Open Research Blitz

Ponrawee Prasertsom & Georgia Ann Carter
pplsopenresearch@ed.ac.uk

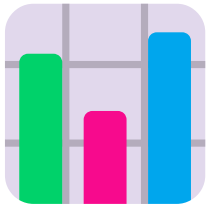
Open Research is a set of principles […] to make the outputs of research **freely accessible** and **usable**, thereby to maximise the possibility of **public benefit.**

https://libguides.reading.ac.uk/open-research/about

Conceptualisation and design

Pre-registrations and pre-registered reports

Document what your plans and the changes you make to them



Analysis

Reproducible Workflow

Document your analysis and code
Ensure others can run your code and get the same results

Dissemination

Open Access

Share manuscripts (preprints)
Share data and analysis code
Make research free (Open Access)

Why do Open Research?

Good for science

- More transparency (less field-wide crises)
- Better, robust results
- Promotes equality of access to knowledge

Good for you

- More people know your work
- Get more citations
- Avoid disasters (e.g., accusations of academic fraud)

But that sounds like a hassle…

Yes, but you have to do **most of them** anyway:

- Pre-registration: Good research requires good planning
- You have to write code, analyse data, …

You're just putting in a little extra work to:

- **Organise** your research/code/data
- **Document** your plans, steps you take in doing your research
- Make your stuff **accessible**

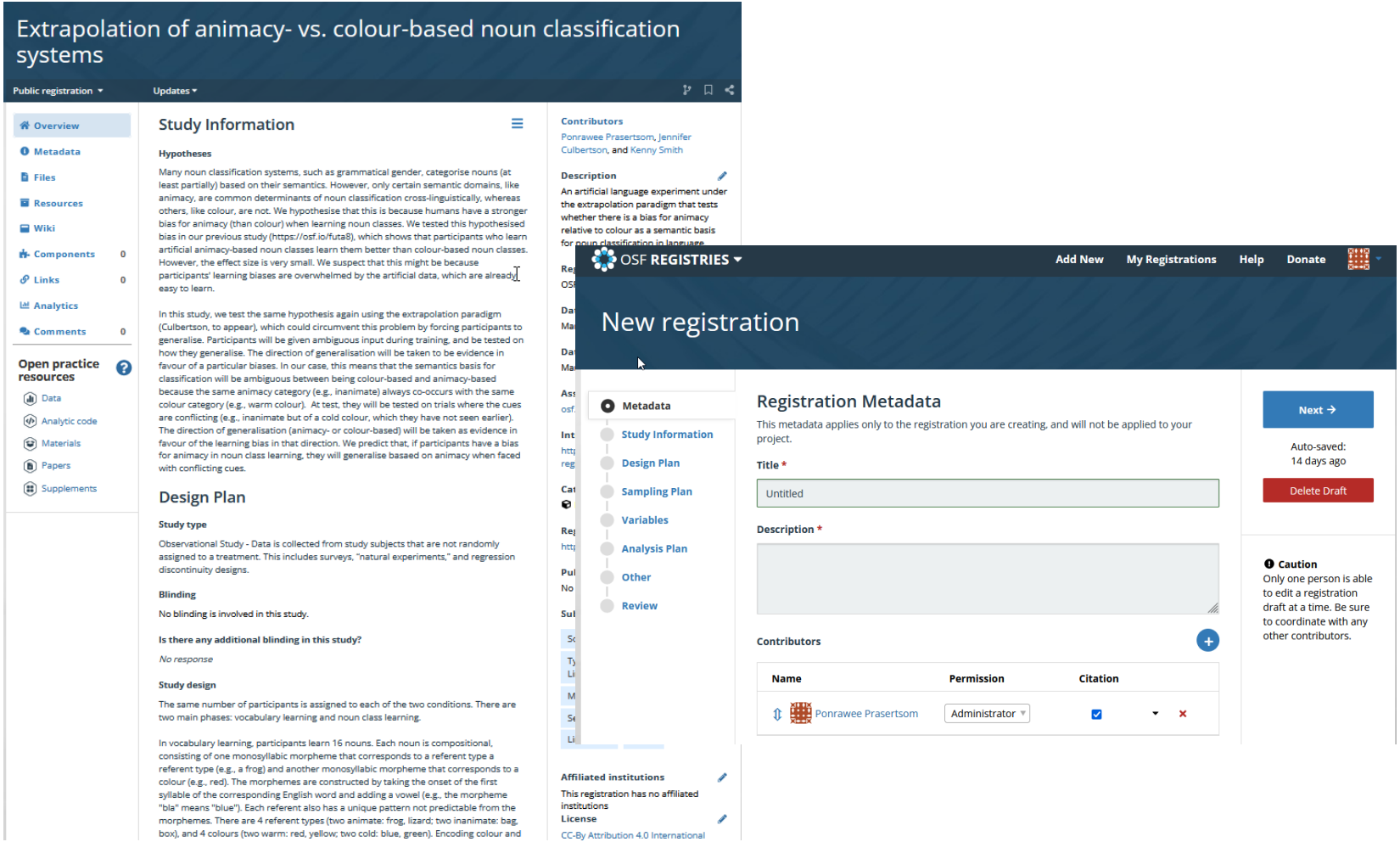
How to begin?

Well, hopefully we can help!

Pre-registration

The act of specifying your research plan before conducting the study

- State clear research hypothesis
- Outline analysis plan (ideally) prior to data collection
- In practice: Fill out a form in a pre-registration platform (e.g., OSF)
- Your pre-registration is eventually made public

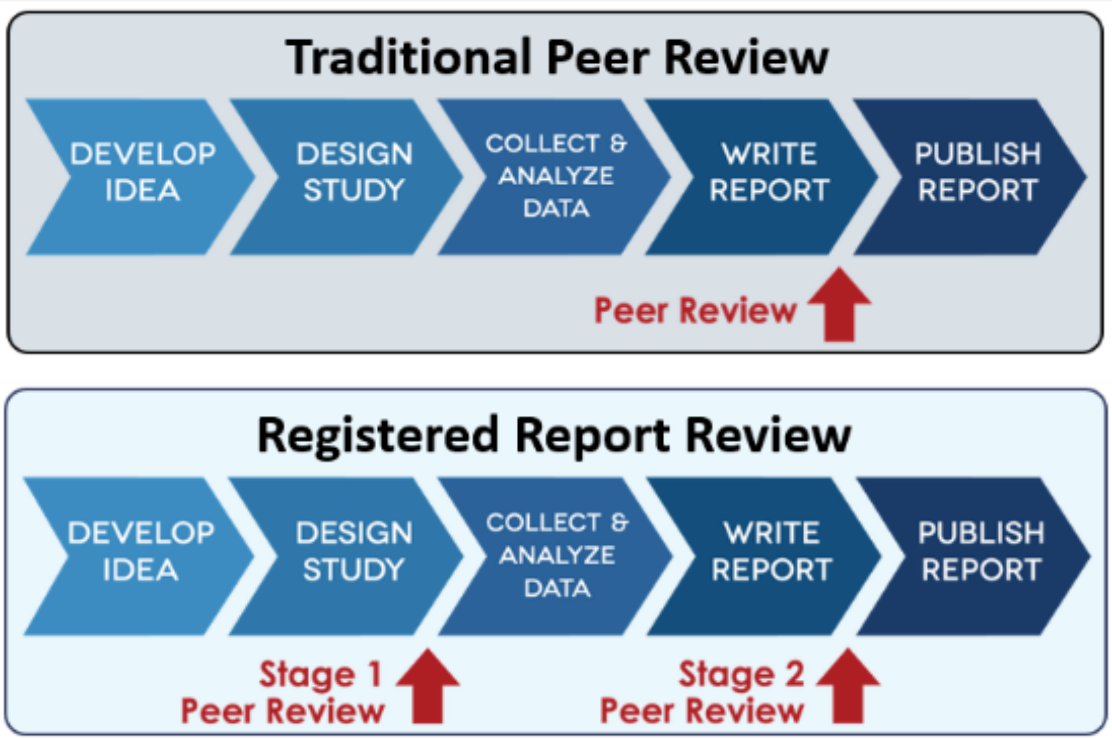

Extrapolation of animacy- vs. colour-based noun classification systems
Public registration
Updates
Overview
Metadata
Files
Resources
Wiki
Components 0
Links 0
Analytics
Comments 0
Open practice resources
Data
Analytic code
Materials
Papers
Supplements
Study Information
Hypotheses
Many noun classification systems, such as grammatical gender, categorise nouns (at least partially) based on their semantics. However, only certain semantic domains, like animacy, are common determinants of noun classification cross-linguistically, whereas others, like colour, are not. We hypothesise that this is because humans have a stronger bias for animacy (than colour) when learning noun classes. We tested this hypothesised bias in our previous study (https://osf.io/futa8), which shows that participants who learn artificial animacy-based noun classes learn them better than colour-based noun classes. However, the effect size is very small. We suspect that this might be because participants' learning biases are overwhelmed by the artificial data, which are already easy to learn.
In this study, we test the same hypothesis again using the extrapolation paradigm (Culbertson, to appear), which could circumvent this problem by forcing participants to generalise. Participants will be given ambiguous input during training, and be tested on how they generalise. The direction of generalisation will be taken to be evidence in favour of a particular biases. In our case, this means that the semantics basis for classification will be ambiguous between being colour-based and animacy-based because the same animacy category (e.g., inanimate) always co-occurs with the same colour category (e.g., warm colour). At test, they will be tested on trials where the cues are conflicting (e.g., inanimate but of a cold colour, which they have not seen earlier). The direction of generalisation (animacy- or colour-based) will be taken as evidence in favour of the learning bias in that direction. We predict that, if participants have a bias for animacy in noun class learning, they will generalise basaed on animacy when faced with conflicting cues.
Design Plan
Study type
Observational Study - Data is collected from study subjects that are not randomly assigned to a treatment. This includes surveys, "natural experiments," and regression discontinuity designs.
Blinding
No blinding is involved in this study.
Is there any additional blinding in this study?
No response
Study design
The same number of participants is assigned to each of the two conditions. There are two main phases: vocabulary learning and noun class learning.
In vocabulary learning, participants learn 16 nouns. Each noun is compositional, consisting of one monosyllabic morpheme that corresponds to a referent type a referent type (e.g., a frog) and another monosyllabic morpheme that corresponds to a colour (e.g., red). The morphemes are constructed by taking the onset of the first syllable of the corresponding English word and adding a vowel (e.g., the morpheme "bla" means "blue"). Each referent also has a unique pattern not predictable from the morphemes. There are 4 referent types (two animate: frog, lizard; two inanimate: bag, box), and 4 colours (two warm: red, yellow; two cold: blue, green). Encoding colour and
Contributors
Ponrawee Prasertsom, Jennifer Culbertson, and Kenny Smith
Description
An artificial language experiment under the extrapolation paradigm that tests whether there is a bias for animacy relative to colour as a semantic basis
Affiliated institutions
This registration has no affiliated institutions
License
CC-By Attribution 4.0 International
OSF REGISTRIES
Add New
My Registrations
Help
Donate
New registration
Metadata
Study Information
Design Plan
Sampling Plan
Variables
Analysis Plan
Other
Review
Registration Metadata
This metadata applies only to the registration you are creating, and will not be applied to your project.
Title *
Untitled
Description *
Contributors
Name
Permission
Citation
Ponrawee Prasertsom
Administrator
Next →
Auto-saved: 14 days ago
Delete Draft
Caution
Only one person is able to edit a registration draft at a time. Be sure to coordinate with any other contributors.

Pre-registration

Does that mean you cannot change my plan?

- No! You can make updates to your pre-reg
- You can do exploratory analyses: You just have to state that they are exploratory
- Transparency is key

Registered reports = Peer-reviewerd pre-registration



Registered reports = Peer-reviewerd pre-registration

Pros

- Early reviews and (in-principle) acceptance
- (Almost) guaranteed publication
- Credibility

Cons

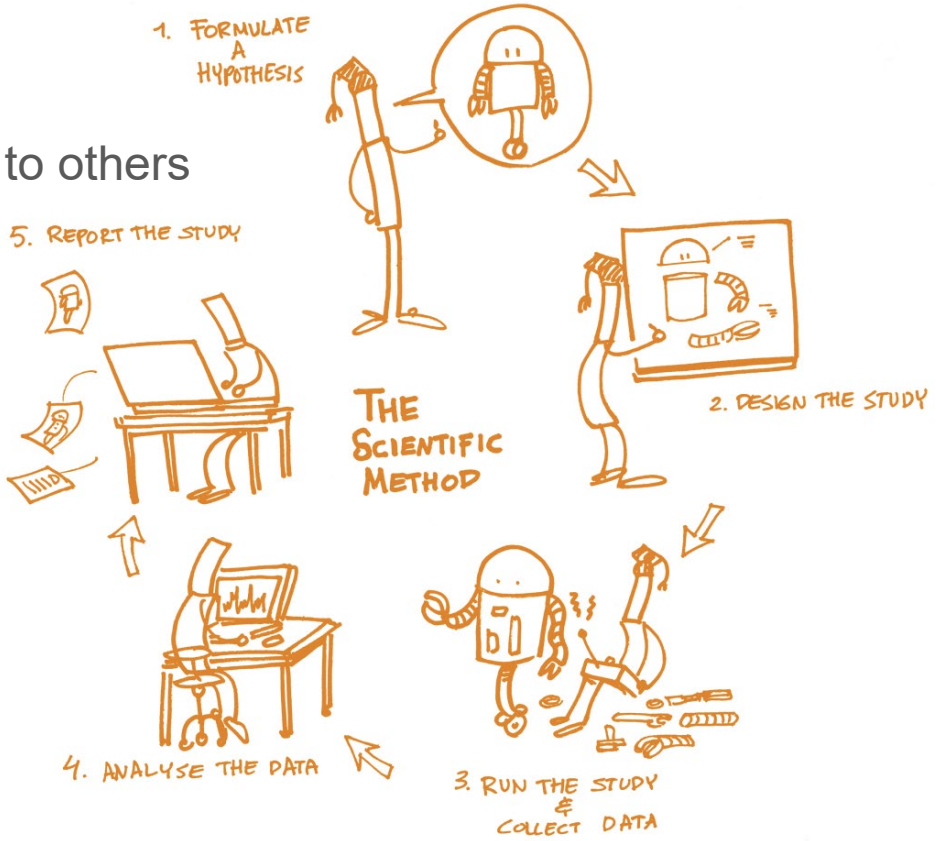
- Workload shift to the start
- Hard to do with unexplored areas
- Not adopted by many journals

Data Sharing

The act of making data/code accessible to others

Pros

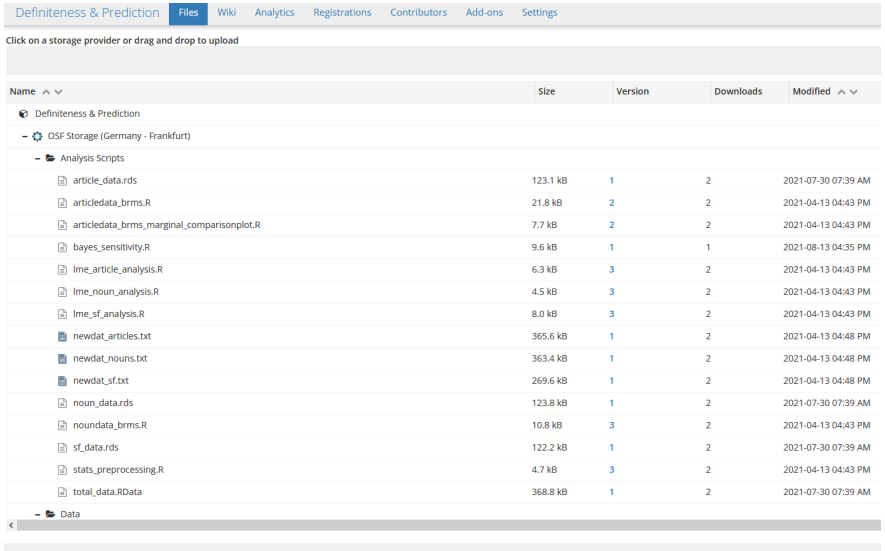
- Citation advantage
- Reproducibility
- Transparency



Data Sharing

How?: submit data and materials to independent repository e.g., OSF, Github

- Important to include metadata → comments on making data useable
  - Explaining abbreviations
  - Highlighting where to change folder names



TIP!: preparing research materials for sharing during the active research phase is easier than afterwards (McKiernan et al., 2016)

Licensing

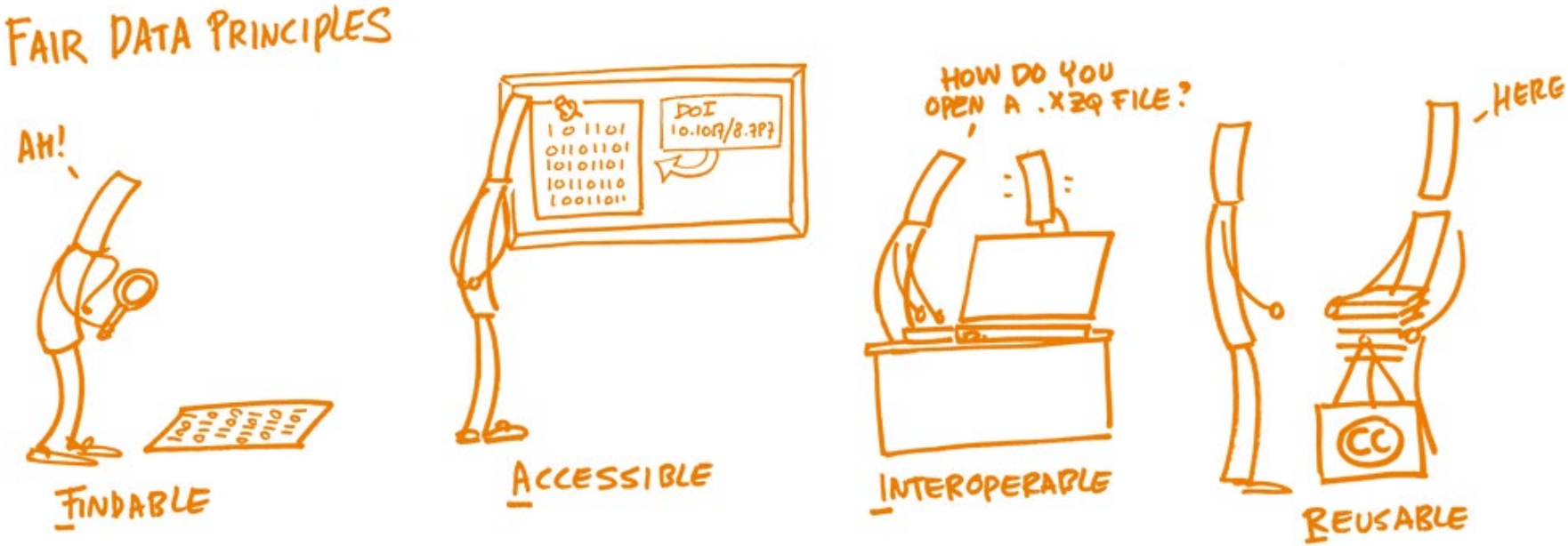
- Licenses tell others what they can (and cannot!) do with your work
- Licensing content and having access to software needed to use that content → go hand in hand

Licensing

Creative Commons (CC)

License	Type of use	Symbols
Attribution (BY)	You must credit the creator, the title and the license the work is under.	
Non Commercial (NC)	The work cannot be used for commercial purposes.	
No Derivatives (ND)	The work can only be used exactly how it is. The work cannot be adapted or modified in any way.	
Share Alike (SA)	Any new material produced using the work must be made available under the same license as the original work.	

Open Data Principles



Pre-prints and peer review

Pre-print = Versions of your paper before submission

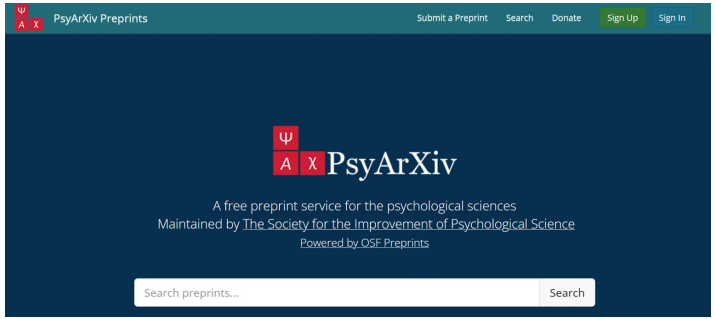
Why would I pre-print?

- Research is “out there” faster
- Accessible and available for everyone
- Can link citations from pre-prints and journal publications in Google Scholar!

Pre-prints and peer review

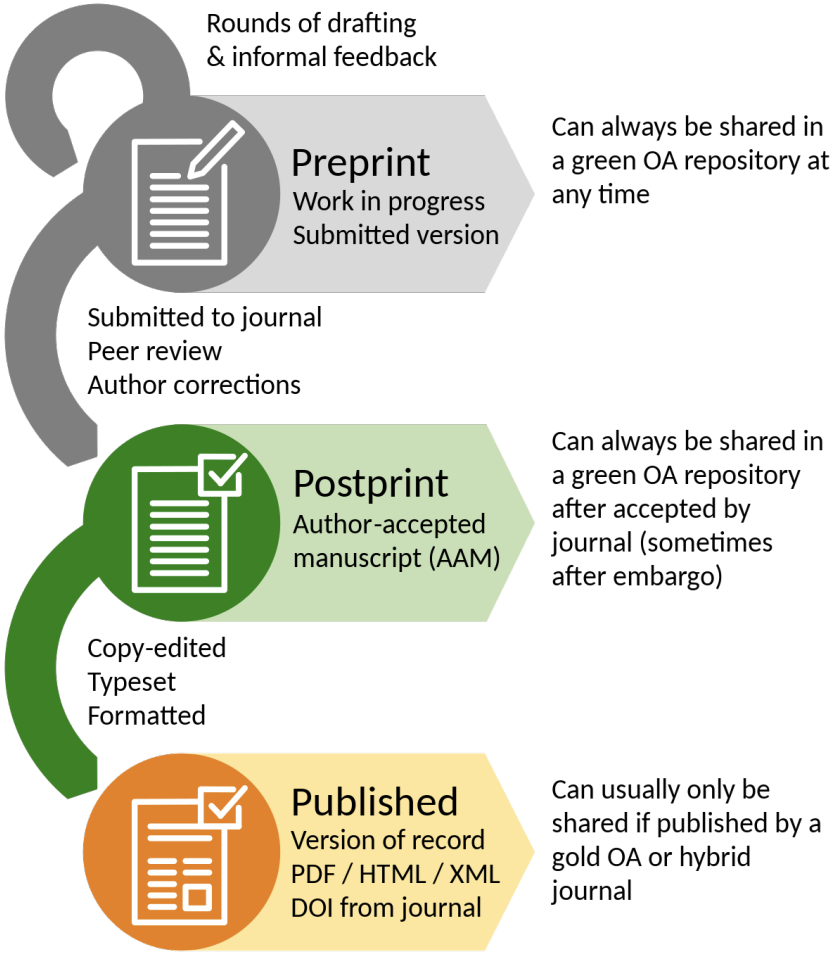
Pre-prints can be uploaded to repositories:

- arXiv
- **PsyArXiv**
- OSF preprints



Publishing Open Access

- OA = Can be read for free
- Green OA = Your manuscripts are free (maybe after some time)
- Gold OA = Your published version is free (but there may be processing charges)
- “Diamond” OA = Gold OA with no charges



Publishing Open Access

- Authors publishing in open access journals retain their rights to the manuscript and materials
- OA journals also have a peer review process

Publish OA at no extra cost (UoE-sponsored)

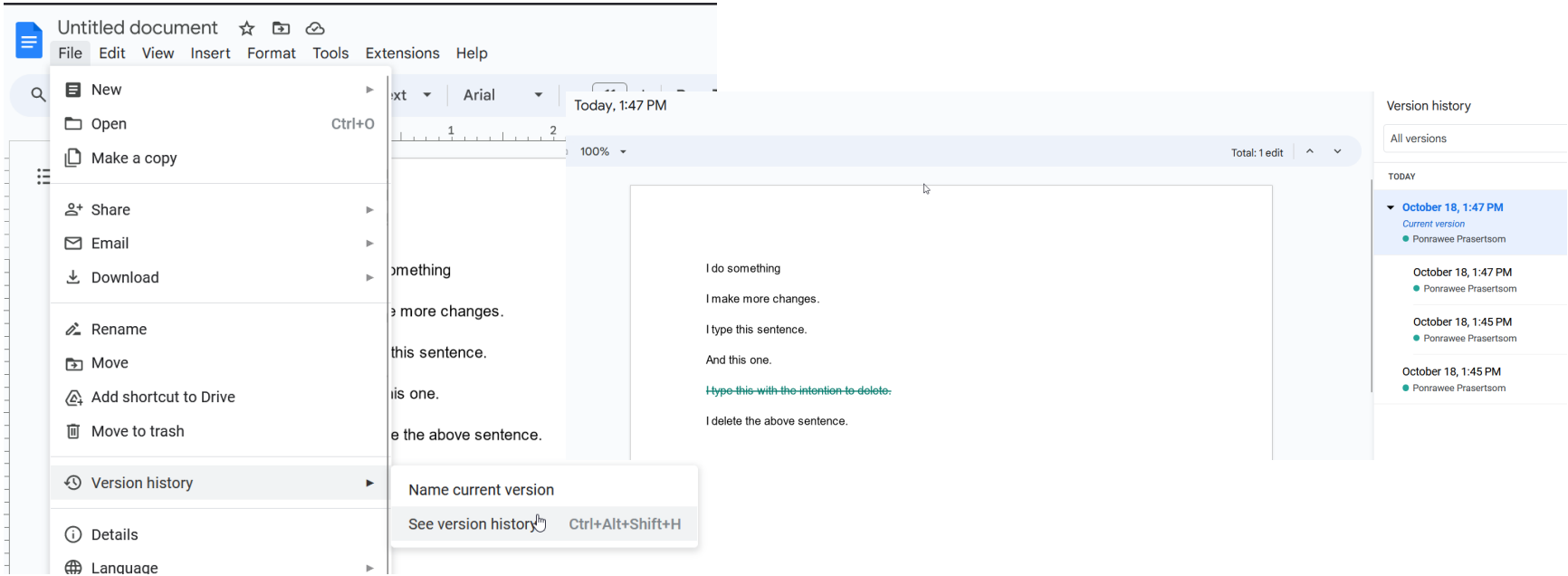
- Checkout **Read & Publish Journals** page on UoE website
- https://www.ed.ac.uk/information-services/research-support/publish-research/open-access/read-and-publish-journals

Version Control

- When working on a project, you may want to keep different **versions** of your project (i.e., a history of changes).
- Having different versions means your work process is more **transparent** = More people understand your work & decisions better

Version Control

- Example of simple version control: Google Docs

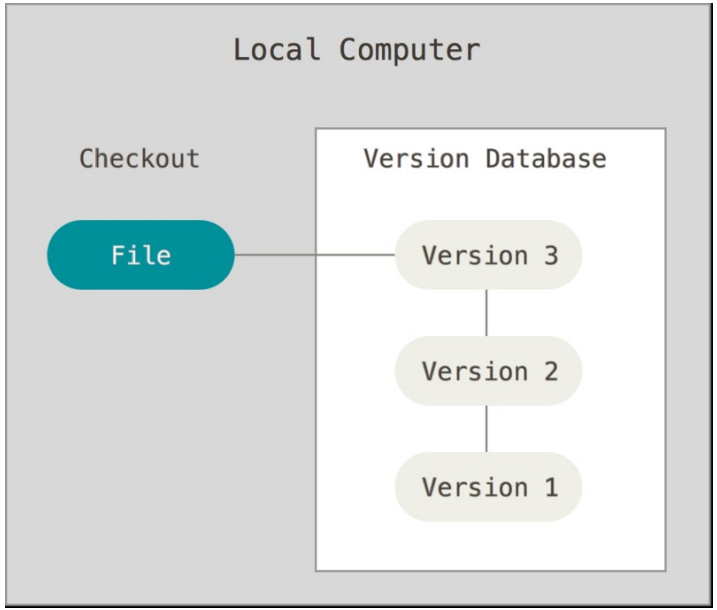


Version Control

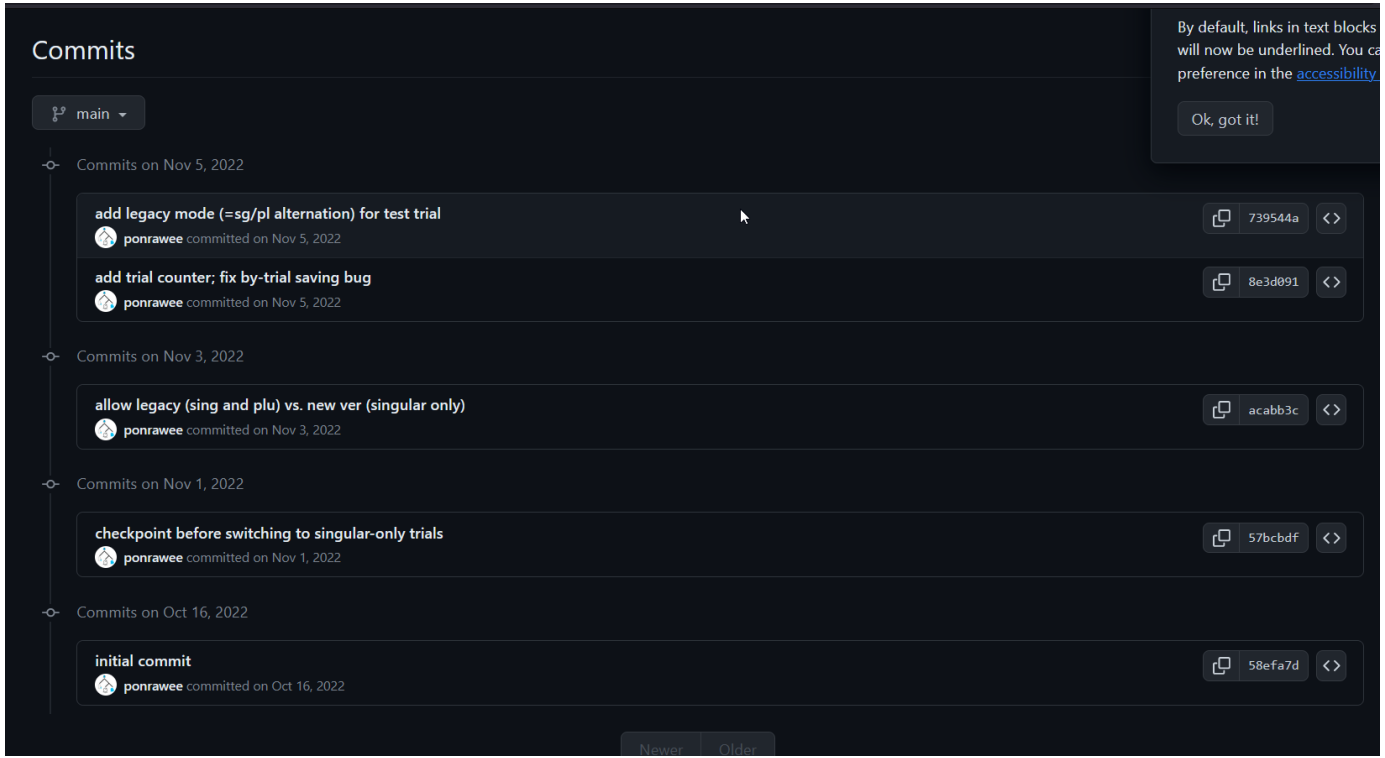
Imagine that you can do the same thing, but with **all** the files related to your project.

- Documentation throughout research cycle
- Allows others to follow your research process → replication
- Creates transparency

Make a mistake? Go back in time!



Version Control



Where to go from here?

“... openness is not ‘all-or-nothing’” McKiernan et al. (2016)

- Better to think of as a ***continuum of practices***
- Getting started with one practice is better than none at all!

https://pplsopenresearch.github.io/

Bookmark our website! A lot of resources and useful links

Appointment

- We offer a one-to-one drop-in meeting for your open research needs!
- If you have any problem when incorporating open research practices in your work, please drop by.
- Book a slot on our website (click **Book us**!): https://pplsopenresearch.github.io/

Future Workshops (tentative dates)

Pre-registration workshop – 1st November

- Hands-on practical help with pre-registering experimental analyses

Github workshop – 15th November

- How to start version control and making your data accessible

Thank you!

We would really appreciate your feedback!

https://pplsopenresearch.github.io

pplsopenresearch@ed.ac.uk

Feedback form (requires Edinburgh email login)