

Preregistration and Registered Reports in Practice

Dr. Alexa Ellis
University of Alabama
9/10/26





Background

- Assistant Professor at the University of Alabama in the United States
- Big proponent of open science
- OSF goes a lot more in depth [HERE](#)
 - includes blogs, articles, FAQs

What is Open Science?

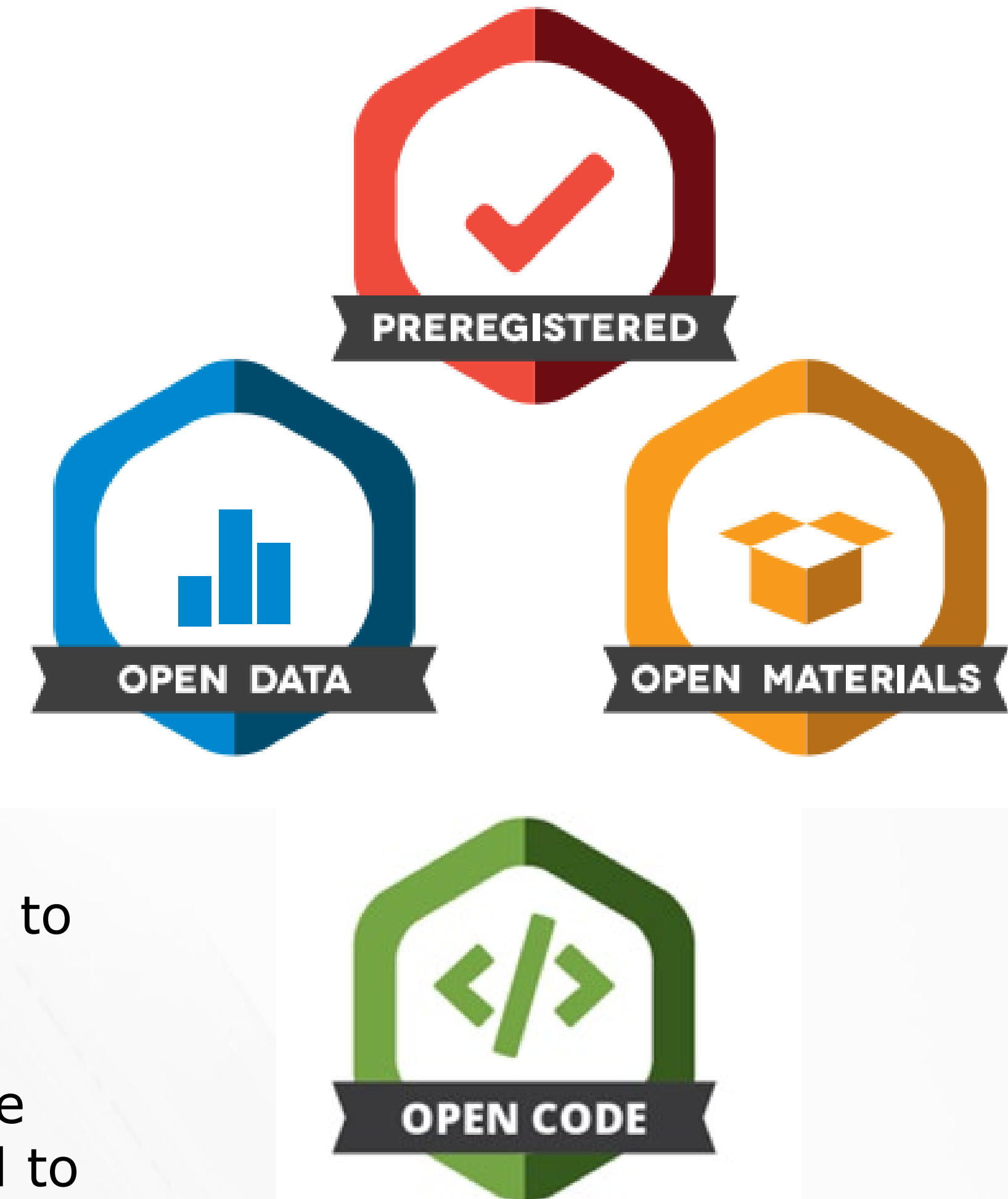
A movement that makes scientific
research, data, and publications
freely accessible and transparent
to everyone





Incentive Badges

- **Preregistered:** earned for having a preregistered design
- **Open Data:** when digitally shareable data necessary to reproduce the reported results are publicly available
- **Open Materials:** earned by making publicly available the components of the research methodology needed to reproduce the reported procedure and analysis
- **Open Code:** earned by making publicly available the analytical code needed to reproduce the reported analyses





Badges IRL

Received: 18 March 2022 | Accepted: 20 May 2023

DOI: 10.1111/bjep.12625

ARTICLE



International comparisons of the home mathematics environment and relations with children's mathematical achievement

Alexa Ellis¹  | Jimena Cosso²  | Robert J. Duncan³  |
María Inés Susperreguy^{4,5}  | Victoria Simms⁶  | David J. Purpura³ 

Journals That Issue Open Science Badges*

[Addiction Research & Theory](#) | Taylor & Francis

[Advances in Archaeological Practice](#) | Cambridge University Press

[Advances in Methods and Practices in Psychological Science](#) | SAGE

[AIS Transactions on Replication Research](#) | Elsevier

[American Journal of Orthopsychiatry](#) | APA

[American Journal of Political Science](#) | Wiley

[American Journal of Primatology](#) | Wiley

[Analyses of Social Issues and Public Policy \(ASAP\)](#) | Wiley

[Annual Review of Applied Linguistics](#) | Cambridge University Press

[Archive for the Psychology of Religion](#) | SAGE

[Asian American Journal of Psychology](#) | APA

[Big Earth Data](#) | Taylor & Francis

[BMC Microbiology](#) (uses modified badge criteria) | BMC

[BMJ Open Science](#) | BMJ

[Brain and Neuroscience Advances](#) | SAGE

[Canadian Journal of Experimental Psychology \(CJEP\)](#) | APA

[Career Development and Transition for Exceptional Individuals](#) | SAGE

[Clinical Psychological Science](#) | APS

[Cognitive Science](#) | Wiley

[Communication Studies](#) | Taylor & Francis

[Communication Research Reports](#) | Taylor & Francis

[Cortex](#) | Elsevier

[Cultural Diversity & Ethnic Minority Psychology](#) | APA

[Decision](#) | APA

[Ear and Hearing](#) | Wolters Kluwer

[Emerging Adulthood](#) | SAGE

[Journal of Comparative Psychology](#) | APA

[Journal of Experimental Psychology: Learning, Memory, and Cognition](#) | APA

[Journal of Experimental Social Psychology](#) | Elsevier

[Journal of International Crisis and Risk Communication Research](#) | Nicholson School of Communication and Media

[Journal of Maps](#) | Taylor & Francis

[Journal of Neuroendocrinology](#) | Wiley

[Journal of Neurochemistry](#) | Wiley

[Journal of Neuroscience Research \(JNR\)](#) | Wiley

[Journal of Personality Assessment](#) | Taylor & Francis

[Journal of Positive Psychology](#) | Taylor & Francis

[Journal of Psychiatric and Mental Health Nursing](#) | Wiley

[Journal of Social Psychology](#) | Taylor & Francis

[Journal of Research in Personality](#) | Elsevier

[Journal of Research on Educational Effectiveness](#) | Taylor & Francis

[Journal of Threat Assessment and Management](#) | APA

[Language Awareness](#) | Taylor & Francis

[Language Learning](#) | Wiley

[Language Testing](#) | SAGE

[Law and Human Behavior](#) | APA

[Management and Organization Review](#) | Cambridge University Press

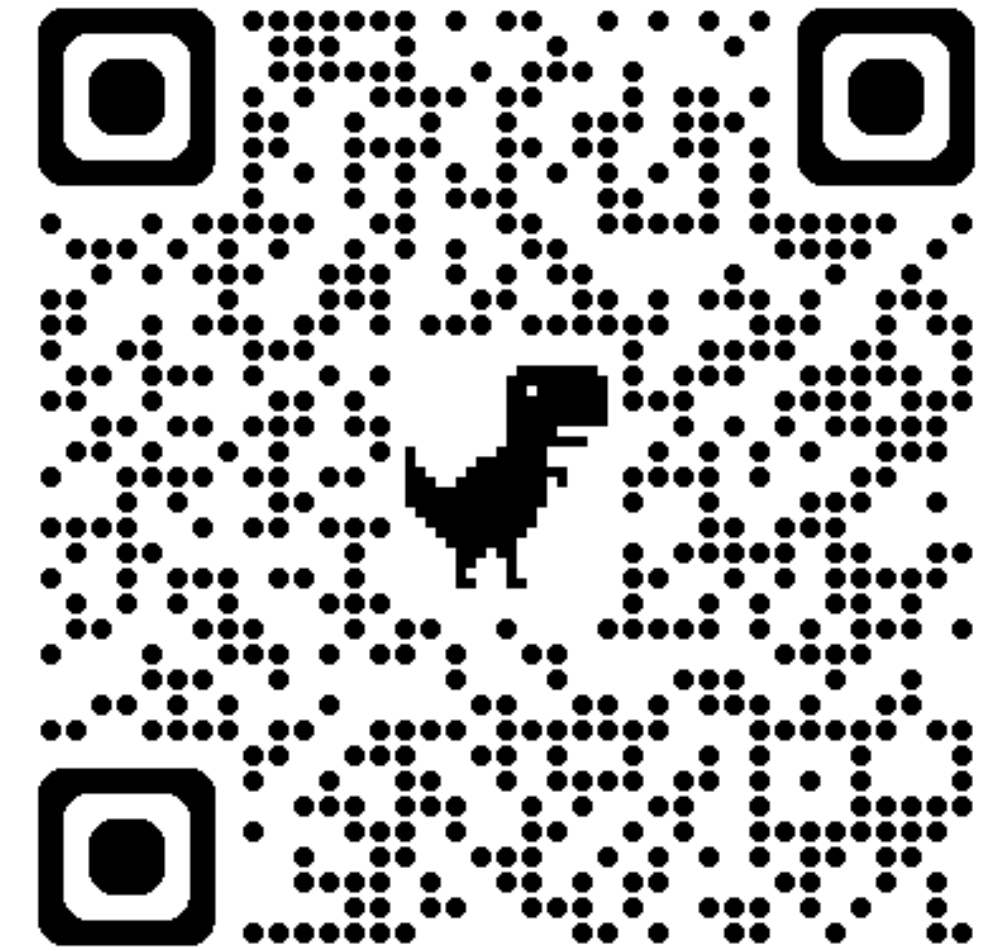
[Media Psychology](#) | Taylor & Francis

[Meta-Psychology](#) | Linnaeus University Press

[Neuropsychology](#) | APA

[Neuroscience of Consciousness](#) | Oxford University Press

[Phosphorus, Sulfur, and Silicon and the Related Elements](#) | Taylor & Francis



TODAY

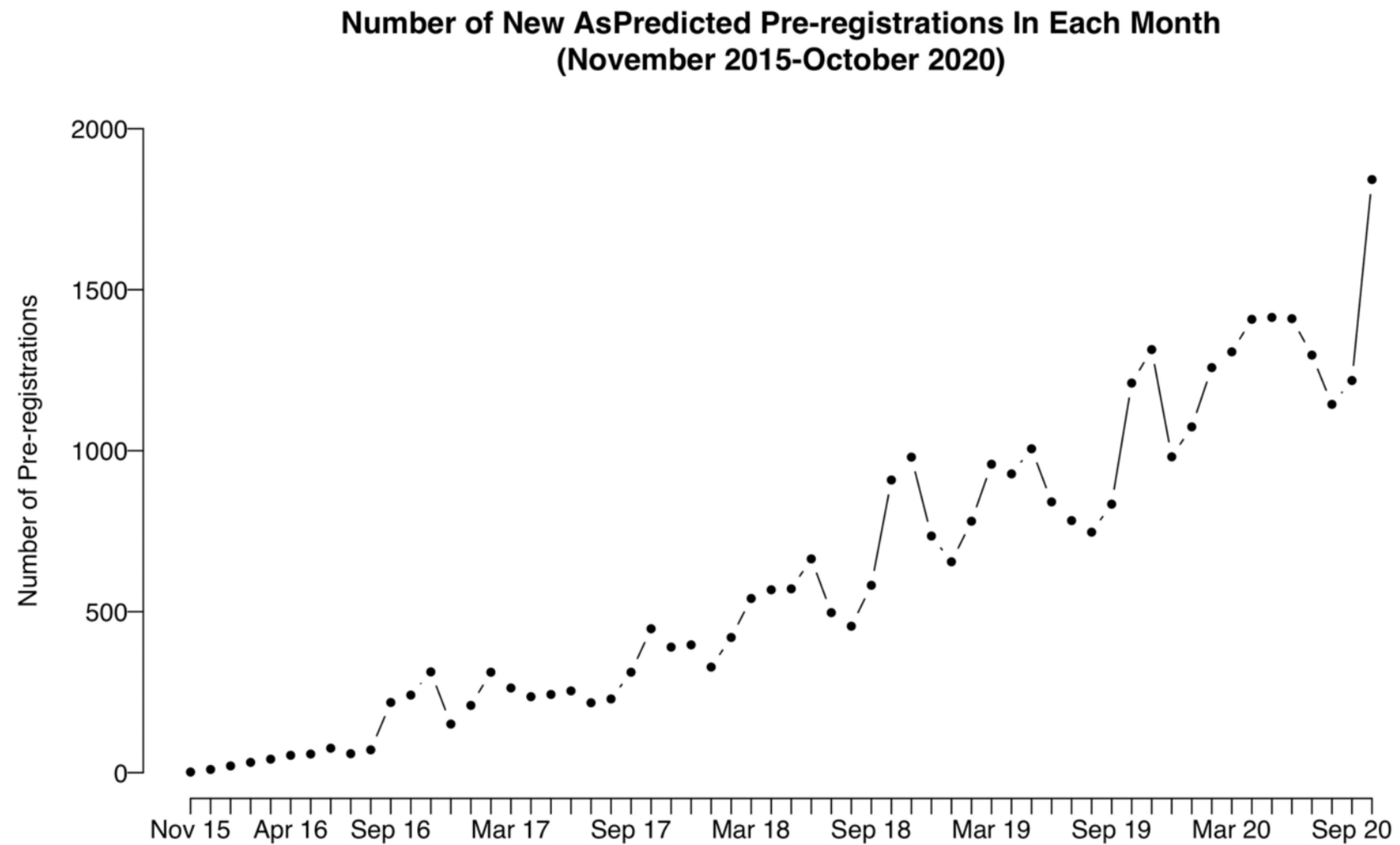
Preregistrations
Registered Reports





Preregistration

Figure 1. Number of New Pre-registrations Submitted To AsPredicted.org In Each Month



Simmons, Nelson, & Simonsohn, 2020



WHAT is Preregistration?

Specifying your research plan prior to your study and submitting it to a registry

- Timestamp
- RQs/hypotheses/variables/sample/exclusions/analyses

Basically, creates a frozen version of your study

WHY? To avoid questionable research practices



GOAL: to separate *hypothesis-generating* research (exploratory) from *hypothesis-testing* research (confirmatory)



Table 1. *Examples of Good vs. Bad Answers To Pre-registration Questions.*

Item in preregistration	<i>Bad answer</i>	<i>What's wrong with it?</i>	<i>Good answer</i>
Research Question or Hypothesis	Building on the work of Picasso (1901-1904), we hypothesized that....	You don't need reasons for asking the research question because they do not inform possible p-hacking. Just state the question or hypothesis of interest.	We are investigating whether sadness increases preference for the color blue
Dependent variable	Preference for the color blue	This preference can be measured in many different ways so this statement underspecifies how it will be measured.	Participants will rate their liking for red, blue, orange, and purple on 7-point scales (1 = not at all; 7 = an extreme amount). Preference for blue will be defined as the difference between a participant's rating for blue and their average rating of the three non-blue colors.
Manipulations/Conditions	We will manipulate mood by having participants watch different videos.	This leaves room for cherry-picking from amongst a larger set of conditions. Specify the exact conditions and the exact manipulations.	Before rating their color preferences, participants will be randomly assigned to one of three conditions in which they watch a clip from either a sad video (My Dog Skip), a happy video (Pitch Perfect), or a neutral video (Gone Curling) .
Analyses	We will regress preference for the color blue on mood condition	There are many ways to run these analyses. For example, are you including covariates? How will "mood condition" be coded? If applicable, how will the standard errors be computed?	We will run an OLS regression predicting preference for the color blue with condition (coded 1 = sad video; 0 = happy or neutral video). We will control for gender (1 = male; 0 = female) in this analysis.
Outliers & Exclusions	We will exclude participants who are inattentive, and those who show an extreme preference for the color orange.	What counts as "inattentive"? What counts as "extreme preference for the color orange"? You must define these things.	We will exclude participants who fail at least two out of the three attention checks that we will include at the beginning of our study (before the manipulation). We will also exclude participants whose rating of orange is higher than 5 on the 7-point scale.
Sample size	We conducted a power analysis that showed that ... And so we decided to collect between 100 and 200 observations.	Your power analysis is irrelevant to whether you p-hacked; leave it out. Also, any sample size between 100 and 200 is consistent with this preregistration.	We will stop data collection once 150 participants have submitted a response on MTurk. Deviations from this goal are entirely due to MTurk software and outside of our control.

Note. The information in this Table is largely based on a blog post we wrote in 2017, entitled “How To Properly Preregister A Study” (<http://datacolada.org/64>).



WHY Should You Preregister?

1. Makes your science better
2. Allows you to stake your claim to your ideas earlier
3. Helps you plan for better research
4. Makes you solidify your research question
5. Incentives!



WHEN Can You Preregister?

1. Before you collect your data
 - <https://osf.io/mpbzs>
2. After you are asked to collect more data
 - <https://osf.io/rk2qe/overview>
3. Before you begin analysis of an existing dataset
 - Preregistration of secondary data analysis ([van den Akker et al., 2021](#))
 - <https://osf.io/q7w3n>



HOW Can You Preregister?

My favorite: [OSF](#)

OR

<https://aspredicted.org/>

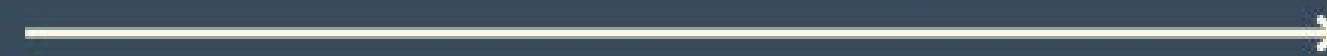




What is happening to OSF?

CHANGES TO OSF PROJECTS

what you need to know



Changes begin November 16, 2026
OSF is phasing out OSF Projects. This will affect how users create and manage projects, components, files, and stored content. **Review the timeline and learn whether you need to take action.**

What will be impacted

- Project Creation
- Project Components
- Data Storage
- File Management

[LEARN MORE](#)

OSF is one of the big leaders in preregistrations!

Funding has changed this landscape

OSF use	What to know
My public OSF Project is complete and does not need updates.	No action is needed. Public projects will remain indefinitely on OSF as a read-only public record that is findable, viewable, and downloadable.
I use OSF Projects for work that still needs updates.	Move ongoing work to another appropriate repository, storage location, or workflow tool.
My OSF Project is private.	Review whether the content can be made public to remain on OSF or move it to another appropriate storage location.
I use OSF for preregistration and study planning, or sharing preprints.	No change. Continue using OSF Registries and community-run OSF Preprints workflows.
I need a place for future data, materials, code, or other outputs.	Use an appropriate repository or storage service, then link those outputs to OSF registrations or preprints where relevant.



What should I do?

- OSF is still a fine place for preregistrations
- [LDBase](#) is another website that is great for public materials, data, codebooks...
- Not happy with any of these? [Here is another tool](#) to help with “which repository is right for me?”
- These slides are just on my personal webpage...just do SOMETHING

Make it Public or Private?

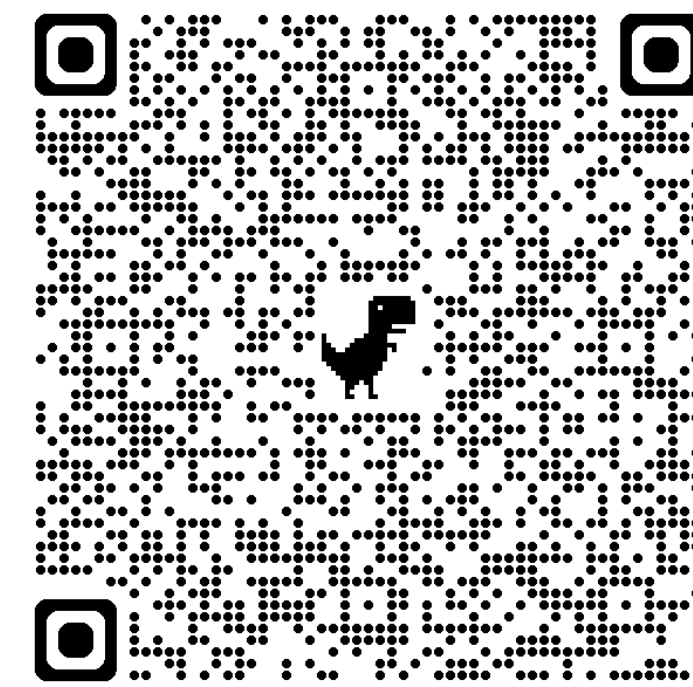
Any and all materials that are owned by you (e.g., not copyrighted to someone else) can be shared

You have no idea how one of your materials might be helpful to someone else with fewer resources or expertise just starting out

IF you feel you can't share, you can always publish tables of means, standard deviations, and correlation matrices of the key variables. [Here is a great paper](#) on data sharing in education science.



Preregistration Updates



“Some of my analyses will depend on the results, so how can I preregister each step in detail?”

- Preregister your general plan
- You can also preregister future decisions
- IF your preregistered plan runs into issues... that’s okay!

Amendments or Updates are welcomed and accepted



Amendment Examples

Updating Registrations: <https://help.osf.io/article/382-updating-registrations>

Alexa Ellis and colleagues: <https://osf.io/szvmx/>

Krzysztof Cipora and colleagues: <https://osf.io/ny95a/>

New OSF Feature: <https://osf.io/beuxf/overview>





Registered Reports

WHAT is a Registered Report?

A publishing format that emphasizes the importance of the research question and the quality of methodology by conducting peer review prior to data collection

High-quality protocols are then accepted for publication if the authors follow through with the registered methodology

GOAL: avoid publication bias



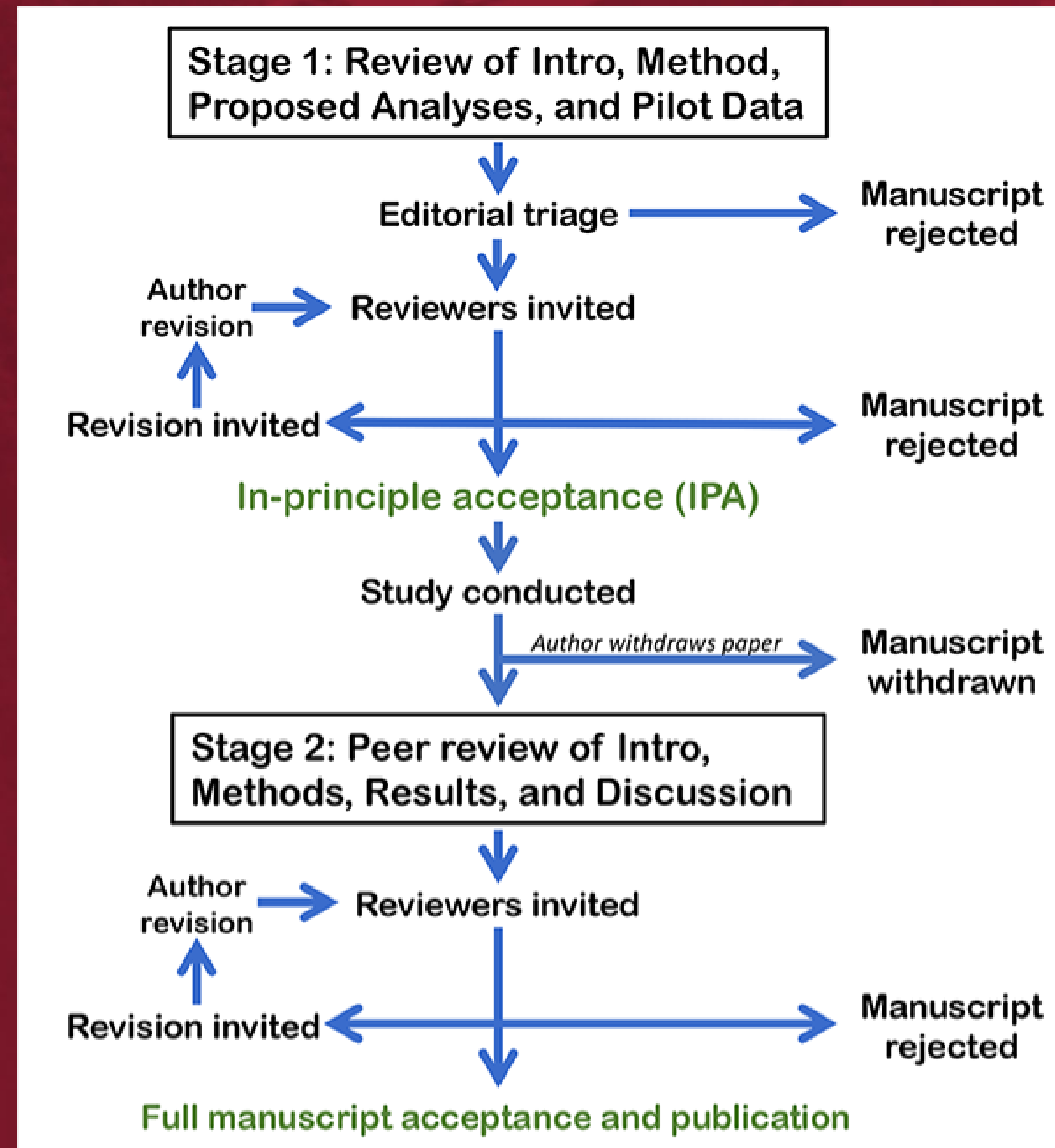
WHY Should You Reg Report?

1. Very clear confirmatory hypotheses
2. Power analyses and sample sizes justified
3. Produce reproducible and replicable science
4. Can get an ACCEPTED publication without dealing with difficult reviewers if nonsignificant results



WHEN Can You Reg Report?

If you are a graduate student planning to collect data and submit a proposal to your committee, this can be a great time to also submit that proposal as a registered report and avoid the lag of publication time after dissertation defense!



Infant and Child Development
prenatal • childhood • adolescence • emerging adulthood

EDITORIAL | [Free Access](#)

**Registered Reports with secondary developmental data:
Introduction to the special issue**

[Pamela E. Davis-Kean](#), [Alexa Ellis](#), [Moin Syed](#) ✉

First published: 15 April 2024 | <https://doi.org/10.1002/icd.2506> | [VIEW METRICS](#)

HOW Can You Reg Report?

Find your journal, start planning. DO NOT
ACCESS DATA

Journal	Notes
AAS Open Research	Author Guidelines
Academy of Management Discoveries	Guidelines
Acta Psychologica	Guidelines
Addiction Research & Theory	Guidelines
Advances in Methods and Practices in Psychological Science	Guidelines for Registered Reports Guidelines for Registered Replication Reports
Affective Science	Announcement Details to follow
American Political Science Review	Guidelines
AMRC Open Research	Author Guidelines
Analyses of Social Issues and Public Policy	Guidelines
Animal Behavior and Cognition	Guidelines
Animal Biology	Announcement
Animals	Guidelines





WORKING EXAMPLE

<https://alexagraceellis.com/>
alexa.ellis@ua.edu

<https://www.linkedin.com/in/alexa-ellis014/>

Thank You!!!