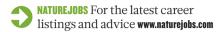
CARFERS

TURNING POINT Earth scientist unites disciplines to tackle social issues p.429 **PUBLISHING** Some retractions cause a decline in citations of previous work p.429





Confronting hypothetical dilemmas can ease workplace problems, argue Caitlin Casey and Kartik Sheth.

colleague gets a nasty e-mail belittling her work. A student borrows data **_** from a postdoc in his research group, not realizing that publishing it might constitute plagiarism. A researcher is being bullied, but his colleagues claim they are just kidding around and mean no harm. How should people witnessing such problems react?

Academia is rife with uncomfortable situations. To explore how researchers would respond to real-life murky dilemmas, we embarked on an in-person workshop and an online survey for astronomers. Participants ranked a range of scenarios on a continuum from desirable to unacceptable behaviour, without making stark judgements about right or wrong. The exercise made many participants uncomfortable, but it was eye-opening, raising awareness about issues such as bullying, harassment and unconscious biases that currently plague our research community. Opening up a dialogue on these topics is the first step towards building a healthier research

Scientists generally have much more training in analysing complex data sets than in how to handle potential ethical breaches or offensive comments in the workplace, whether inadvertent or intentional. We begin our research careers with the expectation that we and our colleagues will behave sensibly, appropriately and collaboratively. But in the competitive environment of the lab, the harsh reality of human nature sometimes surprises us.

The ethics and harassment training sessions that do exist prepare us for the most extreme inappropriate behaviours (outright threats, assault, weapons at work and quid pro quo harassment, in which, for example, a promotion is offered in exchange for sexual favours), but they rarely address scenarios in the 'grey zone' — situations that might be unethical, but they rarely address scenarios in the 'grey undesirable or uncomfortable but are probably not severe enough to prompt legal action or reporting. How do we judge what is ethical and what is not? How should we react if we are uncomfortable with a colleague's behaviour?

CROWD-SOURCED ETHICS

At a workshop at the Aspen Center for Physics in Colorado in May, we were part of a group of astronomers who informally discussed how to build a positive, healthy work environment and make our community more inviting and inclusive of under-represented groups. We agreed that one major problem is lack of communication — from basic misunderstandings between colleagues all the way up to ignorance of academic work-environment protocols — and that one way to address these hurdles would be to get a large, diverse group of astronomers to discuss and rank some hypothetical scenarios.

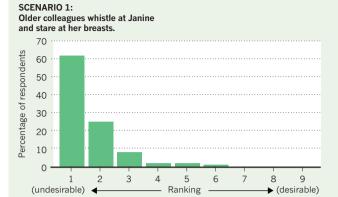
In a subsequent session at the same meeting, we conducted a 'scenario-sorting' activity, in which astronomers were invited to discuss realistic situations involving the ethical ambiguities that our community faces every day: plagiarism, sexual harassment, hostile work environments, bullying, cultural clashes, unconscious biases and simple misunderstandings. Each scenario was printed on a slip of paper and handed to a participant, making sure that everyone had a different situation to contemplate.

We asked everyone to stand up and work together to organize their assigned scenarios, from the most desirable through acceptable, undesirable and unacceptable, to unethical. Once they had decided on the relative ranking, we discussed the scenarios as a group, exploring how participants with different backgrounds had made different judgements.

During group discussion, we often heard our colleagues exclaim in disbelief: "This cannot possibly be true!" The participants did not know that the 25 scenarios we had given them were not hypothetical — all came from firsthand experiences, whether our own or those of our colleagues, in the past 3–5 years. We had just changed names and revealing details to protect identities.

After we disclosed the truth, participants who had been sceptical about claims of harassment, hostility or plagiarism — including many senior male astronomers — admitted that the exercise was eye-opening and had

In an online survey, astronomers reacted to various ethically uncomfortable scenarios. They converged on similar assessments of apparent sexual harassment (left) and plagiarism, but responses to scenarios involving more nuanced misunderstandings, stereotypes or unconscious biases were less clear-cut (right).



A department throws a welcome party for Lucas, an international student, based around his heritage. 70 60 50 40 20 10 1 2 3 4 5 6 7 8 9 (desirable)

▶ forced them to think differently about their own interactions, especially with members of under-represented groups, including women and ethnic minorities.

After the success of the workshop, we took the exercise online through Astrobetter (www. astrobetter.com), a blog that aims to support the astronomy community. We used the same 25 scenarios and asked participants to rate each on a scale of 1–9, with 1 the worst and 9 the best. The response was overwhelming. Of the site's roughly 3,000 readers, 481 participated in the survey. More than 120 of those explained their thoughts on individual scenarios or on the survey overall.

GAUGING COMMUNITY STANDARDS

Some scenarios dealt with instances of academic ethical breaches such as apparent plagiarism, in which multiple characters and points of view made it difficult to determine the level of culpability. Others dealt with feelings or reactions rather than behaviours or actions. For example: "Brian was shortlisted for a faculty job, but the job went to a woman instead. Brian feels that it's unfair, because he thinks he would have got the job if he were a woman." We did not specify whose point of view the audience should analyse; the purpose was to trigger an emotional response for situations that some readers might not otherwise consider.

Scenarios generally did not telegraph a correct or 'appropriate' response. For example, one read: "Jane and John are new faculty members in a male-dominated department. Jane is told that she must serve on more faculty committees than John because they need a woman." Respondents might have considered, for example, how comfortable they were with Jane being instructed to take on more commitments because of her gender.

Participants agreed that sexual harassment is one of the more blatantly unethical practices in academia. However, we were particularly interested in the written feedback on a scenario in which a female astronomer is uncomfortable wearing dresses to work because some senior professors whistle at her in the hallway and stare at her breasts. The collective judgement was that this scenario was one of the worst of the bunch (see 'Ethical rankings'). One online commenter said: "This makes me angry. And very sad."

However, another reader thought that there could be several levels of culpability. "I don't say that women should be blamed for whistling of men, but some clearly cross a line with too provocative outfits ... whistling should be avoided but honest compliments on clothing style/appearance should be allowed." Another participant wrote that cultural context is important, noting that in conservative countries where women generally wear more clothing for religious or societal reasons, jeering at a woman wearing, for example, a skirt and high heels might

be a socially acceptable response.

One reader declared adamantly that the researcher's actions or appearance are irrelevant and that "the professor's action is blatantly unethical no matter what the [researcher] "Realizing that unconscious bias might subtly steer our moral compasses is the first step towards abolishing them."

is wearing". Indeed, in US universities, the scenario would be a textbook example of sexual harassment fostering a hostile work environment, and thus would be subject to legal action.

Some scenarios received a broad range of responses. In one, for example, a university department welcomes a new international student with a party celebrating his heritage. One participant said, "Making new people feel welcome is great, but singling out one's nationality while doing so seems a bit ham-handed." Another reader said it "depends entirely on how other incoming researchers/faculty/students are treated". Someone else commented: "This sounds nice at first, but it seems a little creepy or odd, if not presumptuous."

Two of the scenarios dealt with plagiarism. In one, a grant proposal for a large collaboration is plagiarized — the grant writer decides it is acceptable to copy her colleague's proposal because they are members of a single collaboration applying for funds. In the other, an idea is taken from a talk at a conference and published without appropriate credit. These scenarios received very strong feedback, all taking the same view. "No words. This is awful," said one respondent. Another said: "There's no way that the other guy can hijack someone's proposal; any co-investigator should stand up and protest."

SOURCE: C. CASEY/K. SHETH

REDEFINING RIGHT AND WRONG

Why is the community split on gender topics but not on plagiarism? Perhaps ambiguity in the descriptions left room for interpretation. Or perhaps there is a lack of community awareness about gender-based biases.

One online participant suggested a technique for checking for unconscious bias. "For all the gendered scenarios, I tried flipping the gender of each person in the situation and rereading it. This was an insightful exercise; several of my answers changed after the gender swap." The respondent acknowledges that unconscious gender biases influenced his or her answer. Realizing that unconscious biases might subtly steer our moral compasses is the first step towards abolishing them.

Scenarios that cannot be definitively classified as right or wrong can be intimidating, especially to those whose life's work is based on objective reason. But scientists in all fields can build a healthier work environment by considering their colleagues' disparate points of view — even if doing so means navigating ethical quandaries in decidedly grey areas.

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