probably some under-reporting of misbehaviour among respondents, would suggest that our estimates of misbehaviour are closer to the true extent.

Our survey was carried out independently of, but at around the same time as, the ORI proposal. The specific behaviours we chose to examine arose from six focus-group discussions held with 51 scientists from several top-tier research universities, who told us which misbehaviours were of greatest concern to them. The scientists expressed concern about a broad range of specific, actionable conducts that may affect the integrity of research.

To affirm the serious nature of the behaviours included in the survey, and to separate potentially actionable offences from less serious behaviours, we consulted six compliance officers at five major research universities and one independent research organization in the United States. We asked these compliance officers to assess the likelihood that each behaviour, if discovered, would get a scientist into trouble at the institutional or federal level. The first ten behaviours listed in Table 1 were seen as the most serious: all the officers judged them as likely to be actionable, and at least four of the six officers judged them as likely to be actionable. Among the other behaviours, are relevant but may be classified as less serious (behaviours 14 to 16).

Admitting to misconduct

Survey respondents were asked to report in each case whether or not (‘yes’ or ‘no’) they had engaged in the specified behaviour during the past three years. Table 1 reports the percentages of respondents who said they had engaged in each behaviour. For six of the behaviours, reported frequencies are under 2%, including falsification (behaviour 1) and plagiarism (behaviour 5). This finding is consistent with previous estimates derived from national surveys reported in Table 1. However, these efforts still prioritize the immediate laboratory and departmental contexts of scientists’ work, and are typically confined to ‘fixing’ the behaviour in question. Our analysis focused on understanding the extent to which this is the case.

Early approaches to scientific misconduct focused on ‘bad apples.’ Consequently, analyses of misbehaviour were limited to discussions of indi individual traits and local (laboratory and departmental) contexts as the most likely determinants. The 1992 academy report helped shift attention from individual traits to departmental contexts of scientists’ work, and are typically confined to ‘fixing’ the behaviour in question.

O’er the past decade, government agencies and professional associations interested in promoting integrity have focused on responsible research conduct. However, these efforts still prioritize the immediate laboratory and departmental contexts of scientists’ work, and are typically confined to ‘fixing’ the behaviour in question. Our analysis focused on understanding the extent to which this is the case.

In our view, certain features of the working environment of science may have unexpected and potentially detrimental effects on the ethical dimensions of scientists’ work.

"Certain features of the working environment of science may have unexpected and potentially detrimental effects on the ethical dimensions of scientists' work."

As an example, the effects of the broader research environment in compromising scientific integrity. It is now time for the scientific community to consider what aspects of this environment are most salient to research integrity, which aspects are most amenable to change, and what changes are likely to be most fruitful in ensuring integrity in science.

Little attention has so far been paid to the role of the broader research environment in compromising scientific integrity. It is now time for the scientific community to consider what aspects of this environment are most salient to research integrity, which aspects are most amenable to change, and what changes are likely to be most fruitful in ensuring integrity in science.

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