

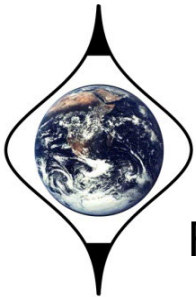


Open Research, Research Culture and Research Integrity

[slides at <https://osf.io/9bkda/>]

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Research Integrity

n = 1653



Open Research

n = 3267

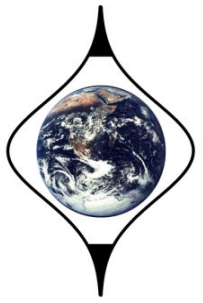


Research Culture

n = 528



relative word frequency in 5448 PubMed Abstracts: search 21.05.22



What do I mean by research integrity?

Reasons for non-replicable findings

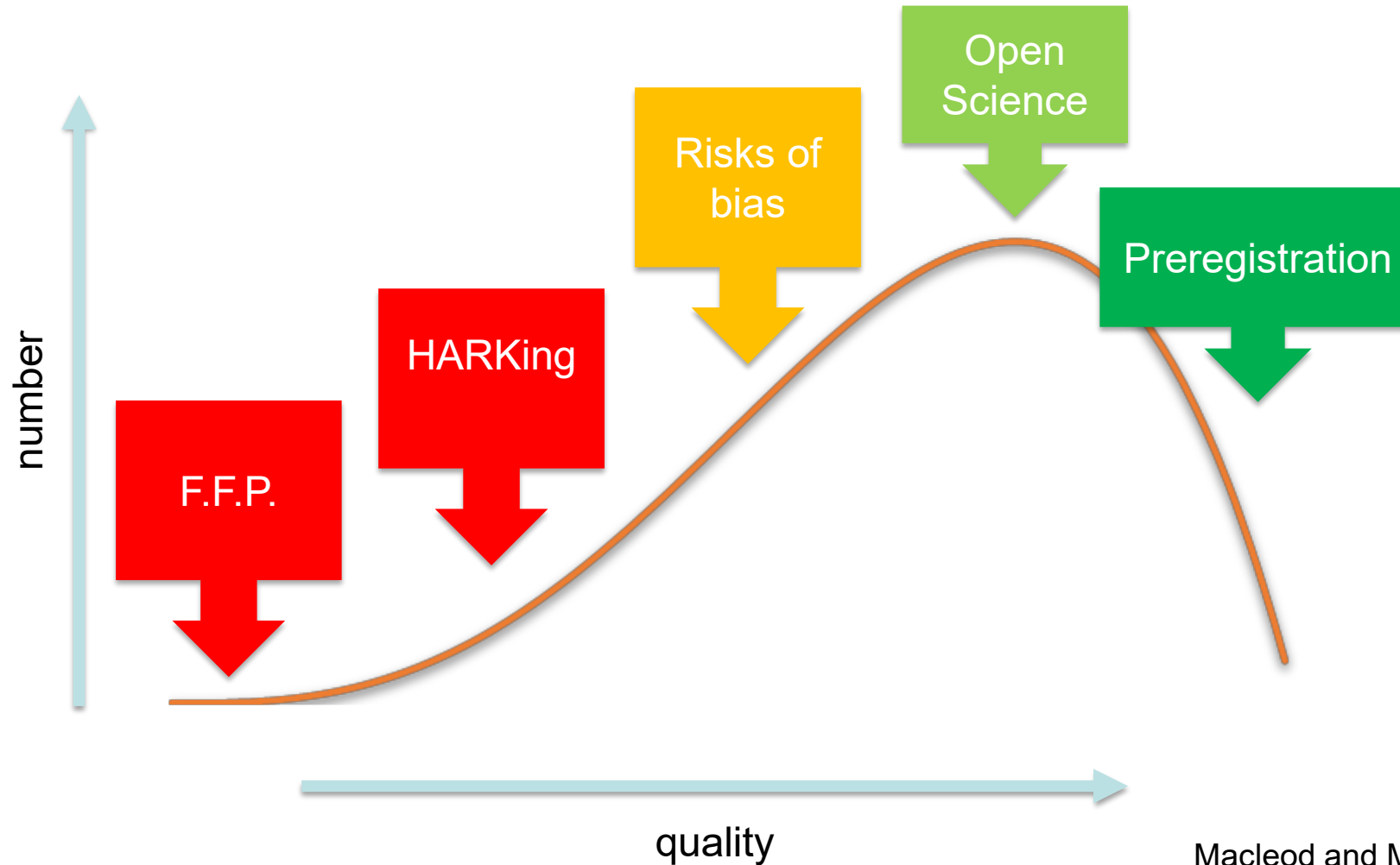
Table 1 Categories of reasons why attempts to replicate a research finding may be unsuccessful

Category 1	A valid res	Research Integrity	"false positive" error
Category 2	The claim circumstar observed		observed under the and their impact on the
Category 3	The observ selective o practices, v		e of experimenter bias, or as questionable research
Cat	The resear	Researcher Integrity	fabrication

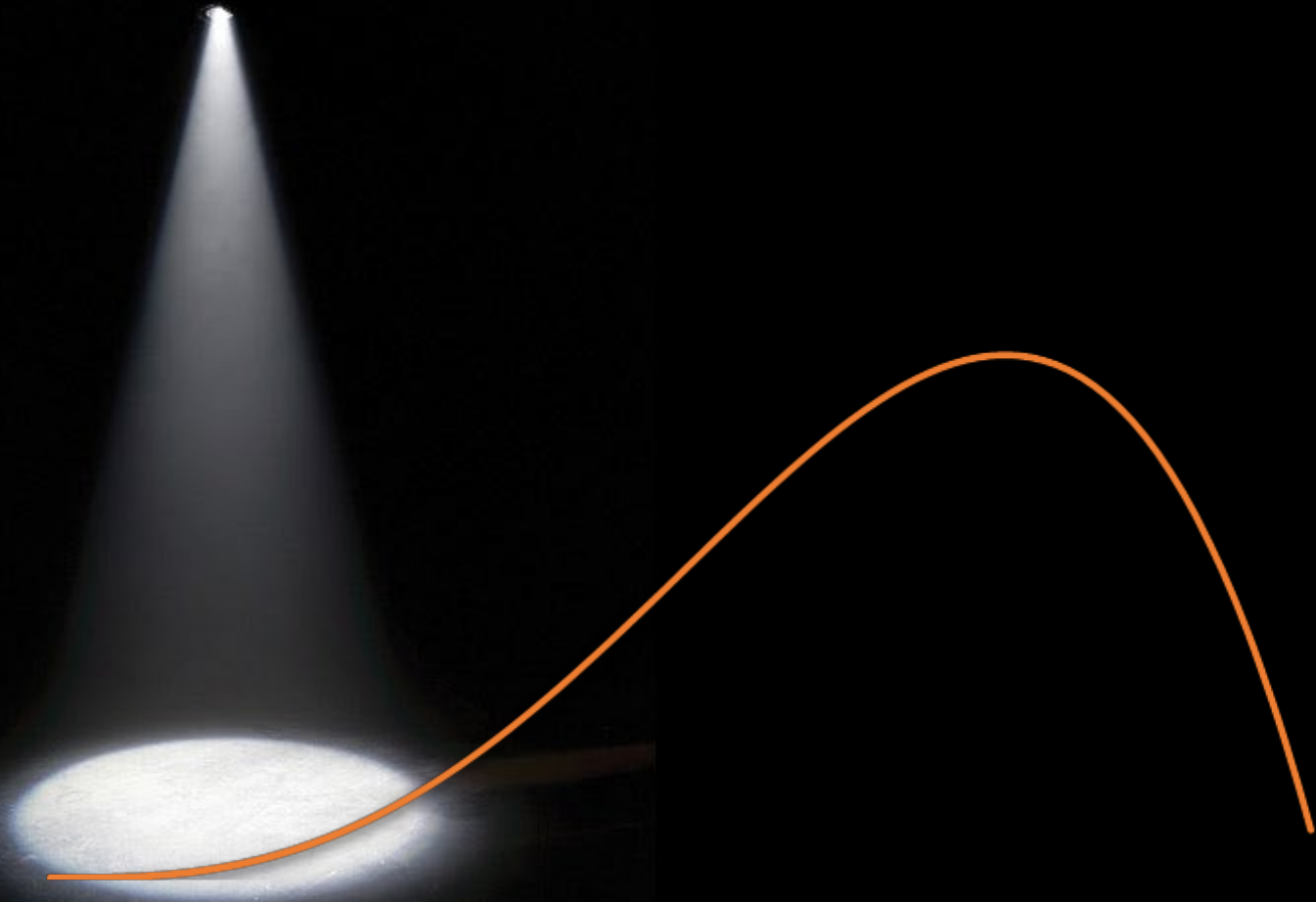
From UoE Response to STC Enquiry, published in BMC Research Notes doi.org/10.1186/s13104-022-06030-2

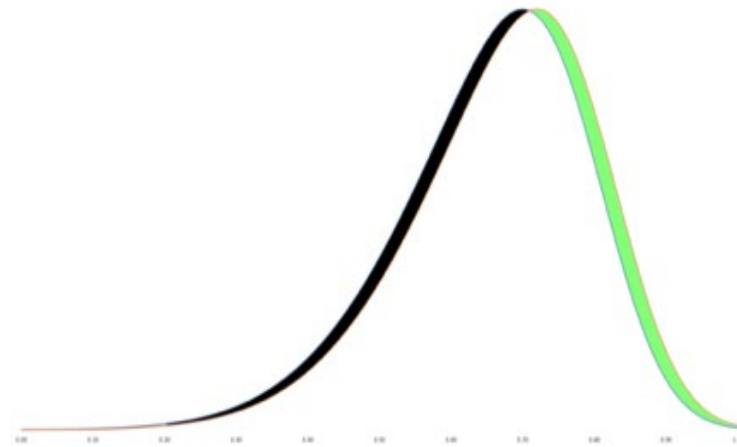
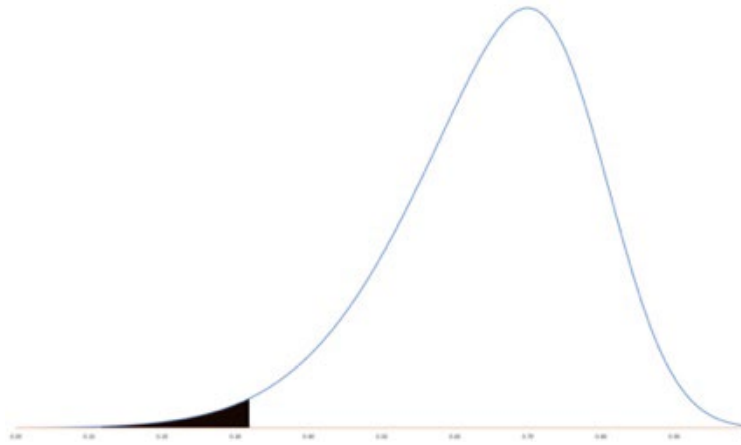
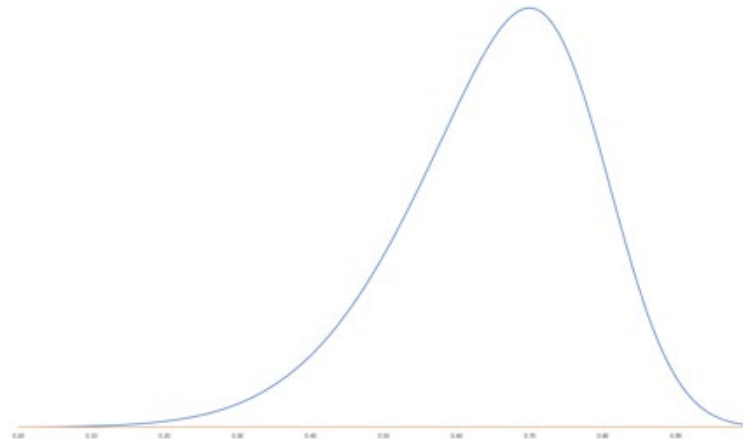


Researchers are different ...



Macleod and Mohan
<https://doi.org/10.1093/ilar/ilz015>







Open Research and Research Integrity



- Nothing is “behind the veil”
- Smart people (@jamesheathers, @sTeamTraen et al) can pick up errors
- The possibility of errors being picked up shift researcher behaviour

- No single publication has the last word
- Summarising information across several publications gives a more reliable view
- This process is impacted by closed publication



PC12 cells, OGD and stroke



- Human screening of 5172 [TiAb] identified only 275 of 319 relevant studies
- Text mining of full text identified 310 of 319
- For a further 1060, full text was not available to us (~50 additional publications)



Research Culture and Research Integrity



“Research culture encompasses the behaviours, values, expectations, attitudes and norms of our research communities. It influences researchers’ career paths and determines the way that research is conducted and communicated”

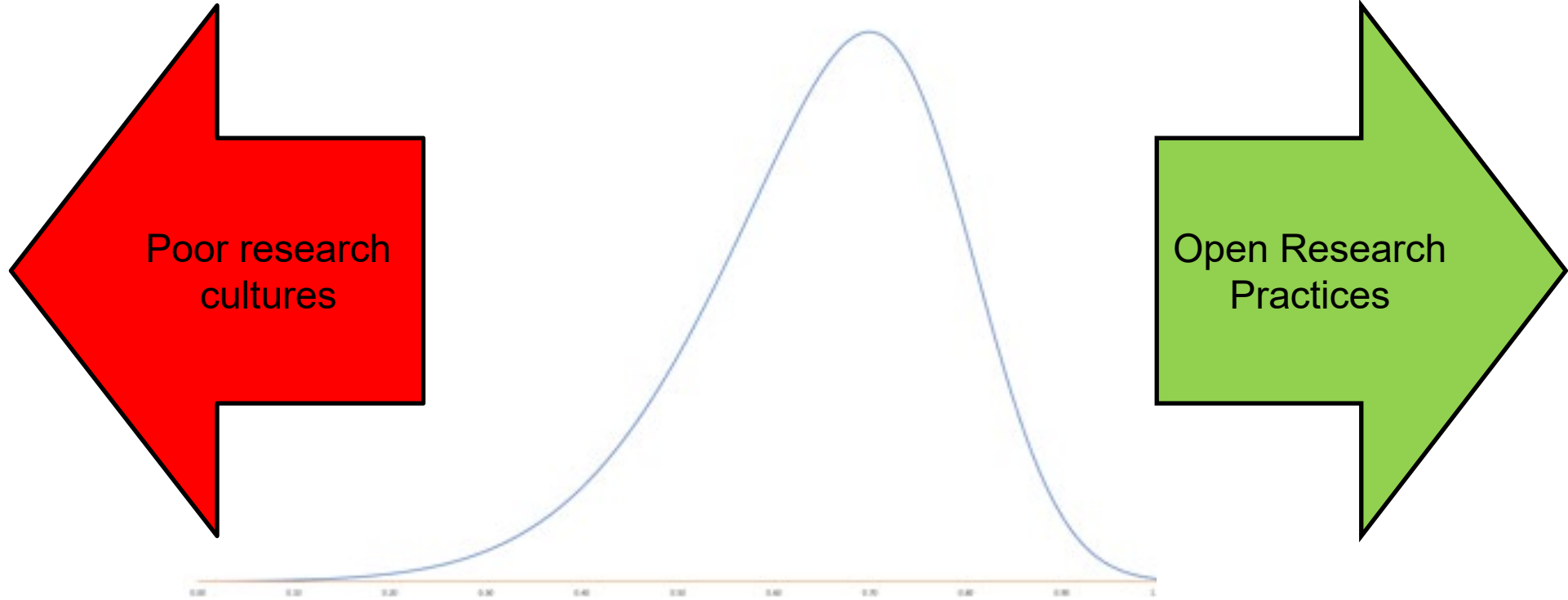
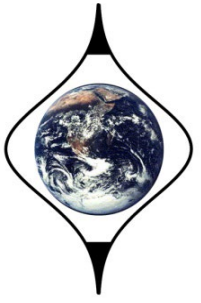
Credit: <https://royalsociety.org/science-events-and-lectures/2016/09/early-career-researcher-conference/>



Biomedical research: increasing value, reducing waste



- Science is not done by paragons of virtue, but by individuals who are as prone to self-interest as anyone else.
- They can compromise their usually high standards of rigour when involved in commercial or otherwise conflicted relationships.
- When resources are scarce and competition is fierce they might seek the easiest and quickest—rather than the best—ways forward.
- They could judge that they would rather be first than be right.
- When their research hunch turns out to be wrong, many researchers move to the next one rather than going through the painstaking business of reporting negative findings.
- Finally, they could prefer research that they find interesting rather than research that addresses issues of importance to the users of research.





The UoE Research Culture Survey



- Issues of bullying, harassment, discrimination, others taking credit for work.
- Limited knowledge of how to report instances of research misconduct.
- Limited experience of training on managing others, and having the skills and confidence to manage diverse teams.
- Discomfort in discussing issues relating to disability, race and LGBTQ+ identities.
- Support for recognising and rewarding good practices and behaviours rather than being “firmer and clearer” about the standards we require.
- Initiatives to recognise culture contributions in funding, pay and promotion, and training in the skills needed to promote good culture, were favoured over good practice guidance.



Closing thoughts



- Open Research, Research Integrity and Research Culture are separate issues but closely related
- A strategy directed at one, which ignores the others, is likely to fail
- Trying to fix these issues is an important part of good research citizenship