WORKPLACE CLIMATE

Metrics for ethics

Focus on perceived working conditions could help graduate schools to train responsible researchers.

BY MONYA BAKER

Training in research ethics is mandatory for many US graduate students and postdocs, but there is little evidence that formal classes prompt scientists to conduct research ethically. However, the workplace climate — which includes perceptions of regulatory committees, data confidentiality and treatment of trainees — influences research practices and can spawn behaviours such as poor record-keeping or plagiarism.

An interdisciplinary team has developed a survey to assess work conditions in research institutions, with a long-term goal of establishing a baseline for measurements of workplace climate across disciplines and universities. The SOuRCe (Survey of Organizational Research Climate) is a 32-question survey that divides workplace climate into seven categories, including integrity norms (such as giving due credit to others' ideas), integrity inhibitors (such as inadequate access to material resources) and adviser–advisee relations. The team hopes that such data will help institutions to craft policies that will improve research conduct.

The survey illuminates differences in attitudes held by faculty members and trainees, says Karen Klomparens, dean of the graduate school at Michigan State University (MSU) in East Lansing. When the school ran versions of the survey in 2009 and 2014, clusters of respondents reported feeling ill-equipped to judge whether university policies support responsible research — which suggests that those topics are not discussed in meaningful ways, she says. Klomparens used the results to spur faculty members in specific departments to talk to trainees about norms in authorship, data management and peer review. "Because we use the survey data by graduate programme and by discipline, we can make recommendations," she says. To encourage participation, she emphasized to respondents that the tool is not intended to shame or punish, and responses are stripped of identifying information.

Brian Martinson studies research integrity at the non-profit HealthPartners Institute for Education and Research in Bloomington, Minnesota, and helped to develop the survey at 40 academic health centres (B. C. Martinson *et al. Sci. Eng. Ethics* **19,** 813–834; 2013). He has also worked on it in a separate project with MSU, Pennsylvania State University and the University of Wisconsin–Madison. A poor workplace climate correlates with many undesirable research behaviours, even extreme forms such as data falsification, he explains (see 'Ethics in the environment'). Still, he thinks that institutions could boost integrity most effectively by focusing on common, less-attention-grabbing behaviours that are tightly tied to workplace climate, such as sloppy record-keeping. "They lower the standards that people are following over the long run," he says.

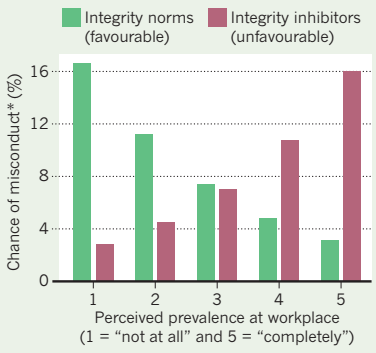
The dearth of robust, real-world research has long hampered efforts to improve integrity, says C. K. Gunsalus, director of the National Center for Professional and Research Ethics in Urbana, Illinois, who is working with Martinson's team to distribute the study online. "The climate survey provides actual empirical data," she says.

Gunsalus and others aim to aggregate results in a central database, so that a physics department at one institution, for instance, will be able to compare its climate scores with those of similar departments elsewhere.

Analysing workplace climate could be a powerful way to promote integrity, says Nicholas Steneck, a consultant for the US Office of Research Integrity in Rockville, Maryland, although he fears that institutions might find it tough to apply SOuRCe results to policy. But Gunsalus thinks that broad, quantitative survey results could make the issue more difficult to neglect. "The best thing that gets traction with scholars and scientists," she says, "is data." ■

ETHICS IN THE ENVIRONMENT

The level of self-reported fraud, fabrication and plagiarism increases as perceptions of 'integrity norms' fall and of 'integrity inhibitors' rise.



*Predicted likelihood that an individual would report engaging in fraud, fabrication or plagiarism, according to regression analysis of a large survey on research behaviour and workplace climate during the past three years.

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