

Improving openness and reproducibility of research

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National Institute
on Aging



Norms

Communality

Open sharing

Universalism

Evaluate research on own merit

Disinterestedness

Motivated by knowledge and discovery

Organized skepticism

Consider all new evidence, even against one's prior work

Quality

Counternorms

Secrecy

Closed

Particularism

Evaluate research by reputation

Self-interestedness

Treat science as a competition

Organized dogmatism

Invest career promoting one's own theories, findings

Quantity

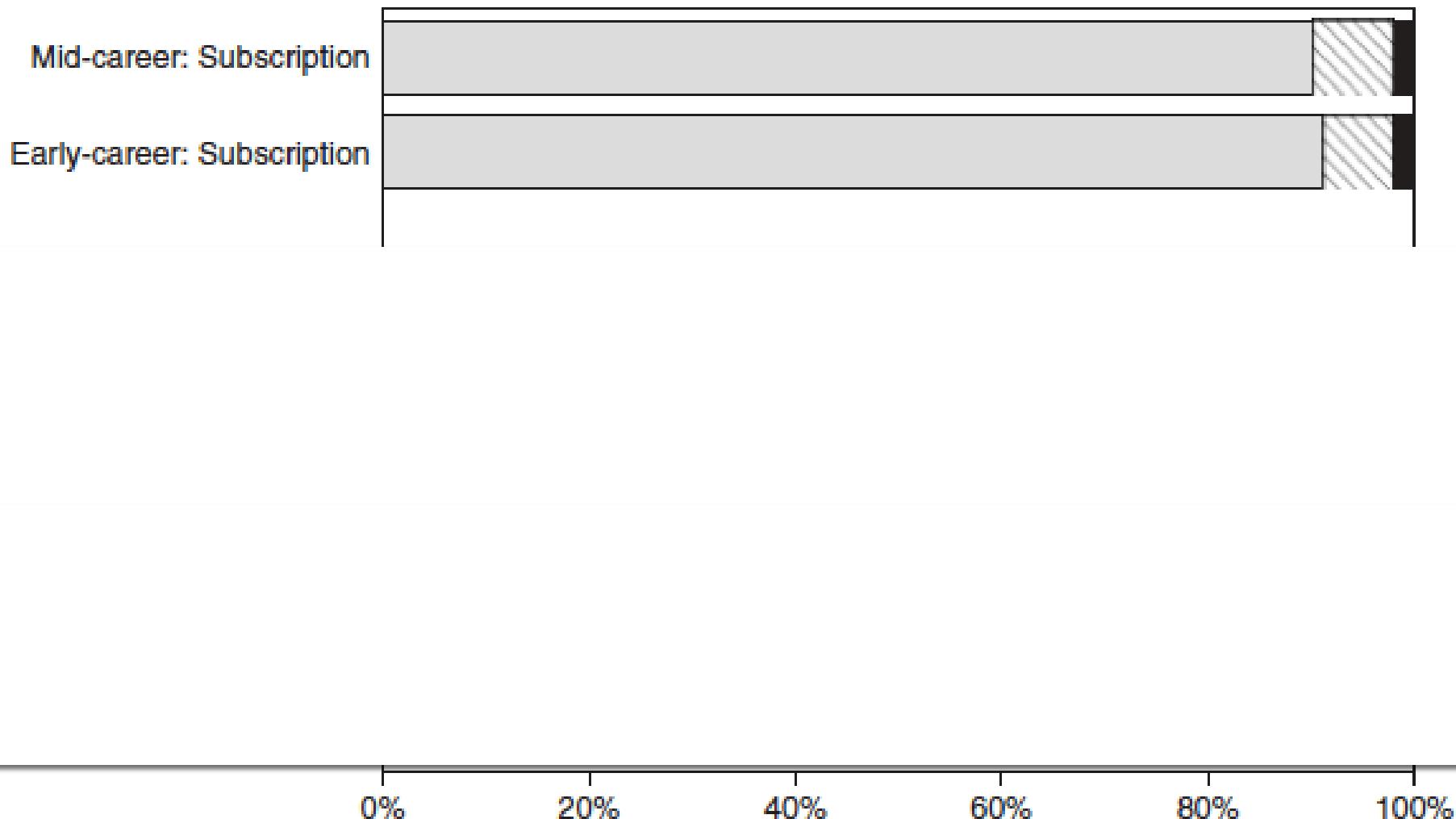
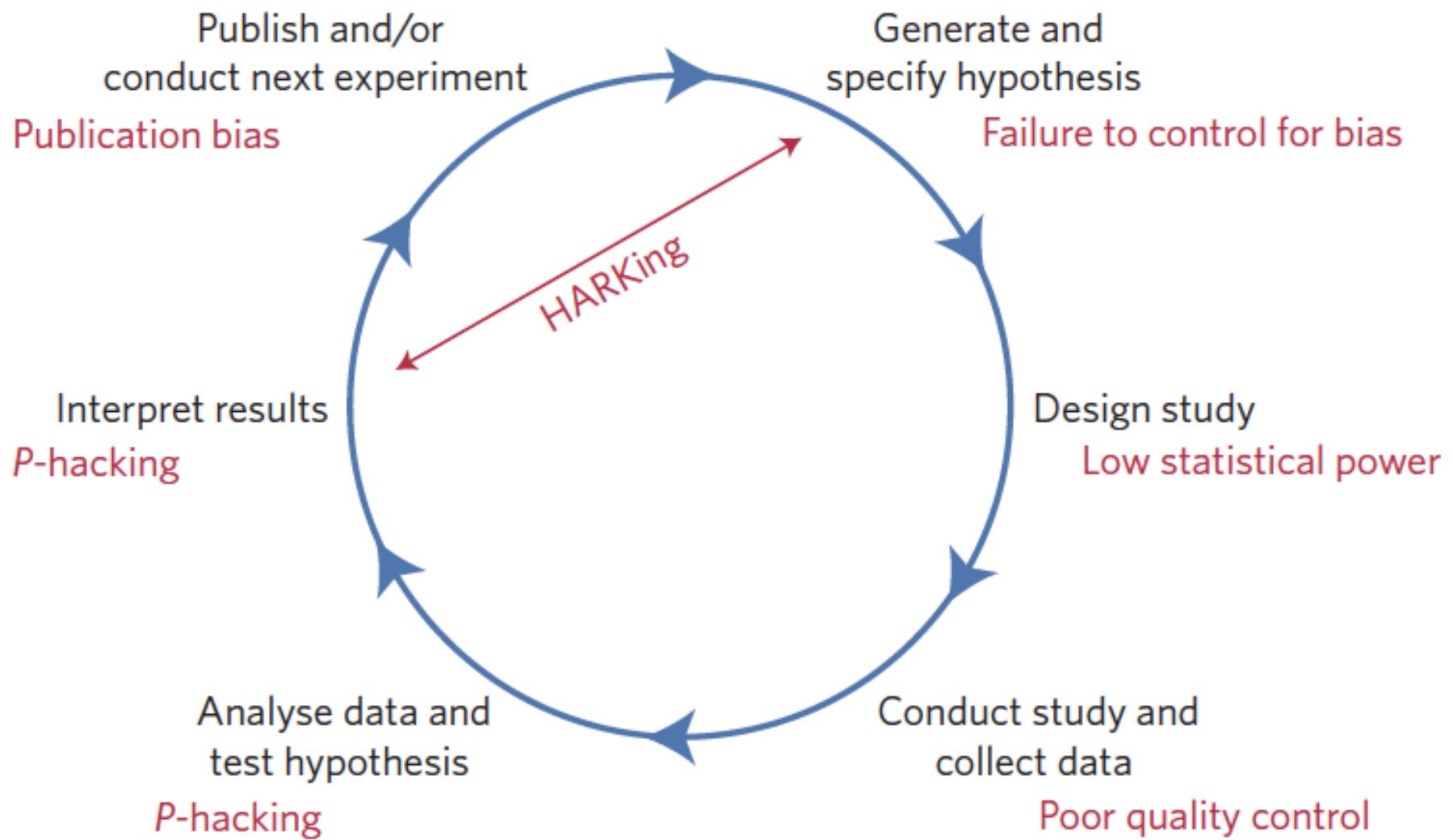
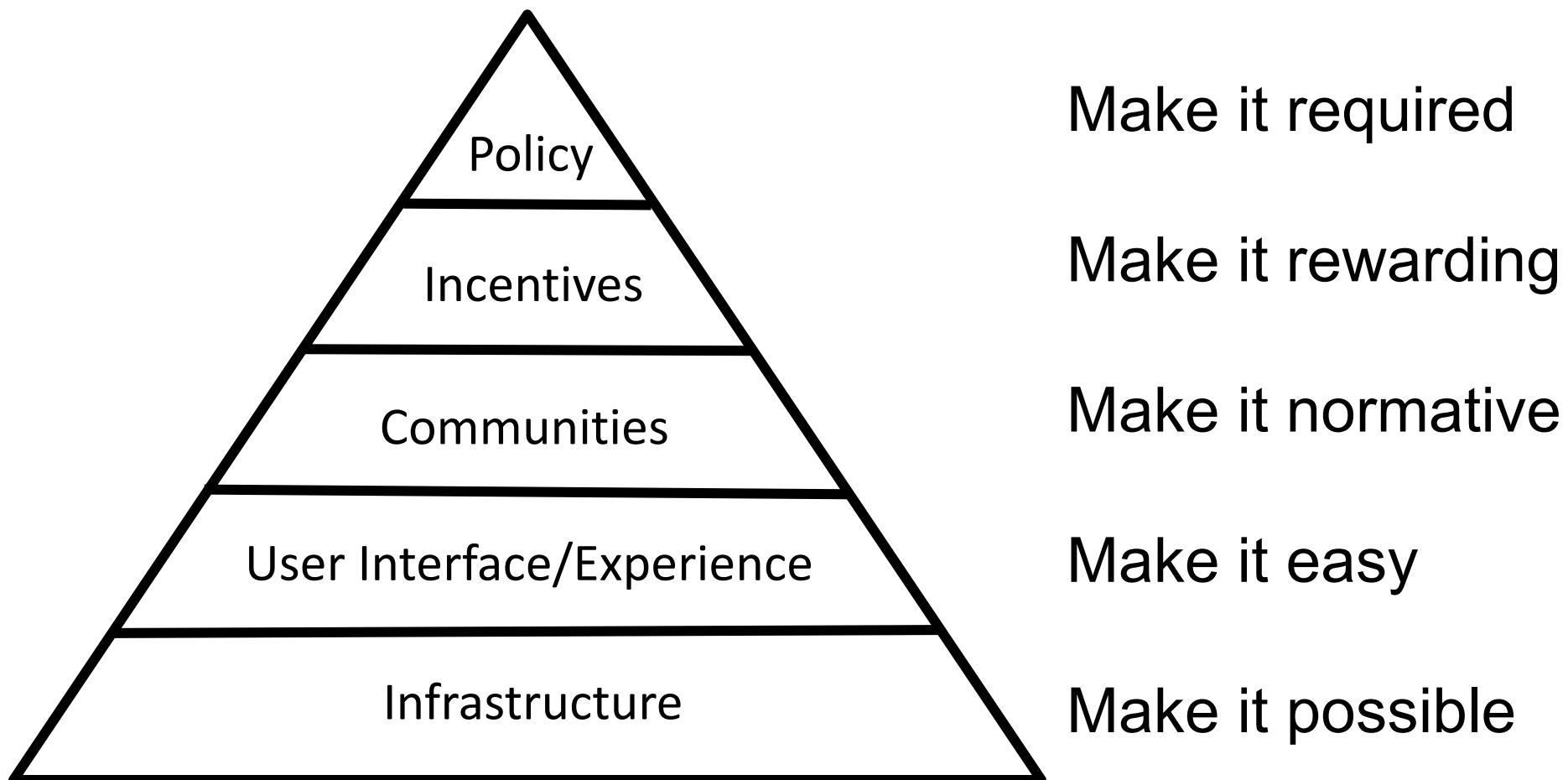


FIG. 3. Norm versus Counternorm Scores: Percent with Norm > Counternorm (dotted), Norm = Counternorm (striped), Norm < Counternorm (solid).

Incentives for
individual success are
focused on getting it
published, not
getting it right



Changing a Research Culture



<http://osf.io/>

Open Science Framework

A scholarly commons to connect the entire research cycle



OSF Institutions

<http://cos.io/institutions>, <http://osf.io/institutions>

- University credentials
- Collaboration Management
- Lifecycle support
- Registration
- Storage and archiving
- Public or controlled access sharing
- Institution discovery interface
- Integration with institution repositories
- Integration with other storage & repositories
- Adoption by 25% of R1 institutions so far
- User adoption doubling each year since 2012, now ~200/day

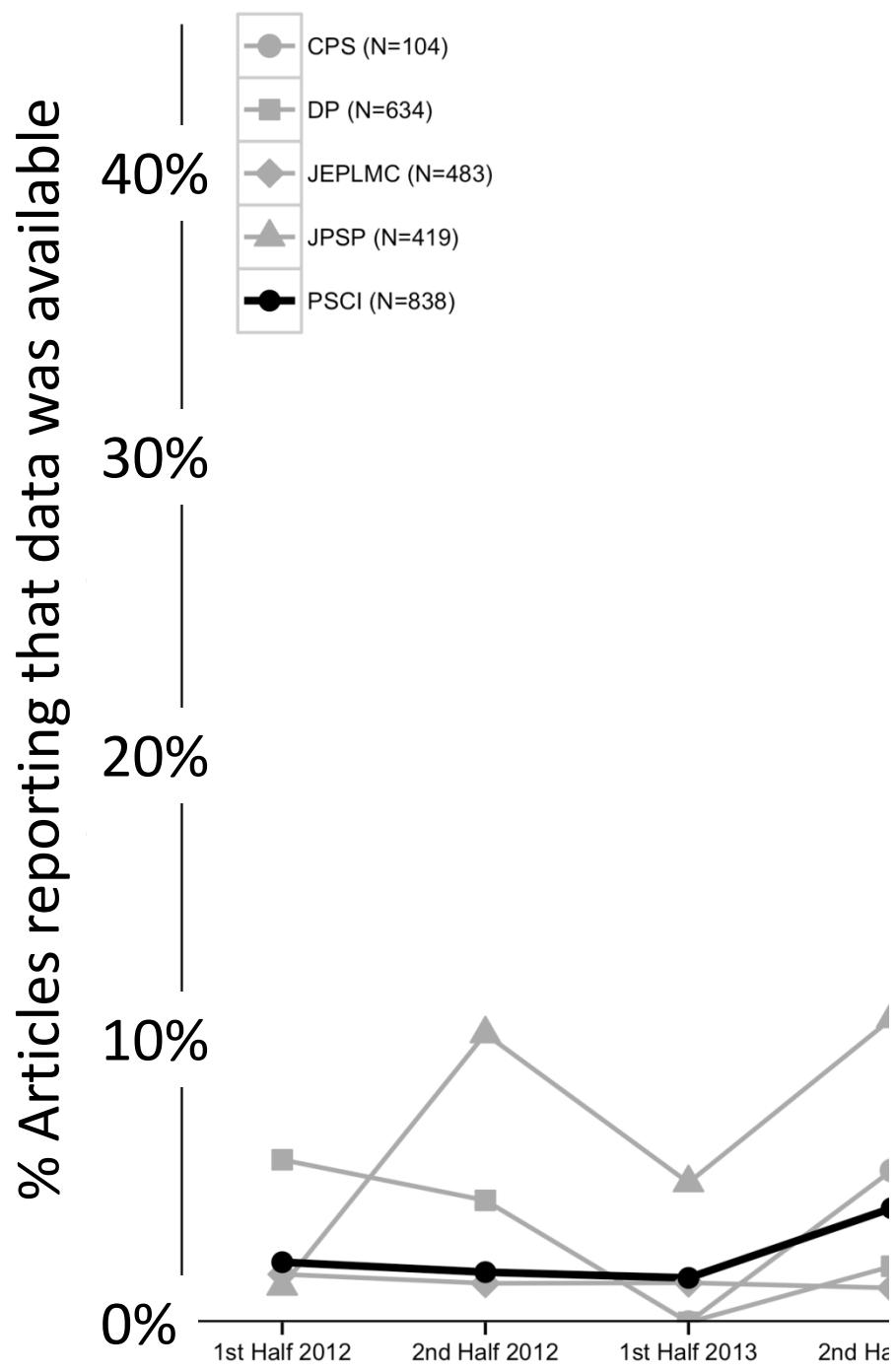
TOP Guidelines

<http://cos.io/top/>

1. Data citation
2. Design transparency
3. Research materials transparency
4. Data transparency
5. Analytic methods (code) transparency
6. Preregistration of studies
7. Preregistration of analysis plans
8. Replication

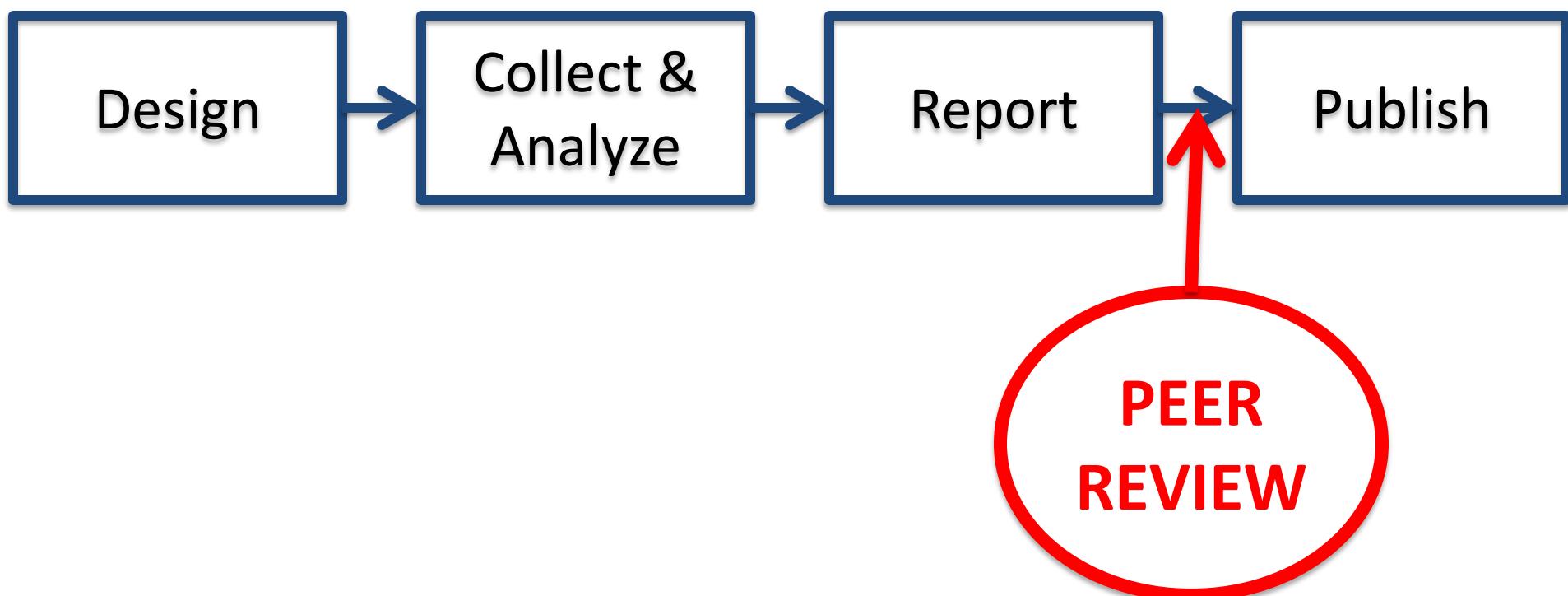
Signals: Making Behaviors Visible Promotes Adoption

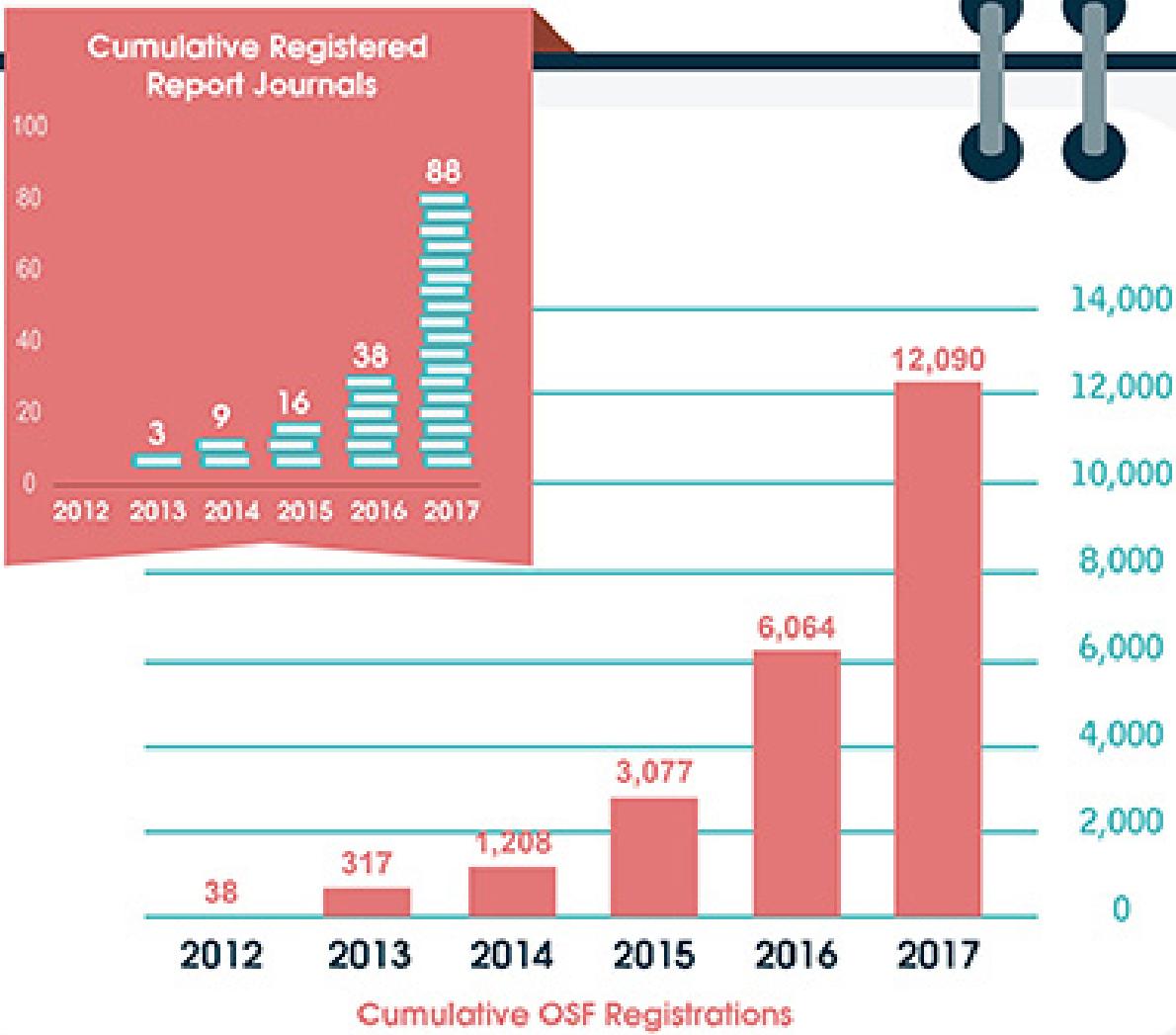




Registered Reports

<http://cos.io/rr>







UNIVERSITIES

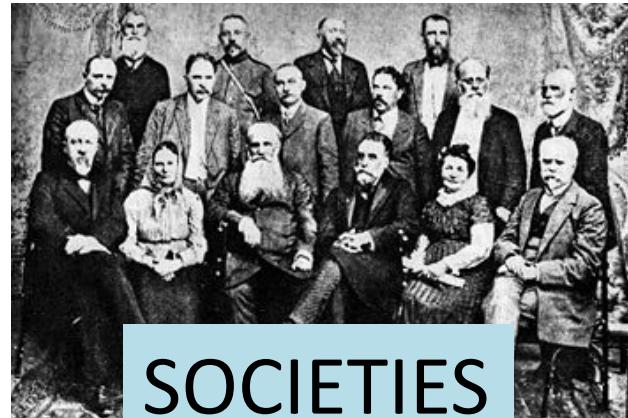


PUBLISHING

ecosystem



FUNDERS



SOCIETIES

More information

Take a picture

OSF: <http://osf.io/>

TOP Guidelines: <http://cos.io/top/>

Preregistration: <http://osf.io/prereg/>

Registered Reports: <http://cos.io/rr/>

Badges for open practices: <http://cos.io/badges/>

OSF Preprints: <http://osf.io/preprints/>

These slides: <https://osf.io/9yu8c/>



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