

Research integrity and societal trust in research

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Often debates on research integrity start with a misconduct case that attracts media attention and throws the reputation of an individual researcher, an institution, or a whole country into the public eye. A criminological approach to prevention is not uncommon: scientists are not to be trusted, need to be policed and be punished when they misbehave.⁽¹⁾ The consequence is that research integrity becomes an issue of compliance and is handled in a legalistic way that focusses on catching culprits. While we agree that some vigilance and appropriate actions after misconduct are needed, we argue that to foster the highest quality and integrity standards in research, a more holistic approach is needed.

The majority of researchers want to produce excellent and trustworthy work but need support to do so. Research institutions especially have an important duty to empower their researchers to engage in responsible research practices (RRPs) and to avoid detrimental research practices (DRPs) or worse.^(2,3) In the Reference Panel alongside we explain what we mean by these terms.

In our approach we, like others, plead for a focus on avoiding DRPs and on prevention.^(5,6) Arguably, DRPs on the aggregate

WHAT DO WE MEAN WHEN WE SAY RESEARCH INTEGRITY?⁽⁴⁾

“Research integrity” is the overarching concept to govern validity and trustworthiness of research. Behaviours by researchers can seriously undermine or strengthen research integrity. These behaviours are predominantly driven by the attitudes and professional values of the individual researcher, the institutional research climate and the research system at large. Three groups of behaviours can be recognised.

First there is research misconduct, which is usually subdivided in fabrication, falsification and plagiarism (FFP).

Second there are the more prevalent detrimental research practices (DRP) often also referred to as questionable research practices (QRPs). Similar concepts are sloppy science, cutting corners, and incomplete and unusable reporting to name a few, all leading to research waste. Being more prevalent, DRPs arguably do more damage to the quality and credibility of research than FFP.

Third there are responsible research practices (RRPs). These are the behaviours we want to see from researchers. Examples are appropriate stakeholder engagement, planning and conduct, and honest reporting of research. Adopting open research practices like preregistration, open data, open codes, and open access. But also, actively avoiding DRPs and FFP, helping others to do so, performing replication studies, good supervision and mentoring, ensuring fair practices in research collaborations, being open about errors made, and active contributions to an open, inclusive and encouraging research environment

level – because these are much more common than research misconduct – do substantially more damage to the validity and trustworthiness of research than the much rarer cases of serious misconduct.^(7,8) There are many different DRPs, but selective reporting especially can do a lot of harm.⁽⁹⁾ Publication bias, outcome reporting bias, textual spin and selective citation can make findings much more spectacular and more significant.⁽¹⁰⁾ This not only leads other researchers astray but can seriously hamper health, environment and society because flawed research leads to wrong policy decisions.

What prompts researchers to yield or not to the temptations of DRPs? We and others argue that these choices can be driven by the attitudes and professional values of the individual researcher, the institutional research climate and the research system at large. Recent evidence suggests that the institutional climate is especially important and that optimising it can make a lot of difference.⁽¹¹⁾ Research institutes need to provide adequate training and facilities, monitor the quality of supervision, have adequate instructions and guidelines, and make sure that the assessment of researchers is fair and includes attention to RRP. In particular, institutional leaders need to abolish perverse incentives and reward RRP explicitly.

With that view in mind, at the 6th World Conference on Research Integrity in Hong Kong June 2019, 5 principles were specified to guide the assessment of researchers. These Hong Kong Principles can be endorsed by individuals and institutions.^(12,13) At the end of May 2022, the 7th World Conference on Research Integrity will be held in Cape Town.⁽¹⁴⁾ Because we had to postpone the conference due to the COVID-19 pandemic we organised webinars⁽¹⁵⁾ on 31 May, 1 June and 2 June 2021 to bridge the gap between the 2 conferences. The promotion of research integrity across the African continent is particularly important as trustworthy, methodologically robust, and often collaborative multi-disciplinary research initiatives are essential to address many of Africa's problems, including systemic poverty and high burden of disease.⁽¹⁶⁾ Therefore, a Cape Town statement on these issues will be prepared. Both the webinars in 2021 and the conference in 2022 will be interesting and relevant to research integrity stakeholders across all disciplinary fields, from the basic and applied natural and biomedical sciences to the humanities and social sciences. Important stakeholders include researchers, institutional leaders, national and international policy makers, funders and journals. Please consider attending. Research integrity matters for societal trust in research.

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