
Reflections on the evaluation of open science

*Isabella Peters,
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Provocation I

We drown in open science metrics and indicators



No lack of open science metrics and indicators

- **Open Educational Practices (OEP):** Collection of scenarios (Steiner, 2018)
 - **Open Science Monitor** (European Commission)
 - **Inventory of indicators for Open Science** (Lampert et al., 2017, for European Commission)
 - **Discussion Paper “Open Science and Open Innovation – New Indicators for the Analysis of the Science and Innovation System in the Digital Age”** (Stifterverband, 2019; in German)
 - **Open Science Career Evaluation Matrix (OS-CAM)** (EU Working Group on Rewards under Open Science, 2017)
 - **Guideline Paper on ‘Research evaluation in a context of Open Science and gender equality’** (ERAC ‘Triangle Task Force, 2021)
 - **Thematic Report “Incentives and Rewards to engage in Open Science Activities”** (European Commission, 2017)
 - **Automated Open Science Assessment Tool** (Ripeta, 2020)
 - **Webinar “Implementing an Open Science Assessment Framework”** (Danish e-infrastructure Cooperation, 09/2021)
 -and counting.....
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Provocation I

**We drown in open science metrics
and indicators...**

**but we do not understand
what they mean**



Provocation II

**There is no lack of
guidelines on how to
use open science
metrics and indicators**



No lack of guidelines

- San Francisco **Declaration on Research Assessment** (DORA)
- The **Metric Tide** (Wilsdon et al., 2015)
- **Leiden Manifesto** for Research Metrics (Hicks et al., 2015)
- EC Expert Group on **Next Generation Metrics** (Wilsdon et al., 2017)
- The **Leiden Manifesto under review**: what libraries can learn from it (Coombs & Peters, 2017)
- Indicator Frameworks for **Fostering Open Knowledge Practices** in Science and Scholarship (Wouters et al., 2019, for European Commission)
- **Hong Kong Principles** for assessing researchers (Moher et al., 2020)
- ...and counting...

Provocation II

**There is no lack of guidelines on
how to use open science
metrics and indicators...**

**but we do not know what
to use them for**



Provocation III

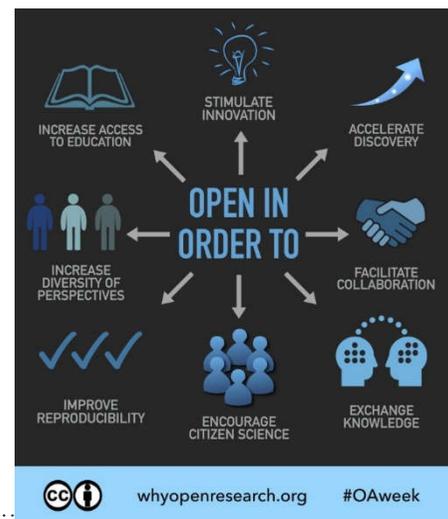
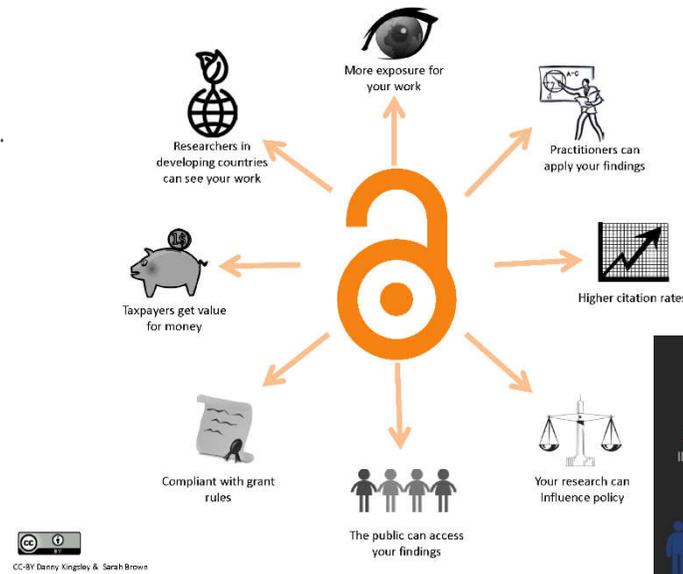
**Stop promoting open
science as soon as
100% of research
output is open**



100% open is enough

Goals of open science

- Efficiency
- Reproducibility
- Credibility
- Visibility
- Reflexivity
- Impact
- ...
- “Open science is about improving the quality, accountability and social contribution of research...” (p. 96)



Provocation III

**Stop promoting open science
as soon as 100% of research
output is open...**

**if there is not more to
achieve**



Provocation IV

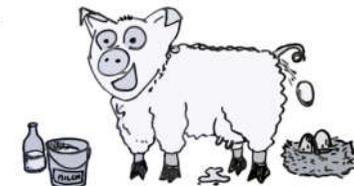
Do it all or die tryin'



All or nothing-principle

- Who is an open science champion?
- Are open science indicators supportive in becoming a better researcher?

I'm not necessarily on board with everything. How many people really do open data? And preregister everything. And do open peer review. And preprint. What if I only do a couple of those things? What if I do green open access but not gold? Am I not an open scientist if I don't do a live open lab notebook with a simultaneous bodycam?



Perverse effects

The pressures to publish narrative

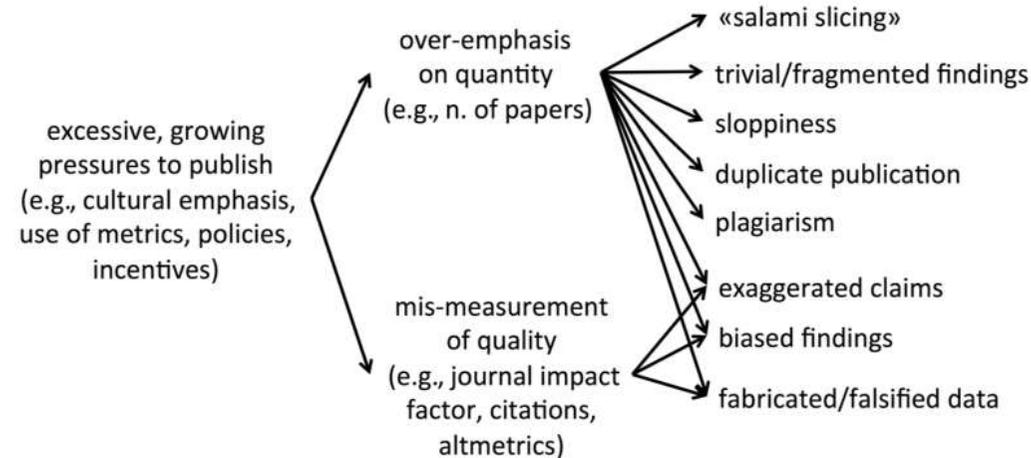


Figure 8.1

Schematic summary of hypothesized causal links between pressures to publish and research malpractice, as widely discussed in the literature.

Provocation IV

Do it all or die tryin'...

**Or: how can open
science support
researchers?**



Questions? Thank you!

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