

# How universities can help to resolve research's mental-health crisis

**Institutions can improve working environments by looking at best practice in industry and by focusing on the collaborative nature of modern science.**

**R**esearchers working in academia are more likely to experience anxiety and depression than are members of the population at large, as we report in a Feature investigating the mental-health crisis in science (see page 666). The COVID-19 pandemic has taken its toll on researchers, as it has on many in wider society, but it is clear that a major factor common in academia is a toxic work environment.

A proliferation of short-term contracts, low salaries (particularly for early-career researchers), competitive working environments and pressure to publish are all contributors – but so are bullying, discrimination and harassment. Study after study has reported on the devastating effects that these behaviours can have, especially on under-represented groups such as women, people of colour, low-income students and members of sexual and gender minorities.

Regrettably, the finding that bullying and harassment are widespread in academia is not new, as reporting by *Nature* and other journals show. But few academic leaders seem to be doing much to solve the problem. That's not to say they aren't listening – many, perhaps even most, are. A considerable number are trying to implement policies to improve campus well-being. But these efforts are not yielding positive results.

To do better, university administrations and governing bodies need to look beyond the campus for solutions – in particular, to industry. Ultimately, internal structures need to change to reflect how science is performed today. And modern systems of employee redress for when things go wrong – such as those that encourage whistle-blowing – need to be implemented.

At the root of the problem is the mismatch between the idea of a university as a refuge for lone geniuses and the collaborative nature of contemporary science. As Athene Donald, a physicist at the University of Cambridge, UK, reminds us in her book *Not Just for the Boys: Why We Need More Women In Science*, published earlier this month, much science today is a team effort. It frequently involves large numbers of researchers collaborating within and across laboratories, and often across countries and cultures. What matters is that teams work together, complementing each

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other's strengths and compensating for one another's weaknesses, always with an eye on completing the task at hand. Good science matters more than hierarchies. Donald also reminds us that studies show that discovery and innovation benefit when teams include people from historically under-represented groups, but that these contributions are all too frequently ignored or undermined (B. Hofstra *et al. Proc. Natl Acad. Sci. USA* **117**, 9284–9291; 2020).

Yet the research system still tends to put power in the hands of just one person, or a few people. When grants are awarded, the responsibility for them is generally given to principal investigators, not shared more widely among members of a research team. That often means that large numbers of early-career researchers – 50 or more in some fields – are under the supervision of a single principal investigator. In the same way, departments and faculties have a single person at the top. And in general, this 'officer class' comprises people from less-diverse backgrounds than those they are supervising.

It doesn't have to be this way. When power, responsibility and autonomy are shared, people work more collegially, and step up when required. But if power is vested in one person, or only a few people, it can be misused to harass, undermine and bully others. All too often, this is what happens.

This is why universities are structurally ill-equipped to provide redress against poor behaviour. Although universities do have both grievance and whistle-blowing procedures (which protect people from being penalized or dismissed if they disclose wrongdoing), they often discourage anonymization for those drawing attention to inappropriate behaviours or actions. Some argue that it makes complaints more difficult to investigate. This is often true, but anonymous whistle-blowing provides a fairer way to obtain justice in an environment in which the person perpetrating harm is often also the person ultimately responsible for an individual's career prospects.

Universities need to take a good look at this matter and study how internal organizational structures could be reformed to better reflect how research is done today. A good first step would be to look to industry, because we know that researchers working in industry report higher job satisfaction than do their academic peers. At the same time, academic governing bodies should revisit mechanisms for whistle-blowing, including studying how this is done in businesses, in the public sector and in non-profit organizations, and evaluating the strengths and weaknesses of the approaches used in each.

Universities in many countries have extensive connections to industry, through industry-academia collaborations, through knowledge-exchange offices and through the direct involvement of business people, who serve as professors and as members of governing boards. These relationships could all be leveraged to study ways to bring about positive change in academia.

The need to achieve positive change cannot be overstated. Doing nothing is not an option. If the next generation of researchers is as dissatisfied as our Feature suggests, then no less than the future of research and scholarship is at stake.