programs for women and NB folk
- ✓ Internship and industry partnerships for women and NB folk
- ✓ Outreach and recruitment initiatives for women and NB folk
- ✓ Ensuring gender equality in tech courses - recruitment and retention, possibly quotas
- ✓ Bias awareness and unconscious bias training
- ✓ Training on bystander intervention
- ✓ Men as Allies programs
- ✓ International exchange programs for women and NB folk

SCALING UP IN INDUSTRY

Girl Geeks told us:



No more DEI consultants and DEI training. We've been hearing the same problems/solutions for the last 20 years. Prioritise direct action - focus on addressing the structural barriers to equality; pay transparency, pay equality, equal paid parental leave, and active sponsorship of 'women with potential'.



There is very little focus on allies, what it means to be an ally and creating programs to track the progression of women/NB through the company in proportion to men.



I have a group of 7 girl friends and I am the first to head into Tech. I have been trying to advise them that their skills and their workplace experience more than qualifies them for MULTIPLE roles in tech not just software engineers. Women are not advised because they don't have the 'hard skills' but women I have found have been the most adaptive in the workplace. We need to encourage those with experience that hard skills are achievable but their already developed skills are irreplaceable.



Ensure that career advancement is not stalled nor leadership positions denied due to time away to care for children or working a part time load instead of full time.

Girl Geeks Recommend:

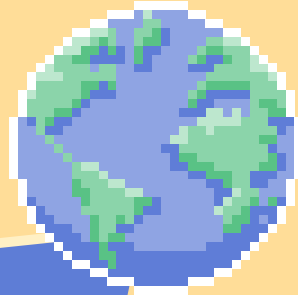
INDUSTRY PROGRAMS

- ✓ Employee resource groups (ERGs) for women in tech
- ✓ Quotas: to progress gender equality at work, in conferences, in leadership positions
- ✓ Mentorship and sponsorship programs for women in tech
- ✓ Leadership development programs for women in tech
- ✓ Returnship programs (full-time paid internships for adults returning to the workforce)
- ✓ Technical learning targeted at upskilling and cross-skilling women

- ✓ Networking and visibility opportunities for women in tech, including conferences and hackathons
- ✓ Programs where multiple companies share success and knowledge of what's working to retain women
- ✓ Training on bystander intervention
- ✓ Men as Allies programs
- ✓ Bias awareness and unconscious bias training
- ✓ Support for women-led startups
- ✓ - from creation through to investment
- ✓ Early-career support programs, such as a "Career incubator", for women in tech

GIRL
GEEK
ACADEMY

ABOUT GIRL GEEK ACADEMY



Girl Geek Academy is a social enterprise dedicated to achieving gender equality in the technology industry. We aim to bring one million women and girls into technology careers by 2030 through a range of programs in industries such as games, startups, 3D printing, design, and aviation. Our community is built on the foundation of friendship, learning from one another and sharing career skills and tech tricks. We work to tackle structural issues facing women and girls in technology by influencing families, corporations, government, schools, and the tech community.

In 2014 we ran the first all-women hackathon in the world, #SheHacks. After attending male

led tech events in dark basements where we were fed beer, pizza and energy drinks, we decided to design a hackathon we knew girls and women would want to go to. We had tea and cupcakes. And yoga. And sunlight! It was a big success.

And that's when we realised that no-one was looking after the basics of making technology welcoming and enjoyable for women, who was working on the bigger structural problems? We decided to build a company that could influence families, big corporates, government, schools and the tech community to work towards achieving gender equality in tech.



OUR PEOPLE



Sarah Moran is co-founder and CEO of Girl Geek Academy. Sarah has been immersed in tech and STEM for most of her career. Learning how to code at the age of five and building websites and digital products throughout her teens, Sarah was confronted by the negative stereotypes around girls and tech within the teaching world. She has also worked across Australia and Silicon Valley, where she witnessed first-hand the challenges faced by women in the industry. Sarah was the recipient of the QUT Young Innovation and Entrepreneurship Alumni Award, Cisco Women in IT Community Award and the Australian Director's Guild "Innovation Award" for her work in the screen industry (games).

In 2018, Sarah won the Australian Women's Weekly Woman of the Future award in the Entrepreneur and Business category and has since been invited to judge the awards alongside Julie Bishop, Ita Buttrose and Narelda Jacobs.

She is a regular expert on gender equality and STEM issues including on Channel 9's Today Show and Network Ten and Foxtel Lifestyle topical news show, Common Sense, which was filmed in the Girl Geek Academy office.



Lisy Kane is a videogames producer and co-founder of Girl Geek Academy. She heads up production initiatives for Kepler Interactive, a new global co-owned publisher as well as advisor and producer for the Kowloon Nights games fund. Previous to this she formed her production career at League of Geeks, a Melbourne independent games studio with her last role being Production Director which saw her shaping the production department and broader team.

In 2017, Lisy was recognised by Forbes in its prestigious top 30 list: Forbes 30 Under 30 2017: Games. Ranked alongside the world's best game makers, Lisy was the only Australian that year to make the who's who of the global gaming industry.





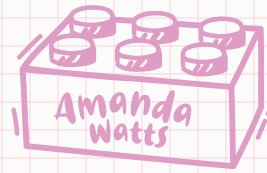
April Staines is a seasoned technology leader and passionate girl geek with over 20 years' industry experience. In 2012, April founded the Making community, Open Source Prop Alliance. The group uses electronic media and additive manufacturing to design and create props.

April's myriad of skills made her ideal to lead Girl Geek Academy's world-first #SheMakes event in 2014, a makerfest which included 3D printing, 3D modelling as well as arduino programming for women.

A digital visionary, April designed and made her own 3D printers before they were even on the market and is currently bootstrapping her own additive manufacturing business. Her projects include 3D printing a 1:1 Scale R2-D2, as well as human-sized robots and other props for locally produced movies and film.

On the speaker circuit, April has been a guest speaker at the Inside 3D Printing event in Melbourne since its inception and has talked at a number of other events, covering everything from movie props to STEM to digital fabrication and – of course – women in 3DPrinting.

April is currently a Distinguished Engineer at the National Australia Bank (NAB), where she has worked for over a decade.



Amanda Watts is a branding expert, creative entrepreneur and digital design specialist who uses the keyboard as her paintbrush.

Amanda is the artist behind the vibrant Girl Geek Academy branding and sits as its Design program lead.

A self-confessed pixel-pusher, Amanda's palette covers all things design – including graphic design, which she studied at Waikato Institute of Technology (Wintec), a trailblazing polytechnic in New Zealand's Waikato region.

When she isn't helping girl geeks, Amanda works in two creative businesses in Melbourne. She's creative director of Design Junkies, where she marries multi-disciplinary work and technology to help companies execute quality brand and marketing material.





OUR PROGRAMS

Our programs teach women, girls and families across a range of different industries including games, startups, 3D printing, making, design, tech, drones, space and aviation.

For the past 7 years we have continued to prototype different concepts, testing what works and what could work better. We have won large government grants and tenders, gained many corporate clients, addressed massive crowds by public speaking — to ensure there's money in the bank to keep on

keeping on, and sharing our story to motivate others.

We extend our efforts on social media, where we campaign for change and role model across many industries in real time. We are experts in our field and use our professional voice to campaign in traditional media outlets to ensure women's voices are heard. We are blessed to have built a true community with global reach and international friendships.

We've empowered thousands of people to:



Code
computers
& programs



Develop
digital
games



Access and
innovate
with 3D
printers



Explore
and design
Artificial
Intelligence



Manage
machine
learning



Build and
fly drones.

Girls and women thrive in our programs because we:



Create safe,
welcoming and
gender-based
learning and
development
spaces



Inspire
opportunities for
role-modelling and
mentoring



Promote
collaboration and
entrepreneurship
amongst women



Support
industry specific
Communities
of Practice and
networking

OUR IMPACT

Our programs have been evaluated for their impact on girls and women in STEM and gender equity in organisations.

In 2019, we worked with VicHealth, the City of Port Phillip and Star Health to run Gender Equality Games Jam (GE Games Jam), bringing mixed gender groups together to design digital games promoting gender equity within an intensive 48 hours. The impact of our project was independently evaluated and the skills and confidence building we delivered through the #GEGames initiative was found to have lasting impact, even nine months after the session. “Participants of the GE Game Jam indicated that their engagement with issues of gender equality had developed

further; for example, one participant recounted their experience of starting a group to encourage and support diversity in their workplace.”^[ix]

We are also participating in a study at Deakin University led by Angela Bennette under supervision by Associate Professor Kim Toffoletti, School of Humanities and Social Sciences, to “contribute meaningful evidence around the impact and implications of Women in STEM initiatives, like Girl Geek Academy, have for addressing gender inequality in STEM in Australia, with a particular focus on the intersecting marginalisations of women’s experience.”



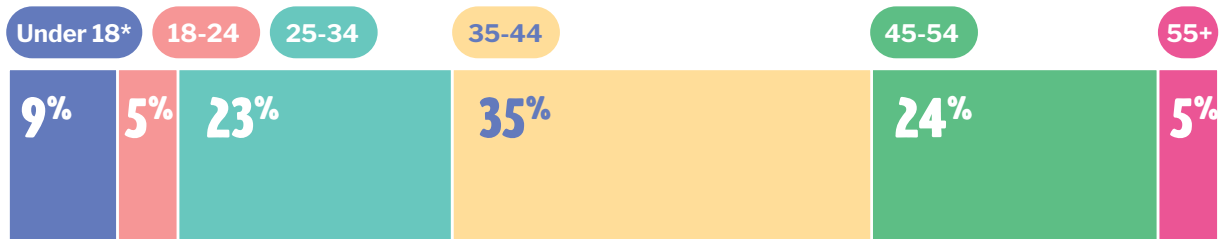


FULL SURVEY FINDINGS

FULL SURVEY FINDINGS

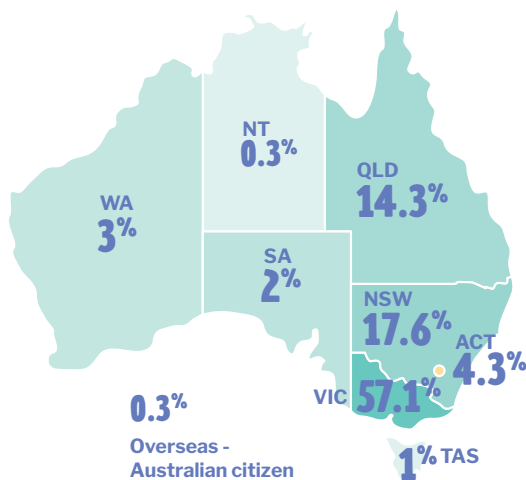
DEMOGRAPHIC DATA

What is your age?

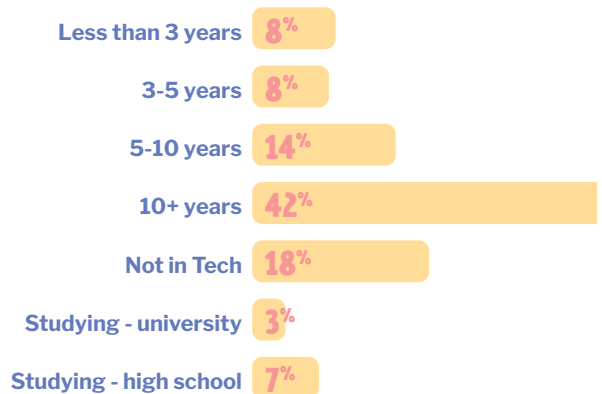


*with parents permission

What is your location?

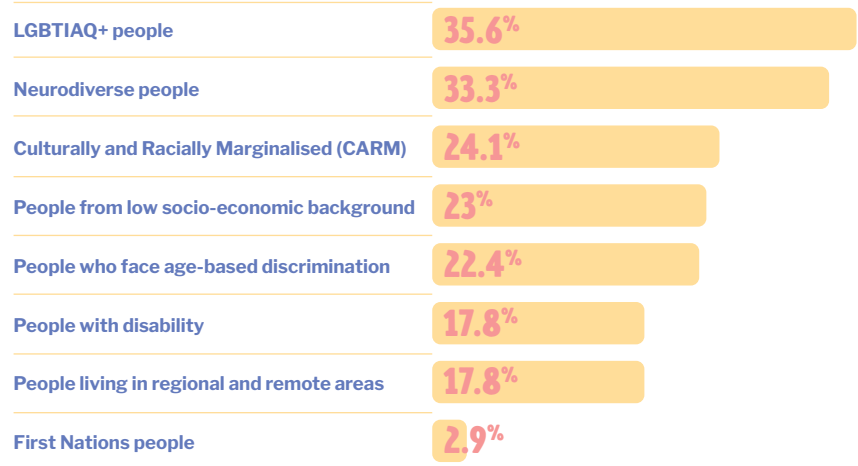


Number of years working in Tech

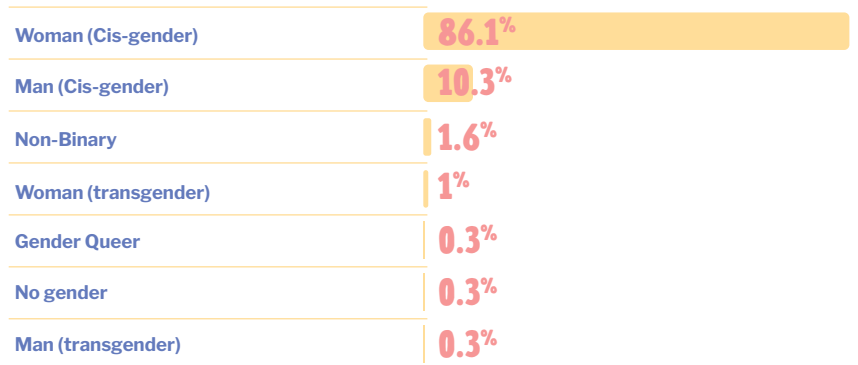


OVER 55% of survey participants represent under-represented minorities

Do you identify as any of the following under-represented minorities?



What gender do you identify as?



STEM NEEDS MORE TECH

STEM is generally defined as Science, Technology, Engineering and Maths. It often includes Medicine (STEM) and in some government programs also includes Entrepreneurship.

Do you think programs to increase “Diversity in STEM” adequately address “Tech” specifically?

YES 34.2%

NO 65.8%

Participants expressed a lack of awareness and understanding of STEM, often associating it more with science and engineering rather than including technology-related fields. Participants also emphasised the need for greater recognition of non-technical roles in tech, such as design and product management.

Do you consider yourself a STEM worker?

YES 68.3%

NO 31.7%

Some respondents do not consider themselves STEM workers despite working in technology-related roles or industries. There is a perception that STEM is often associated with science and math, and other areas (like tech) may not be equally valued under that umbrella.

“No” included people like:

- Cybersecurity Performance Analyst
- Designer
- Engineering Manager
- Founder & CEO
- Game Programmer
- Marketing Director
- People and Culture Manager
- Product Manager
- Quality Manager
- Tech Lead

“ I find STEM often tends to mean science more than anything.”

1

GIRLS AND WOMEN PASSIONATE AND INTERESTED IN STEM ARE SQUEEZED OUT OF LEARNING AND INDUSTRY AT ALL STAGES OF THEIR CAREER.

Girl Geeks told us that no matter how interested and talented they are, or how dedicated to tech work, at all stages of their career journey they experience attitudes and behaviours designed to freeze or squeeze them out or make them feel uneasy and unsafe.

Being left out and isolated for being Girl Geeks begins in the classroom.

“Because I am still In school, There are many things that I recognise more from in my STEM related classes, whether by classmates or teachers, mostly small remarks (or lack of interaction at all)”

“Even in high school, I often see women and non-binary folks being mistreated or disrespected for wanting to go into a technological field”

“As a teacher i see nothing encouraging girls into a STEM career”

“Female students at my daughter’s high school are not encouraged to select stem subjects and if the do are impacted due to the very small number when compared to the male student”

“While not perhaps directly someone’s ‘fault’ or intention to make IT hard for girls, I have noticed that the IT courses at (high) school are pitched at a level which is extremely high and avoids teaching the basics, instead, it throws us straight into the deep end. This makes it extremely hard for everyone without lots of coding experience, but especially the girls.”

“Poor Year 7 and 8 curriculum delivery that doesn’t engage girls or channel creativity.”

But the discrimination significantly intensifies at University & TAFE, as girls transition to young women.

"I had a few classes at uni where I was the only female, and I always felt very uncomfortable. I think the university could have done a better job at recruiting women and making them feel valued in their course."

"One of my teachers in a tutorial class took a liking to me and was keen on dating. I made it clear I was not interested however he continued to try by flirting in and outside of class. In class he was always trying to find reasons to lure me into his lab outside class hours. Examples of this was during class if I had a question about the work we were learning instead of answering my question in class he would offer to go through the work in his lab later that day (even though we had plenty of time in class). This added difficulty in learning the class syllabus as I knew I could not rely on my tutor for help."

"Being the only two females in a room of males is intimidating enough without comments, mansplaining or being left out and it needs to change"

"Whilst I had a small group of friends at uni I found most male students didn't want to work with me on projects.... I noticed a lot of guys (not all but a large number of them) felt a lot more comfortable working only with other guys. Because of this I ended up doing most of the projects and assignments on my own and learnt not to rely on other students as I usually couldn't find a team member to work with. I could see that other students were able to share the work load of projects however I usually had to take on the full work load."

If Girl Geeks are resilient enough to make it into a workplace, they still risk being excluded because of their gender.

"I was excluded from meetings because men just wanted to work with their buddies even though it was my job to make the decisions they were meeting to discuss."

"I've been called a 'clever girl' in a tone that you'd use with a small child. I've been unable to get promoted because you had to be in the boys club to even find out about available roles. I've been classified as mid level while very clearly doing a senior role, with my manager even signing off that I was doing it in my performance review and getting a duty statement that said lead and senior."

“Personally I have experienced mansplaining and questioning of skills during game jams related to local meet ups. At past jobs been talked over, ans not credited. When founding an indie game studio not given the same support as male colleagues in my network”

“There was a common situation that would happen at work that I liked to call the ‘elbow wars’. The situation was usually that I was working on my computer and a guy would offer advice on how to do something. Instead of them asking if I would like them to show me what they were referring to they would just try and use my computer and push my arms out of the way with their elbow. After some time of dealing with this I started not moving my arms out of the way and holding firm. We would have this weird elbow-off where our arms and elbows would be pushing each other to keep using the keypad and mouse. I noticed they men didn’t really do this to each other. If it did happen I noticed that the guy that it was happening to would just not let the other guy push in. So I decided that is what I would try and do too.”



Or worse, of gendered violence in the workplace.

“There continues to be pervasive sexual harassment in the industry - and this is very difficult to navigate.”

“I know the sexual harassment procedure way too well at my workplace after having to go through it twice, at the same time, for different male perpetrators.”

“I have been groped by a senior director (who was subsequently fired, after a lengthy and stressful investigation that substantiated my claim)”

“A good insight into tech and gaming culture is watching how female gamers who stream are treated. You just need to go on tik tok and any woman playing online is met with an onslaught of sexism and misogyny. They did a social experiment where they got men to play as women and masquerade as women gamers to experience the type of culture women endure.”

And the incidents are not confined to just one workplace, but impact at an industry wide level. We're particularly alarmed at how many Girl Geeks told us that industry conferences were not safe.

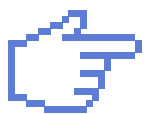


"I've been assaulted and harassed at conferences so much that I'd need a body guard to feel even vaguely safe at them."

"I would go to conferences and I would be one of less than 10 women there (not organising or in support roles). I was constantly hit on, groped, minimised as I couldn't be any good, on international conferences, I was literally asked by one of the other Country Sales director if I was "the entertainment" - admin organisers had to go visit brothels to find "safe" ones for certain attendees that were interested in that. Nonstop. Once I even when to a product launch and in front of the step and repeat, a colleague "accidentally" put his hand down and started rubbing my labia (it was pitch black past waist level and he photos were group head shots), so at the risk of causing a scene whilst being photographed I had to smile and just put up with it (I was 21 when this instance happened, and the colleague was late 30s in a much senior role)".

"I am frequently attending events where I am the only woman there. It is a huge deterrent to me becoming more involved in industry initiatives when I don't feel comfortable"

It's clear to us that Girl Geeks don't have to be convinced about STEM careers. They show aptitude and talent for technology, engineering and design. But they still leave courses and the workforce anyway, to escape hostile study and work environments that make them feel unsafe and excluded.



**FIX THE VIOLENCE,
NOT THE GIRLS.**

2 THE STEM CAREER PIPELINE IS DESIGNED FOR MEN, NOT WOMEN, AND THERE IS NO GENDER LENS ON CAREER ADVICE AND PROGRESSION OPPORTUNITIES AT SCHOOL OR WITHIN THE TECH INDUSTRY.

Girl Geeks described significant gendered barriers to advancing in their STEM careers creating a talent pipeline problem.

Firstly, Girl Geeks have to overcome active discouragement from parents and teachers in their pursuit of STEM careers and a lack of information about all the different ways you can be involved in the industry.



“It starts in primary school when girls are encouraged to play quietly together and boys are encouraged to play with Lego, and our ideas of what women are allowed to do keeps snowballing until it’s insurmountable.”

“My youngest child loves to game and some of the interactions they have had both on line or in real life about being this really caused them to question their place in this environment’

“I’ve seen it countless times in families where cultures prioritise the son and devalue the rights of their daughters”

“Discouragement from parents when a career or even an interest in tech is demonstrated”.

“A programming teacher who ignored the women in the class”

“They don’t understand the breadth of jobs in tech - it is not just coding.”

“Male teachers in charge, mostly male groups, tech activities focussed on male interests/themes”

The discouragement continues in the workplace from colleagues.

“I’ve seen first-hand “you’re a female, and you don’t belong in a games company”

“I witnessed a systems engineer making comments about how a female shouldn’t manage an IT team. I’ve been told that I could never be an engineer by a male colleague. He took it upon himself to express his unwanted opinion as I was wearing a shirt associated with engineering that day”

In their early careers, when young, energetic and looking for opportunities, Girl Geeks tell us they are seen as a pregnancy risk and overlooked for promotion and advancement.

“My colleagues constantly refer(s) to me as a “mother” - therefore (I) need to stress less, not work as much...Why are you even bothering with xyz? Go be a mother”

“I have witnessed several women get pushed out of roles as they kept being passed over for grant opportunities or promotions, and the consistent assumption that they would ultimately leave to have a family. More efforts to create shared care roles so women can stay connected to roles or projects even if they do decide to have a family is key to changing this mentality.”

“I found in my 20s and 30s, women are often bypassed for opportunities as companies don’t want to ‘waste time’ on them, knowing they may take time away to start families.”

“As women who are working and parents I find that men are looked at more favourably if they have children and women less so.”

Girl Geeks also shared that their early career was a time when they were at risk of being segregated into gendered roles within Tech teams which lead to less pay and dead ends.

"I've seen support roles (studio or office manager) be aimed at women only, under the assumption that that's where they would rather be (instead of, for instance, coding or content creation)."

"I used to work at a VR company, and was one of few women employees. I often found myself being shuffled into roles involving increased emotional labour, housekeeping, administration, and other managerial positions."

"I have experienced and witness women in the workplace generally being geared towards admin or sales or communication management type duties rather than technical."

"Often women (and NB) people I have seen, including myself are expected to do general 'housekeeping' type of roles. From tidying offices, to keeping track of meetings and minutes. Some of what I've witnessed includes:

- "hard tech" teams with no women, then having their only women in junior roles, and not promoted as readily as men, or having those women take on more "office housekeeping" tasks and softer assignments, or take on more "glue work" which is harder to recognise at performance time.
- relegating women to operational or support roles "because they're so good with clients" and therefore denied opportunities to work in strategic, "hard tech" or other more revered areas, which is coupled with an underlying assumption that women "can't handle the really technical stuff".
- giving women "poisoned chalice" roles - a missing category here - where a woman is assigned what is packaged or sold as a career development opportunity but is really a no-win assignment - a poorly performing service with inadequate resources to turn around, a challenging team or team structure without the organisational backing to make real change, or an assignment that sets a woman up to fail.
- there is a missing category here of "Glue Work" - per Tanya Reilly - which is the communication, co-ordination and peopling work that is often crucial to project success. This is different to office housekeeping because it's a different kind of work - it's project management, product management, influencing and relationship building, but it's not recognised as such.

For me personally, I've experienced a combination of the above - I was the first woman on a web dev team in 2001, to the resistance of the team (who shared porn during work hours). I took on the office housekeeping. Was relegated to support tasks and glue work. I moved on to other opportunities, some of which

were poisoned chalice roles, and managed to take a package and work for different companies. I'm bitter about my experience in tech, because for a long time in my career, there were not the supports and efforts to even the scales - and my experiences have compounded. Male colleagues at my age are earning twice as much, if not thrice as much, because of my early career experiences and their "dead ending" effect."

"It's apparently very common for women in game design to find themselves being pushed out into production or other disciplines because we simply aren't "trusted" to do the work the same way men are."

"One of the negative trends I've noticed is that 'tech' work can quickly become devalued when it is seen as women's work. When women are able to code, use tech tools (even smart prompting in ChatGPT) or use technology the way it was designed to work (say, something simple, like using styles or automatic numbering / cross referencing in Office 365, or writing formula in Excel) that work quickly becomes 'administrative' and lacks value - though when men lead with those skills they are seen as strategic and demonstrate cohesive understanding of the technology landscape"

Girl Geeks described widespread undermining, interrupting and ignoring their contributions by male colleagues. "Man-splaining" was a particular source of frustration for Girl Geeks.

"Incredible amount of mansplaining and being talked at, for ages and ages, instead of reciprocating conversation. So many times being interrupted by male colleagues. This can get harder with online meetings to the point I have to raise my google meet hand so I can get a word."

"I worked with a project manager who constantly interrupted me, talked over me and then mansplained me about my area of expertise."

"I haven't been treated as an equal decision maker at times and it's frustrating."

"The double standard in skills is especially hard. I am often treated like an amateur who knows nothing, even though my professional experience is broad."

"I also get talked over, infantilised because I'm an early career, career changer."

"I once did all of the research, costing, accommodation, travel, justification documentation etc for a tech conference only to have the three other cis men in the office be sent to the conference and I was left to hold down the fort."

"Women are constantly undermined, questioned, challenged, overlooked and harassed in the tech industry. A woman in the industry is always a woman first, colleague second."

"I don't even know where to start. The number of times that I have had a man take direct credit for my work (up to and including a guy new to my area claiming he explained something to me that I had literally just finished explaining to him)."

Girl Geeks face penalties if they take career breaks to raise a child.

"Now that I have had a much longer break than planned (2nd child), have finally got everything in place, and I am desperate for mental stimulation - I can't even get an interview for a level 1 admin role - due to no recent work experience; and no current work references. The only time I managed to secure an interview was for a return to work scheme for a gov't organisation; but once I was there, I was told the return to work support options were no longer available, and it was clear I was just an external "filler" interview before they gave it to an internal candidate. It is soul destroying."

"A woman who was not given an opportunity to go for a promotion (to an international role) because she had kids and her managers said the travel would probably be too much."

"I've heard countless 'women', 'ladies', 'girls' and heard the largely-female marketing office I was working within referred to as a 'baby factory'."

To overcome these gendered assumptions about themselves, Girl Geeks work harder to prove themselves.

"I have had to work twice as hard to build up my credibility and competence because I didn't trust that my resume would be sufficient on its own - I needed to have a community who I had built respect with to back up my credentials"

“Despite explicitly telling my boss I want to continue to work on tech projects, he kept pushing me towards non tech initiatives. One of my work goals was to undergo training on Scrum and Lean; despite being told I could participate in the next training session, my male colleague who had been with the team for less time was prioritised to attend over me (there’s limited budget so I couldn’t attend).”

“I was given a small project to “prove myself” (because salvaging a \$15 million program of work for a big telco doesn’t prove s_t apparently). At the start of each project meeting, I gave a very brief intro, as everyone else on the project had been involved for some months before I started at the company. My boss then spent 5 minutes adding to that. Another key stakeholder then added more. I don’t think they intended to make me out to be stupid, but it felt like that was what happened.”



While also fighting harder to be paid the same amount as men for work of equal value.

“One example is one highly senior woman being bitterly paid a \$122K package, and her replacement (20 years younger and pretty clueless, but male) offered a \$164 package.”

“I was underpaid compared to my male peers and received a 38% pay increase when I raised the issue with HR.”

“As part of my current role (which mysteriously includes a lot of housekeeping!), I look after finance stuff. I’m literally the lowest paid person on the team (by a very large amount) and yet I have as many qualifications as anyone else. How mysterious....”

Most of the time, working harder than others is not really an option.

“Something that I think is particularly prevalent in games is this pressure to demonstrate “passion” usually in the form of portfolio work, and so frequently hiring is based on this. When this happens, almost everyone except white cisgender, abled males are excluded, because they are the only ones with support networks that enable them to do this kind of work outside work. I think this is a massive contributor to the lack of women and diversity in games. We’re the primary parents carrying the majority of the domestic load who simply don’t have the luxury of locking ourselves in our study after work to practice our level design.”

Girl Geeks also shared that advancing in a STEM career was compounded if they had any other diverse attributes - such as colour, race, cultural or linguistic diversity, sexuality or disability.

“Women of colour who are excluded from everything! It is lovely to see them find and create their own cliques, which means that they have friends, but are still excluded from a range of opportunities, or only given the shitkicker work WoC, PoC almost completely putting on a whole new persona/personality to get by at work.”

“Group field trip, excluded a woman of colour that it was ‘irrelevant’, and the team came back that it was the BEST bonding event, and raving ‘let’s do it again’, and organised the social event excluding the same Woman of Colour, while getting her to do all the pre-work WITHOUT telling her what would these be used for.”

“In my first corporate role after graduating from University - I was bullied by a woman who said I was harassing her by eating curry in the tea room. She said the smell made her sick and if I wanted to work with her - I needed to find different food to eat.”

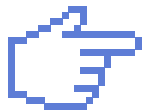
“I’ve seen the n-word used in a company slack without consequences. Had my hair commented on, had my skin colour commented on, been addressed in AAVE despite not being African American..... I could go on.”

“People from ‘non mainstream’ or intersecting identities treated particularly badly. Micro aggressions, racism, expectations that we’ll do the admin and housekeeping on top of our senior duties. Not inviting us to networking dinners, not paying us same as white male peers, actively undermining us and calling us ‘aggressive’ for being angry at discriminatory behavior. White men visiting strip clubs on company time & money.”

“As the Senior Site Producer at (redacted) in 2003 - my then boss sent a Product Strategy document to (redacted) + the exec team about how they were going to evolve the product to ensure that Sri Lankan Goat Herders no longer applied for jobs through seek. The Sri Lankan goat herders became a C-Suite joke and I would be made the butt of it at every meeting.”

Girl Geeks were clear about what needs to change.

“This (culture) will never change until we manage a critical mass of women in STEM careers. Until then all women will be disadvantaged in the industry. So naturally the few that are there often leave.”



FIX THE CAREER PATHS, NOT THE GIRLS.



3

THE STEM INDUSTRY FAILS TO PROVIDE EFFECTIVE ROLE MODELS

From the moment Girl Geeks express interest in technology and gaming, they lack role models and heroes they can identify with

“Tech classes or projects that only revolve around masculine topics. Where are the princess robots??”

“Branding or stylisation of tech that is targeted at boys.”

There is still the pervasive cultural belief in Australia that computers and computer games are for boys. Girls are encouraged to use video or creative platforms and social platforms by their parents and peers. Boys are encouraged to play games like Minecraft and Roblox. The flow on effect from this early introduction to tech in early primary school (my daughter is in grade 1) is profound.

“I always hid the fact that I was a gamer when I was in school. It took me until I was 23 before I let anyone in my professional life know about it. In school, it resulted in too much unwanted attention: either boys fetishising it, or berating and questioning and doubting whether I’m a “true” gamer or just faking.”

Girl Geeks know that advancement in tech companies does not happen with talent alone. Networking, mentoring and informal patronage help people develop leadership abilities and grow.

But instead of being encouraged and supported, they report an alarming informal boys-club designed to exclude them.

“When tech teams are only male...they have conversations as if they are at the pub. It’s like they forget where they are.”

"The 'men' being invited to a whisky tasting session, or events at locations that as a woman I would not feel comfortable going to."

"Where do I begin? Team lunches at strip clubs, being called a "bitch" or a "bulldog"

"All the group going out to play soccer in the afternoon and telling the woman on the team, she can just go home early if she wants."

"The "bro" culture can still be really strong in tech - in my role I deal with a lot of SAAS salespeople and it is definitely still skewed towards young males, with no family commitments, partying hard to land deals etc etc."

"When starting my career about 15-18 years ago as an IT consultant - networking events on Friday nights would often drag into the late night at cigar & whisky bars which meant that a lot of the female team members especially those with families would not attend. The networking that would occur on these after work drinks would often allow the men to bond, talk shop and ultimately see those that had good relationships with the male managers get promoted. 15 years later I've been excluded from networking events such as golf or F1 where my partner that was male would be invited instead."

"I was fired from a technical role for being a 'bad cultural fit' because I wanted to go straight home and be with my kids instead of staying back to drink beer and watch soccer."

Women struggle to transition into leadership roles in this environment.

"I find males who are more junior than me are more frequently promoted."

"General unconscious bias towards younger male coworkers, or male coworkers who have less experience and time at a company being elevated very quickly by other men in positions of power."

"A woman hired into a role as a junior developer, then a man hired after her as a mid level developer but with less experience and skill as her."

"I was told I was trying to be bigger than my boots"

"My experience in tech has been a case of being overlooked for more "serious" career opportunities (compared to my male colleagues)"

"I've seen blatant preference given to men over women and women being gaslit when they speak up."

"Working with a woman for longer than a new hire (cis male). New hire got promoted to a producer role and higher remuneration package before the woman even had a performance review"

There are not enough women leaders in Tech to act as role-models or support.



"Predominantly I see both men and women stereotyping women in leadership as bitches or hard asses. That they have 'let too much of their feminine power go' or 'manipulated people to get to where they are'. Further to this, I see women too often asked to organise lunches, take notes, and other extra office tasks. I also see bloke-y friendships, where a real friendship exists, they create a company together and then fail to provide support to women or other people outside their norm/click any sense of belonging."

"Female engineers (esp from another culture) are deemed quiet and don't want to progress further. Which is not true. As a product manager I got at least 3 female engineers who came to me for mentorship and chat, trying to progress their career in the company."

"I don't see as many female leaders at work as male leaders, and I don't see female leaders with as many children as I have...it makes me think what I am trying to do is impossible."

When there are women role models, it makes a big difference

"I like to SEE people - meaning I call out often what they do well, celebrate more regularly than I would berate. I want people to feel joy at work, and valued for their contribution (thank you and acknowledge is more powerful than a gift voucher!). I remember, working at a large bank, this being a huge problem for the all white male leadership team, and me being bullied into being quiet. Thankfully I had a mentor, who told me I shouldn't be treated or spoken to the way I was - educated me about gaslighting- so I pushed back with HR and became 'one of the women they can't mess with'. F@#\$%! ridiculous that this is what it had to come to. I've had more examples, but this is the kind of push back required to stop this nonsense- and I'm a white cis gender woman. Imagine if I didn't have that privilege??"

"Having a male manager in my team not really know how to manage a situation where his (cis female) direct report complained that a colleague kept talking over her. He was dismissive of her complaint at first. Luckily his manager (a woman) took it seriously and coached him to do better."

I have a group of 7 girl friends and I am the first to head into Tech. I have been trying to advise them that their skills and their workplace experience more than qualifies them for MULTIPLE roles in tech not just software engineers. Women are not advised because they don't have the "hard skills" but women I have found have been the most adaptive in the workplace. We need to encourage those with experience that hard skills are achievable but their already developed skills are irreplaceable.

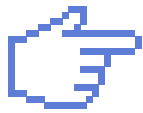


When Girl Geeks are persistently overlooked for advancement while less experienced male colleagues flourish, they leave, only to find the same gendered problems in another company.

I'd get overlooked for digital strategy roles because I was too good at client handling (most female clients) and constantly thrown under the bus. I left to go to a purely digital agency as a strategist and was treated like the secretary.

I founded a Women Who Code chapter overseas. In doing so, I spoke to many (+20) women who spoke about “giving up” on their software engineering careers after 5-7 years and switching to adjacent roles (product owners, BA, user experience). About a quarter left the industry entirely. Main causes were lack of career progression, inhospitable workplace culture, loneliness.

“Yes, almost left tech after 12 years, when my first child was born. After 8 months of parental leave, I returned to work. The company I worked for put me on the “mum” track and gave me the boring work that no one else wanted to do. Reduced my responsibilities, removed people from the team I led. Graduate engineers I had trained were promoted to be my peers, but my requests for promotion were denied. I left the company, contemplated retraining as a teacher, but the money in tech was too good.”



FIX THE ROLE-MODELLING, NOT THE GIRLS.



4 INVESTMENT IN TALENTED GIRLS AND WOMEN IS INADEQUATE AND DISCRIMINATORY, RESULTING IN A LOSS OF INNOVATION AND ECONOMIC BENEFIT TO AUSTRALIA

Girl Geeks know that they are not being invested in and it impacts on their confidence in their own talent and innovation. They know they are being wasted.

“When working as a junior IT project manager with existing expertise in change management, a new director took over and effectively changed my job role so that I was his personal assistant. He refused to allow me to go on secondment or take on projects that would further my project and change management skills and experience. Instead he dragged me around to all his meetings, made me take notes for him and then expected me to do many of the action items. In the end I had no time to do much of my actual job because I spent all my time picking up after him. I left that job after just a few months because it was negatively affecting both my mental health and my career prospects.”

“All male teams talking about how hard it is to find an adequately qualified women as a way to explain their lack of diversity. This type of talk discourages women from trying to get involved with the team. This is particularly true in tech sales. Terrible behaviour excused for the male members of the team but each time a woman is recruited they don't last long, generally excused as they didn't “fit in well” or they failed to meet quota. Often due to a lack of support or being given a terrible territory.”

And that these outdated attitudes and behaviour are inefficient and cost money.

“A solutions architect would only address my male colleague and would omit me constantly from email comms even where I had attended the meeting and clearly demonstrated I was driving the action”.

“There needs to be less of “Hey it’s great that there’s women in tech, and more of “We are so lucky to have women in tech because they bring a lot of value and knowledge”

They also see this lack of investment in their talent not just at an organisational level but also at a national level.

“There’s no point in investing anything if there are no jobs for these people. And there is no point in creating jobs if the government policy is to stifle every inch of progress. There is a reason why Australia’s exports are mostly mining and agriculture. We’re stuck in the past and there is no push for progress”

“Appalling, when we are heading into a National and state tech skills crisis in 2024, and 2032.”

“There’s always a shortage of STEM workers why not include women? Double your workforce, adding productivity and innovation.”

Girl Geeks are particularly frustrated by the lack of investment in the problem of their under representation and exclusion.

Girl Geeks are particularly frustrated by the lack of investment in the problem of their under representation and exclusion.

The Australian Federal Government has invested \$100m over 10 years to address Diversity in STEM and Entrepreneurship. That’s \$10M per year. Or \$2m each year to tackle gender inequality in each of Science, Technology, Engineering, Maths and Entrepreneurship. In your opinion, is this enough to address the lack of Diversity in STEM and Entrepreneurship?

YES

11.8%

NO

88.2%

They were scathing of the current investment in STEM diversity programs, of their under representation and exclusion.

“\$2 million per year to address issues across 4 major industry areas is a tiny amount of funding. That’s maybe 10 peoples salaries per sector.”

“Do the math... running a mid sized studio alone costs mill a year at least. If you want to make any dent at all you need to be tossing FAR more at this if you want a real change. “For solving a problem where half the population is excluded from a major damn sector I’m not one god damn bit impressed. Do f&#@\$%^ better.”

“\$2M would barely cover an expo, let alone the incubators, investment, coaching programs, return-to-work programs, etc etc etc to close the gap / support girls and women in tech”

They expect more than token effort and token hiring



“I myself was a token hire as a computer technician. No training was offered to me, and I was often given data entry jobs as opposed to tech repair jobs.”

For every ONE token hire, there needs to be a second. Nobody wants to be the token. People don’t want to leave... they want equality and understanding. One asian woman in a sea of male dominated industry is not representation it’s tokenistic”



Girl Geeks want investment in themselves to innovate - to work differently and collaboratively.

“Support for women-led startups - from creation through to investment”

“When I supervised teams of students at university, working on software projects, the male students would divide up the tasks, then never really discuss how to integrate the parts, even if they were friends who spent a lot of time with each other. When a female student had to work with a mostly male team, she would get frustrated because they wouldn’t show her what they were doing — she wanted to learn about all the different tasks. When the team was all-female, they worked closely together on all parts of the project. I think it might arise from the discipline that male team sports instill in the team members — each person focuses on doing his job.”

“Girls love making things together”



**FIX THE FUNDING,
NOT THE GIRLS.**



5 BEING A GENDER CHANGE AGENT IN TECHNOLOGY IS EXHAUSTING AND TRAUMATISING AND THE BACKLASH IS REAL.

Finally, Girl Geeks told us they are tired of being individually responsible for making change in the tech industry.

“I spent a significant amount of effort discussing women in tech with my male peers, it was exhausting and frustrating. The burden should not fall on women in the team to educate their peers, but it usually does.”

“To combat micro-agressions and stereotypes in the workplace, me and a few other women decided it would be good to start a diversity initiative in the business. Our efforts were unenthusiastically met by higher ups in the company, and eventually all the women who started that initiative left the business (for a number of reasons).”

“Navigating a career in tech as a queer woman of colour has felt often like death by a thousand cuts. You are frequently reminded that you’re in a world that wasn’t designed for you, but that you don’t really have the power to change. You put in extra emotional labour and work on top of your existing job that just makes you feel more tired and burnt out.”

Many Girl Geeks feel distress and anger over being forced to carry the burden of mistakes made by a male-dominated industry.

“I personally struggle to find a way to not let the resentment and rage impact how I show up sometimes. On top of all this, I’m acutely aware that the men I work with all get paid significantly more than me. I have left organisation after organisation because of the incompetence, aggression, retribution, arrogance and misogyny of male leaders.”

"I have a lot more stories but even sharing those made me feel exhausted. It really sucked and I feel like me not having a job in games now just proves those aholes right, that I was just an airhead girl who was good for writing the stories but not valuable."

But they know there is backlash for speaking out and lifting women up.

"Told I was 'leaning in' too far for asking for fair pay (Market rate) and threatened with being put onto 'Special Projects' for raising discriminatory behavior."

"I was bullied and harassed (disgusting comments made about my sexuality and other women in my presence and was continuously set up to fail at my job, just so they could get rid of me). I was too upset to speak up and when it was eventually too much to handle, I asked my boss to never schedule me on that shift again (I choose not to give specifics why for fear retribution), after which one of the main people who had been bullying me yelled at me til I cried calling me a snitch (as my boss had obviously sensed something was not right and had asked questions why I had left). Because of this, my career stalled and I had to pivot elsewhere simply because I was unwilling to work with this group of men again (who remained employed til the day I left)."

Sadly, some women in the industry cope with backlash, by internalizing discrimination and perpetuating it on others

"Women also hold themselves to much higher standards than their colleagues and grief stricken they have internalized bias"

"In my case, negative signals regarding my career progression came from other women in leadership roles"

"The sad part is, that it isn't always the men exhibiting this behaviour. I have also experienced it from female managers. sadly I see many women commit these patterns"



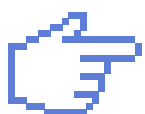
Girl Geeks acknowledge that while the sector is improving, the pace for change is too slow.

“Only in recent years have I started to see more awareness and shift, but it’s nowhere near enough yet.”

“With more awareness, there is a some progress made and people are being more aware on how to better treat women.”

“I just find that overall, there is a lack of real recognition and assistance to help women overcome the barriers they face in tech careers. I have participated in a few programs to assist women employees via my employer, but these are short term, and don’t really address the problems I’m facing.

“My observations are thankfully in the past. I still feel that the above issues are obviously relevant but on a smaller scale and getting smaller and i think the vast majority of people will call this out and ostracize the transgressor in my companies within the tech industry. It is a very progressive place generally speaking and that’s one of the reasons I would encourage women and non-binary folk as well as others from diverse backgrounds to seek a career in it.”



**FIX THE BACKLASH,
NOT THE GIRLS.**

OUR COMMUNITY

I GET BY WITH A LITTLE
HELP FROM MY FRIENDS 🙌



"After seeking venture capital I was advised by Girl Geek Academy to go back to my community. Where I'd started. We have just raised \$3 million, breaking the Oz record for a Crowd Equity Raise".
George McEncroe, Shebah Founder

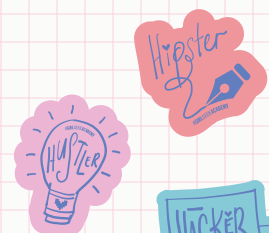


"These workshops have helped me learn new things and make new friends and this is one of the best environments! These lessons are always really fun, and we always know we can talk to each other no matter what."

High School participant,
Girls in A.I. program



WHAT WOULD THE INTERNET
LOOK LIKE IF THERE WERE
MORE WOMEN BUILDING IT?





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CONCLUSION

Girl Geeks shared with us so many examples of gender discrimination, unconscious bias and sexual harassment within the technology industry, we only describe it as a widespread, systemic pattern.

We thank all of the people who participated in our survey for their bravery and candour.

Until now, we have expected Girl Geeks to be “more resilient” or learn to “act like the boys” or to “speak up and make change” in order to make it in STEM career. But placing the burden on individual women at individual worksites to challenge a culture of male entitlement within a male-dominated sector is neither fair nor productive.

Government and industry, as well as male leaders, need to take greater responsibility for solutions.

Solutions need to include direct interventions aimed at changing change poor attitudes and behaviours, as well as the risk of gendered violence.

But it also needs to focus on lifting women up in ways that ensure they are receiving equal benefit from the digital boom.

Retaining the talent and genius of Girl Geeks is a matter of national economic importance.



**FIX THE SYSTEM,
NOT THE GIRLS.**

ENOUGH TALK

**GIRL GEEK SOLUTIONS FOR ACTION &
INVESTMENT IN GENDER EQUITY IN STEM/
TECHNOLOGY.**

A Girl Geek Academy Submission to the
National Diversity in STEM Review