According to the Chief Scientist’s Australia’s STEM Workforce Report, women comprise only 16% of the qualified STEM workforce and are less likely to be in higher paid, senior roles.

The research on science leadership is unequivocal – women have a harder time advancing their careers because of the widespread cultural stereotype of scientists as men and the activities of science as intertwined with masculinity.

There is plenty of evidence to show that at almost every step of the STEM pipeline, women face inequities such as implicit biases and discrimination (Moss-Racusin et al. 2012), gender stereotyping (Bell 2009), caring obligations (Eagly 2007), a lack of role models, and masculine management cultures (Ely, Ibarra & Kolb 2011).

It is not the job of women in STEM to ‘fix’ workplace gender bias. It is up to science organisations to address structural inequality. However, institutional change does not happen overnight. This resource provides strategies and advice for women in STEM on navigating gendered career obstacles and enhancing leadership capacities.
1) IDENTIFYING AND NEGOTIATING UNCONSCIOUS GENDER BIAS IN THE WORKPLACE

People become leaders by internalising a leadership identity and developing a sense of purpose. Yet, a large body of literature shows that women’s development as leaders is often disrupted by unconscious gender bias in the workplace (e.g. Ibarra, Ely, and Kolb 2013).

Unconscious gender bias is defined as ‘the powerful yet often invisible barriers to women’s advancement that arise from cultural beliefs about gender, as well as workplace structures, practices, and patterns of interaction that inadvertently favour men’ (Ely, Ibarra, and Kolb 2011: 475).

Our research (Nash & Moore 2019) on women working in STEM fields in Australia aligns with and extends this literature. For instance, we found that:

- Women are expected to navigate gender bias individually in STEM organisational cultures which undermine them.
- Women often internalise the problem of gender bias and blame themselves for their inability to succeed at the same rate as men.
- Gender neutrality – the notion that gender does not matter at work – is an important coping strategy for women in male-dominated workplaces.

How can you negotiate unconscious gender bias?

Ely et al. (2011) have argued that women are better equipped to negotiate the negative effects of unconscious gender bias in the workplace (e.g. lack of mentors, male-dominated management cultures), if they are aware of it. As they suggest, women can develop their leadership identities more easily if they understand how inequality specifically operates in their context.

It is also imperative that you address your own biases. Even if you see yourself as a progressive thinker when it comes to issues of gender, you may hold hidden unconscious gender biases.

Although gender bias is often entrenched, it’s important not to feel hopeless. The research shows that when women are attuned to organizational biases as well as their own individual biases, they are better able to ‘initiate change to impact organizations positively’ (Madsen & Andrade 2018: 64).

In other words, rather than reactively navigating bias, it’s much more important to be reflexive and to develop your leadership capacities with this knowledge about yourself and the organizational culture.

2) FIND YOUR CORE PURPOSE AND VALUES

To effectively lead others, you need to understand yourself – what matters to you and why you do the things that you do.

Effective leaders develop a sense of purpose by pursuing goals that align with their personal values and empower others (Ibarra, Ely & Kolb 2013).

Having a sense of purpose is like having a ‘mission’ – it provides motivation to action your goals.

Purpose is the ‘why’ – why do you do what you do?

Values define what is important to you as you pursue your mission.

Values are the things that you will not compromise to achieve your goals. In other words, values are the drivers of behaviour.

To lift your performance, it is important that you anchor your leadership development efforts in your ‘mission’ rather than in how you think you are perceived as a woman.

This is important from a practical point of view because if you know your purpose and values, you can focus your time and energy more effectively by saying ‘yes’ to opportunities that align with your purpose and values.

Your purpose and values should provide context and meaning to everything you do.
3) WALK YOUR ‘WHY’

Your core values provide the compass that keeps you moving in the right direction.

But the question then becomes how do I do it?

Purpose is nothing without action.

Having a strategy is the best way forward – in other words, it’s how you ‘walk your why’.

A strategy is as much about what you choose to do, as what you choose NOT to do and the trade-offs that you make.

To be an effective leader, you must ask yourself, where do I need to focus to be the leader I want to become? What are my capacity gaps? How can I close the gaps?

Your purpose and values are the foundation of your strategy – they must be fundamental to guiding and implementing your choices.

To articulate a strategy to get you from where you are today to where you want to be in the future you should consider the changes required. In other words, make a change agenda. This will be the basis for your strategy.

Consider the shifts that you want to make in key areas of your life (work, family, me) and the things that will enable those changes (e.g. new skills, funding, lifestyle shift, etc.)

Using the boxes below, describe your current state (where you have made progress, what you want to continue, what you want to stop, and where change needs to happen). Then describe your future vision.

<table>
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<tr>
<th>FAMILY</th>
<th>WORK</th>
<th>ME</th>
<th>ENABLERS</th>
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4) MAKE A STRATEGY MAP

The process of establishing the right objectives in your change agenda builds your understanding of your mission and clarifies what is important to you.

However, just because you say you are going to do something, doesn’t mean you will do it.

It’s the ‘rocks in the jar’ problem.

Imagine all the important parts of your life – the non-negotiables (e.g. family, your health, friends, hobbies/passions) are represented by large rocks.

Pebbles are the things you need to do in life that are important for success but are not essential to your happiness. For instance, your pebbles as a scientist might include leadership, supervision and networking/collaboration.

Sand represents everything else – all the small stuff. How you define ‘small stuff’ is up to you. It could be checking email, or it could be cleaning your house.

You only get one jar.

If you put sand in the jar first, there is no room for the rocks and pebbles.

When you are making a strategy, you must look after the rocks and pebbles – the big priorities.

Everything else is just sand.

To ensure that you are focusing on what is important, you can prepare a strategy map in to document your goals and priorities.

The simplest way to do this is to write down your objectives in each of the key areas of your life (e.g. work, family, me) as per the change agenda. Next, write down what they mean to you. Finally, note the most logical first step you can take in making them happen.

WORK

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<th>STRATEGIC OBJECTIVE</th>
<th>WHAT THIS MEANS TO ME</th>
<th>HOW WILL I MAKE IT HAPPEN?</th>
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In creating your map, ask yourself, “On a scale of 1-10, how committed am I to making the investment of time and energy required to reach my objectives?”

We have so much in our lives that can distract us from our goals – to stick with your strategy, your objectives should generate fire in the belly!

You should feel committed and motivated to make them happen. If you aren’t excited about your goals, chances are you won’t follow through.
5) BE VISIBLE

As a leader, your ability to effectively share your knowledge and engage in science communication is vital.

The key to your effectiveness in this is your ability to make your communication meaningful to another person or group, and that requires visibility.

Being visible in any context relies on you being able to effectively tell the story of who you are (e.g. purpose and values) and what you can contribute and show what you have in common with potential audiences and communities.

It’s about demonstrating the value you bring and being generous with the help you offer to build trust, connection, opportunities and collaboration.

Although, the first hurdle is that you need to know your story to be visible.

Having a clear, succinct way of describing yourself creates the basis for finding a community and having a conversation with them.

What’s your personal elevator pitch? Are you able to describe who you are and what you do in just one sentence?

Having a tight pitch will help you engage your community in the platforms they use online and offline – this process, in turn, builds your visibility.

It’s tempting to think that if you are clever and work hard then people will notice your work and shower you with rewards and opportunities.

Tempting, but probably not true. As well as being clever and working hard you also need to be able to promote yourself, strategically and intentionally.

Leaders do not wait for visibility to come to them – they bring visibility to themselves through self-promotion.

There are countless studies documenting the greater success achieved by self-promoters (e.g. Hernez-Broome, McLaughlin, & Trovas 2015). They earn more, climb the career ladder faster, and achieve their goals sooner.

Women especially are less likely to self-promote because it conflicts with the cultural gender norm that women are supposed to be modest (Moss-Racusin & Rudman 2010).

While no one likes to be around a colleague who obnoxiously brags about their achievements, there are ways to enhance your visibility with integrity.

The aim is to be seen as an ‘expert’ on a wide range of topics within your area of expertise.

Use social media outlets like Facebook, Twitter and Instagram to connect with different audiences about the work you are doing (always being mindful of not breaching commercial in-confidences or codes of conduct of course).

The point is that once you put yourself and your work out there, more people know about you and new opportunities and networks will flow from this.
6) BACK YOURSELF AND CREATE YOUR OWN OPPORTUNITIES

To be visible and have influence, you need to back yourself and create opportunities.

This is the ‘active’ part of visibility.

As noted earlier, women are often less inclined to establish a leadership identity because of entrenched gender bias. However, you can’t just snap your fingers and be confident!

Backing yourself is more than just ‘leaning in’. It’s about identifying what you’re good at – knowing yourself as a leader – and acting on it.

For instance, there is often a misperception that you need to be a senior person working in a defined leadership ‘role’ to be a leader.

The fact is that you can exercise leadership in a lot of ways.

Come back to your purpose and values - back yourself and your expertise and create visibility opportunities for yourself.

To start, ask yourself: What are my skills? What is my message and who is my audience? What is the most appropriate forum to spread my message? How can I leverage my existing network? How can I package my work so that people notice what I’m doing?

Don’t forget to seek opportunities with senior leaders in your organisation and externally.

7) TAKE (STRATEGIC) RISKS

You have probably heard that women often wait until they have all the necessary skills before they put themselves in a position to lead.

This is not merely an issue of confidence.

In many workplace environments, women are expected to meet more of the selection criteria than men when it comes to hiring and promotion (Mohr 2014).

Yet, to lead, you do need to take chances where possible – rewards come when you do.

For example, starting a new network or applying for promotion can feel a little bit like jumping out of plane without a parachute.

Positioning yourself on the ledge means that you are vulnerable, but it also means you can be open to new experiences.

Leadership happens when you step outside your comfort zone.

You need to take risks sometimes to see what can be achieved.

Whether you are testing out a new idea or implementing a new strategy with your team, change happens when you move yourself in new directions.
8) UNDERTAKE CONTINUING PROFESSIONAL DEVELOPMENT (CPD) IN A STRATEGIC WAY

Women in STEM workplaces can experience differential access to career-building activities and often feel they have to work twice as hard as their male counterparts to have their skills recognised (Professionals Australia 2018). For these reasons, formal CPD is vital so that you can demonstrate that you have the qualifications and skills that have been recognised by an external body. Based on your strategy map, determine where your skills gaps are and where formal and informal professional development is likely to be useful. For example, coaching is an extremely useful tool for helping you to develop the behaviours needed to lead yourself and others. Engaging in a coaching relationship is proven to enhance goal attainment, resilience, workplace well-being, and coping, among other things.

9) USE AN INTERSECTIONAL LENS TO UNDERSTAND YOURSELF AND YOUR ORGANIZATIONAL CULTURE

Intersectionality is the idea that aspects of our identity (e.g. gender, race, class, sexuality, ability) (and their intersections) shape our experiences of the world (Crenshaw 1989).

An intersectional perspective provides a more critical lens to explore the experiences of those who may occupy spaces at the margins.

Why? Because although STEM is becoming more diverse, women and men of colour and those with other marginalized identities remain broadly underrepresented relative to white heterosexual men.

Yet gender remains the primary lens through which science organisations are addressing their institutional cultures.

One consequence of focusing primarily on gender is that white, middle-class women’s experiences tend to be taken as representative of all women in STEM.

As a result, science organisations and scientists themselves often have a limited grasp on how key scientific activities and organizational cultures are experienced differently by diverse groups of women.

For instance, women of colour face challenges that cannot simply be subsumed under gender. Clancy et al.’s (2017) survey of women in astronomy and planetary science shows that women of colour reported the highest rates of negative workplace experiences and are at a greater risk of both gendered and racial harassment.

What can you do?

Be personally self-reflexive about your position (e.g. race, gender, sexuality, social class) and consider how social identity contributes to comfort or discomfort in certain work settings.

Engage your colleagues in an expansive dialogue about identity and unequal power relations.

For instance, Queers in Science (a network for LGBTQ+ and allies) was recently formed online in response to a growing demand for recognition and support for those marginalised because of their sexual and gender and or racial/ethnic identities.

That such groups are claiming their voices is a reminder that the recognition of multiple identities is itself an important step in making more STEM workplaces inclusive.

Talking about identity is important because how institutions and individuals understand, and approach identity has implications for the effectiveness of broader equity policies and practices.

An intersectional lens pushes individuals and organizations to ask new questions about the conditions under which talent can thrive and remind us that to understand the absence and experiences of underrepresented groups and individuals in STEM, we need to examine the issues with nuanced perspectives that cannot be captured through an examination of gender alone.
10) BE A GOOD ALLY AND CHAMPION FOR CHANGE

Allies are “people who work for social justice from positions of dominance” (Patton and Bondi 2015: 489). A key attribute of allyship is an ability to question long-held (and self-serving) beliefs, such as the myth of meritocracy.

To be an effective ally to those from marginalized groups, it is essential that people from privileged groups (e.g. able-bodied heterosexual white women) recognise how social and institutional structures have shaped their worldview and experiences of the workplace.

In the workplace, allies do things like call out inappropriate behaviours/bias, use inclusive language, create a culture of safety, and understand and recognise privilege.

Allies can also be instrumental in amplifying the concerns of people from marginalized groups. However, allies work alongside people from marginalized groups rather than taking over – it is about making space for others and not occupying more space (Drury and Kaiser 2014).

In occupying positions of social dominance, allies must consistently reflect on their positionality to avoid unintentionally perpetuating inequity.

There are a range of avenues of redress for members experiencing gender discrimination or sexual harassment that our Workplace Advice and Support team can assist with. If you believe you are being discriminated against in your workplace, please contact our WAS team for advice by email at was@professionalsaustralia.org.au or telephone 1300 273 762 to speak to one of our Industrial/Legal team members.
REFERENCES


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