# Open Science and Signals of Trust

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# **Open Science**

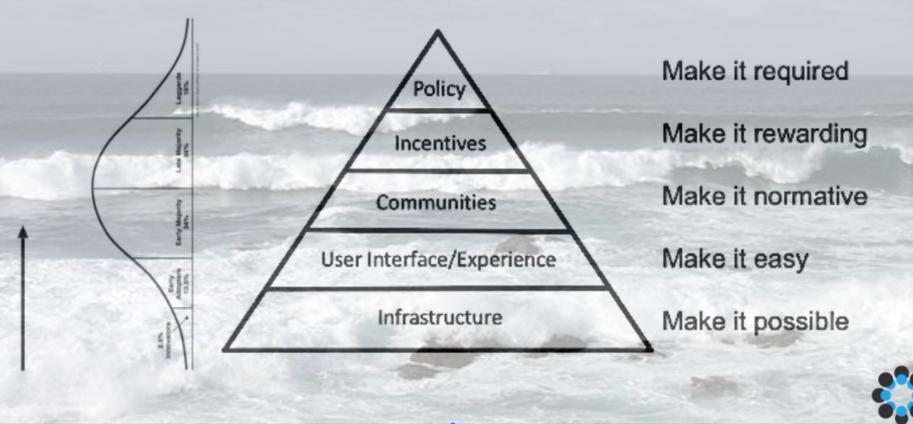
Transparency and openness across the research lifecycle

Trust

Verification, review, and evaluation



## **Open Science Adoption and Culture Change**



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

Nosek, Spies, & Motyl, 2012



#### The End.

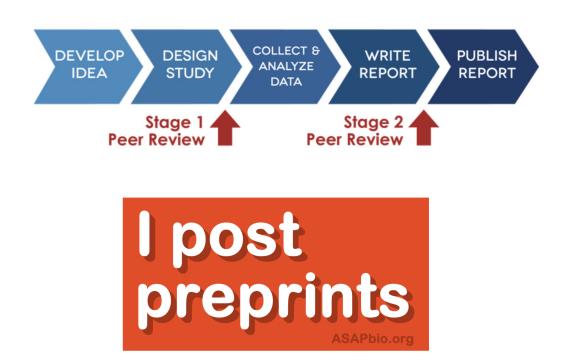
# Reproducibility

Start with the end in mind Show your work, Share your work ALL the work!



#### Scholarly publication and open science

New models to advance rigor, transparency, and rapid dissemination







#### Publication models that advance openness and rigor

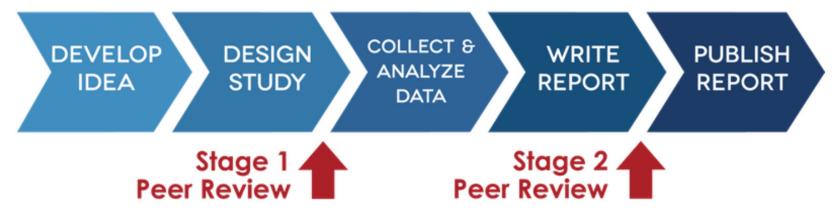
#### **Registered Reports**

Improve research quality

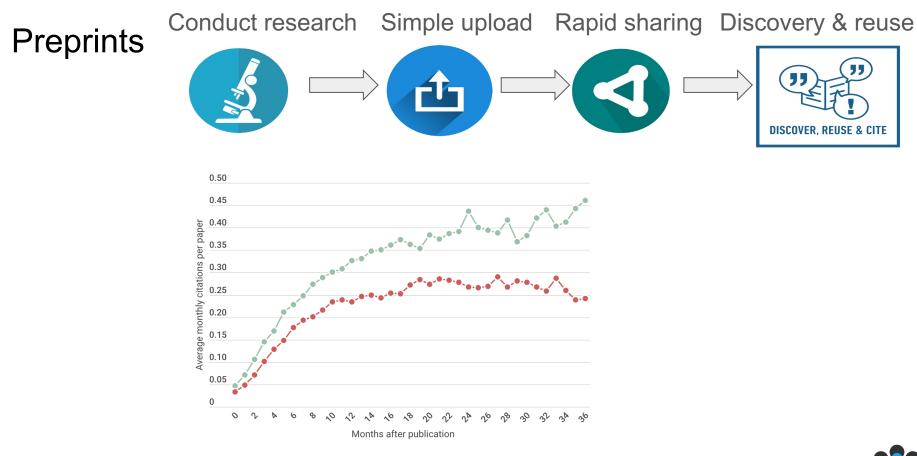
•Peer review prior to data collection

•Over 200 journals use RR format

•Null findings get published



https://www.cos.io/initiatives/registered-reports



Journal articles with preprints 🛑 Journal articles without preprints

See the full preprint on biorXiv

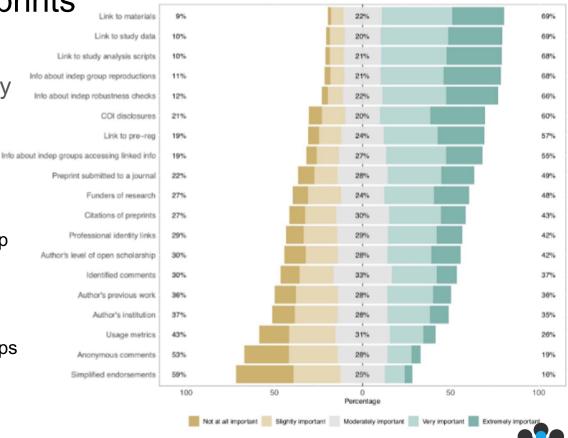


### Signals of Trust on Preprints

Collaboratively developed Survey of community (n=3755)

### Extremely important to have this information:

- Link to materials
- Link to study data
- Link to analysis scripts
- Information about independent group reproductions
- Information about independent robustness checks
- Conflict of interest disclosures
- Link to pre-registration
- Information about independent groups accessing linked information



Materials and survey data open on OSF: <u>https://osf.io/6kz2j/</u>

#### When assessing the credibility of a preprint how important would it be to have each of the following pieces of information?

#### Author assertions toward badges to signal trust

