

In the Trenches, Doubts About Scientific Integrity

Respondents in a AAAS survey question university handling of investigations, suggest sharing blame for misconduct

YOU'VE JUST COME ACROSS WHAT LOOKS LIKE a case of scientific misconduct. What do you do? If you are anything like your colleagues who took part in a survey conducted by the American Association for the Advancement of Science (AAAS), you are more likely to discuss your concerns with the researcher you suspect of wrongdoing than report them to somebody else. You will probably have little confidence that your university would investigate your suspicions properly, and you will likely find that your concerns will never be completely resolved.

Last fall, in an effort to gauge the attitudes of researchers and administrators in

of scientific misconduct. Those who have encountered instances of suspected misconduct may have been more likely to return their questionnaires, she says. Even if that weren't true, the number of scientists who have witnessed suspected misconduct in the past decade would be a poor measure of the total frequency of misconduct in science.

More revealing is what those 27% say they did—or didn't do—in the most recent instance when they discovered a case of possible wrongdoing. Just over a quarter, or 27%, of them (33 respondents) say they did nothing at all. Another 37% said they spoke privately with the individual they suspected

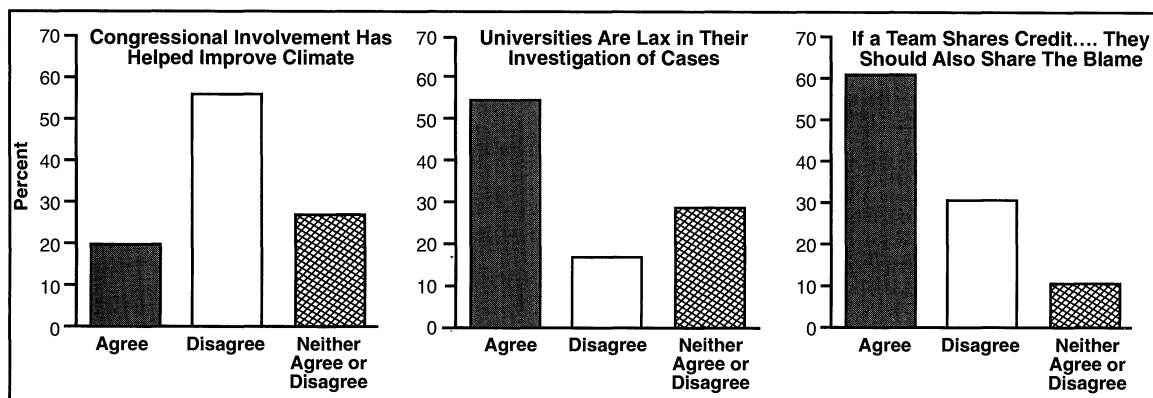
never cleared up. (Again, respondents were free to supply more than one outcome.)

The high number of unresolved cases could be one reason the researchers surveyed seem to have little confidence in universities' ability to investigate misconduct rigorously. More than half—54%—of the total respondents said they agreed with the statement that “universities are lax in their investigation of fraud and misconduct cases,” and fully one-third of these critics (81 respondents) said they agreed “strongly” with the statement. Contrast that with the fact that only 3% disagreed strongly and an additional 14% disagreed “somewhat.”

The survey revealed a willingness among scientists to accept responsibility for fraudulent work done by a collaborator, even if their own work is not suspect. Sixty percent of those surveyed agreed that teams who share credit for scientific work should also share the blame if it contains falsified or fabricated data, regardless of who actually committed the unethical act—and a full one-third of all respondents, or 34%, agreed strongly with that notion. Only 30% disagreed with the

statement, and 10% had no opinion.

Survey participants were divided on whether the frequency of fraud and misconduct over the past 10 years has increased (37%) or remained flat (44%). But a large majority (74%) believe media attention has tended to exaggerate the problem. Nevertheless, one individual argued that because many cases, such as those



universities, industry, and government toward scientific misconduct—and their first-hand experiences in dealing with it—AAAS mailed 1500 surveys to randomly selected members. The 469 responses, 31% of those queried, offer a unique window on how the academic community feels about one of the most divisive issues it has had to deal with in recent years.*

Some 27% of those surveyed (124 respondents) believe they have encountered or witnessed fabricated, falsified, or plagiarized research over the past 10 years, with each reporting, on average, 2.5 instances of suspected unethical behavior in that period. While at first glance that seems a surprisingly high figure, AAAS member-research manager Kathleen Markey, who conducted the survey, cautions that it shouldn't be interpreted as an estimate of the frequency

of wrongdoing, and 23% said they reviewed suspect data themselves. Only 23% said they reported their concerns to their own superior, while 20% went to authorities within their own institution and 13% to authorities outside their institution. A minuscule 2% said they reviewed data with others, and another 2% said they had publicly challenged the suspect data. (Some respondents took multiple steps.)

Only a small percentage of those who suspect they encountered misconduct say the cases were actually resolved. Of the original 27%, 22% said the cases they were familiar with resulted in an admission of guilt or official finding of wrongdoing, while 17% reported cases in which the accused scientist was cleared or the suspect data eventually turned out to be either correct or the product of honest error. More typical was the experience described by 43% of those who said they had encountered suspected misconduct: Their suspicions were

involving poor statistics or the inappropriate use of mathematical algorithms, lie in the “gray area between unambiguously good science and unmistakable fraud,” the frequency of misconduct may very well be understated. “One can never be sure these cases aren't due to naivete or ignorance...despite the fact that the ignorance is frequently very convenient.”

Many respondents also offered their personal views on the roots of scientific misbehavior. Chief among the causes cited: the “rat race” to publish findings first, unearned or “honorary” authorship, university reliance on “quantitative measures of academic/scientific performance,” and competition for grants and recognition. In the words of one respondent: “The universities and their priorities (‘get the grant money’) bear a lot of responsibility and are doing nothing to correct it.” Universities anxious to win back the confidence of these researchers would appear to have their work cut out for them.

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*Survey results are available from the AAAS Office of Membership and Circulation. Tel: 202-326-6412.