RESEARCHER ASSESSMENT

One in a series of A3 discussion primers about tricky topics in research quality, integrity, and academic culture.

Assessing what matters

When we assess researchers (e.g. in hiring, funding, and promotion), presumably we want to reward good practices, deter bad practices, and conduct our assessments in a fair and equitable way. This matters! Our culture is at stake. As Elizabeth Gadd put it, "We are utterly bonkers if we do not prioritise creating the most fertile environment for the best, brightest, and most creative minds of our generation to do their best work." [1] Let's discuss how we can do this better.

Broadly speaking, what are the academic practices and attitudes that we should we reward? What are practices we should try to deter? How well do you think our current reward systems and incentive structures do this?

Implications for research integrity

The metrics we use to assess research have implications for research quality and integrity. For example, the 'publish or perish' culture is part of what fuels shoddy scholarship and even scientific fraud. [2] The Hong Kong Principles (2020) were designed to ensure "that researchers are explicitly recognized and rewarded for behaviors that strengthen research integrity." [3] What do you think of these five principles?

- Assess researchers on responsible practices from conception to delivery, including the development of the research idea, research design, methodology, execution, and effective dissemination.
- Value the accurate and transparent reporting of all research, regardless of the results.
- Value the practices of open science (open research)—such as open methods, materials, and data.
- Value a broad range of research and scholarship, such as replication, innovation, translation, synthesis, and meta-research.
- Value a range of other contributions to responsible research and scholarly activity, such as peer review for grants and publications, mentoring, outreach, and knowledge exchange.

Measurability

We cannot systematically assess something if it cannot be measured. Of course, there are many different ways that we could try to measure academic performance. Recent literature calls for an "integrated approach" to strike "a balance between quantitative and qualitative methods..." [4] DORA has useful guidance about developing indicators. [5]

Consider the example metrics that surround the large diagram. Which of them can be measured quantitatively? How about qualitatively? Are there any that cannot be measured at all? Are there any important metrics missing?

Publication metrics & impact

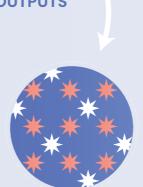
When researchers and institutions speak of 'impact', quite often what they mean is not any real social benefit or change, but rather quantitative metrics about a researcher's publications and citations, such as their h-index or the Impact Factor of the journals in which they have published. Some argue that Impact Factor is a very poor proxy for assessing the quality of a researcher's publications. [6] The obsession with journal metrics is worrying, since there's evidence that researchers value journal

ACTIVITIES

prestige (in the form of Impact Factor) more than they value robust research results. [7]

Degrees & qualifications Funding awarded Teaching innovation Student evaluations Committee membership Collaborative network Peer review & editing Mentoring contributions Supervisory practices Breadth/depth of expertise Leadership positions Equitable practices Industry relationships Data & asset management Awards received Academic rigour Transdisciplinary practices Media attention Entrepreneurship International experience Inclusivity & outreach Esteem among peers Society membership Administrative contribution





IMPACT

Journal papers published Books published Conference presentations Non-traditional research outputs Authorship positions Specific contributions **Number citations** h-index/g-index/i10-index **Journal Impact Factors Altmetrics** 10 best publications Patents & other IP Data availability Replicability/Reproducibility Any you would add or delete?

Learn about some important

you think. You may like to get

involved. Is your institution a

signatory to **DORA**? Have you

funders are now using these.

initiatives in this space. See what

heard about **narrative CVs**? Many

What do you think about

assessment?

publication metrics? Are some

better than others? How can we

use them responsibly in research

New knowledge New field of inquiry Policy change New product New Intellectual Property Improved health outcomes Improved quality of life New service model Improved quidelines Promoted public debate Created economic benefit Led to cultural change Promoted accessibility Increased understanding Any you would add or delete?

Equity

"The use of proxy measures... preserves biases against scholars who still feel the force of historical and geographical exclusion from the research community... Rethinking research assessment... means addressing the privilege that exists in academia, and taking proper account of how luck and opportunity can influence decision-making more than personal characteristics such as talent, skill and tenacity." [8]

Any you would add or delete?

At our institution, how do the measures we use to assess researchers affect equity and diversity?

Who needs to change and how?

If we want to improve research assessment, who needs to change? Possibly everyone, and all at once. But let's try to list specific and realistic ways that these stakeholders could make meaningful changes. In so doing, consider the SCOPE framework, especially the Probe stage: "How might this approach be gamed?" "What might the unintended consequences be?" [9]





RESEARCH

REGULATORS INSTITUTIONS & STUDENTS



ACADEMICS











MEDIA &

Important initiatives

DORA: "The Declaration on Research Assessment (DORA) recognizes the need to improve the ways in which researchers and the outputs of scholarly research are evaluated." url: https://sfdora.org/

CoARA: The Coalition for Advancing Research Assessment's vision is "that the assessment of research, researchers and research organisations recognises the diverse outputs, practices and activities that maximise the quality and impact of research." url: https://coara.eu/

You may also like to look up the Leiden Manifesto for Research Metrics (2015), Almetrics: a Manifesto (2010), and Metric Tide (2015).

References

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https://theconversation.com/the-publish-or-p erish-mentality-is-fuelling-research-paper-ret ractions-and-undermining-science-238983

- [3] Moher, D., et al. The Hong Kong Principles for assessing researchers: Fostering research integrity. 2020; PLOS Biology. doi: https://doi.org/10.1371/journal.pbio.3000737
- [4] Torres-Salanias, D., et al. Foundations of Narrative Bibliometrics. 2024; Journal of Informetrics, 18; 3. doi: https://doi.org/10.1016/j.joi.2024.101546
- [5] DORA. Guidance on the responsible use of quantitative indicators in research https://zenodo.org/records/13844873
- [6] Chawla, D. S. What's wrong with the journal impact factor in 5 graphs. 2018; Nature index.

https://www.nature.com/nature-index/news/w hats-wrong-with-the-jif-in-five-graphs

- [7] Gonzalez Bohorquez, N., et al. **Researchers** are willing to trade their results for journal prestige: results from a discrete choice experiment. 2024; OSF Preprints. Preprint doi: https://doi.org/10.31219/osf.io/uwt3b
- [8] Hatch, A. & Curry, S. Research Culture: Changing how we evaluate research is difficult, but not impossible. 2020; eLife; 9. doi: https://doi.org/10.7554/eLife.58654
- [9] Himanen, L., et al. The SCOPE framework implementing ideals of responsible research assessment. F1000Research, 2024, 12:1241, doi: https://doi.org/10.12688/f1000research.140810.2

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