

## Year of reckoning for women in science

Gender equity in science is both a moral and necessary imperative. Although women make up more than half of graduates in the medical and life sciences and 70% of the global health workforce, they are vastly under-represented at senior levels: in the USA, for example, women comprise 45% of assistant professors in academic clinical sciences but only 35% of associate professors and just 22% of full professors. Numbers are similarly unbalanced for the basic medical sciences, demonstrating the “leaky pipeline” that wastes women’s education and potential, prevents needed diversity in workplaces, and restricts women’s goals and rights. To promote full and equitable participation in science, Feb 11 marks the International Day of Women and Girls in Science. This year, events will take place around the world to highlight the important contributions of women to the advancement of science, empower women and girls to embark on a career in science, and discuss how to overcome the many obstacles that women may face in their pursuit of a scientific career.

A recent report from the Pew Research Center, a US non-partisan fact tank, paints a dismal picture of the barriers encountered by women working in science, technology, engineering, and mathematics (STEM). The survey found that the STEM workplace is a deeply misogynistic environment. 50% of women said they had experienced gender discrimination in the workplace, including being treated as incompetent (29%), earning less than men doing the same job (29%), and being disrespected at work (20%). Reported discrimination was particularly pronounced in women working in majority-male workplaces (78%) and among those who had a postgraduate degree (62%). Additionally, half of women working in majority-male workplaces had experienced sexual harassment, and eight of ten women felt they needed to work harder to prove themselves or be respected by their co-workers. As one respondent said: “People automatically assume I am the secretary, or in a less technical role because I am female...People will call on my male co-workers but not call on me.” A culture of discrimination and bias marginalises women and has a crucial role in driving women out of science.

The report falls short of making any recommendations to tackle gender bias, but strategies to promote a gender-inclusive workplace are clearly needed. These include improved mentoring schemes to support women

as they progress in their careers, as highlighted in a Comment in today’s *Lancet*, as well as better child-care facilities, shared parental leave, equal pay, and strategies to improve work-life balance. However, piecemeal strategies that work on an individual level merely paper over the cracks in the system, and concerted efforts are clearly needed to tackle the deeper, systemic gender biases that are ingrained in science and society as a whole, propagated by generations of social structures and expectations.

Some countries have established schemes in an attempt to improve gender equity in the workplace. One such initiative—Athena SWAN, which operates in the UK and Australia—encourages and recognises institutional best practice in gender equality via the adoption of ten key principles and awarding successful organisations. While it is encouraging of women in science and provides opportunities to meet successful women scientists, anecdotal evidence from the individuals tasked with taking the lead locally (mainly junior female scientists) suggests that, for some, the initiative has become a box-ticking exercise and heavy administrative burden. Without commitment from institutional leaders, STEM workplaces will never be gender-inclusive.

We acknowledge that journals can also be part of the problem of gender inequity in science—women are less likely to be selected as peer reviewers of manuscripts and are under-represented as authors among published papers, for example. We recognise our own role and responsibility, as reflected in our recent #LancetWomen call for papers for a theme issue on women in science, medicine, and global health to be published in early 2019. Science’s greatest advances were made possible through the collective efforts of men and women scientists from diverse backgrounds. But, for too long, women have been held back by gendered stereotypes and rigid norms of masculinity and femininity. 2018 is set to be the year of reckoning for gender equality. Campaigns such as #MeToo and #TimesUp have begun to shine the light globally on the unequal distribution of power that perpetuates gender bias. We are at a historic time for this light to be focused on the culture of science and medicine. Only by removing barriers that prevent women from advancing in science and by creating gender-inclusive workplace environments will women and girls succeed in fulfilling their aspirations and reach their full potential. ■ *The Lancet*



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For the **Pew Research Center report** see <http://www.pewsocialtrends.org/2018/01/09/women-and-men-in-stem-often-at-odds-over-workplace-equity/>

For more on **Athena SWAN** see <http://occamstypewriter.org/athenedonald/2018/01/22/now-i-understand-proust-better-but-feel-less-positive-about-athena-swan/>

For **#LancetWomen** see [Comment Lancet 2017; 390: 2423-24](#)