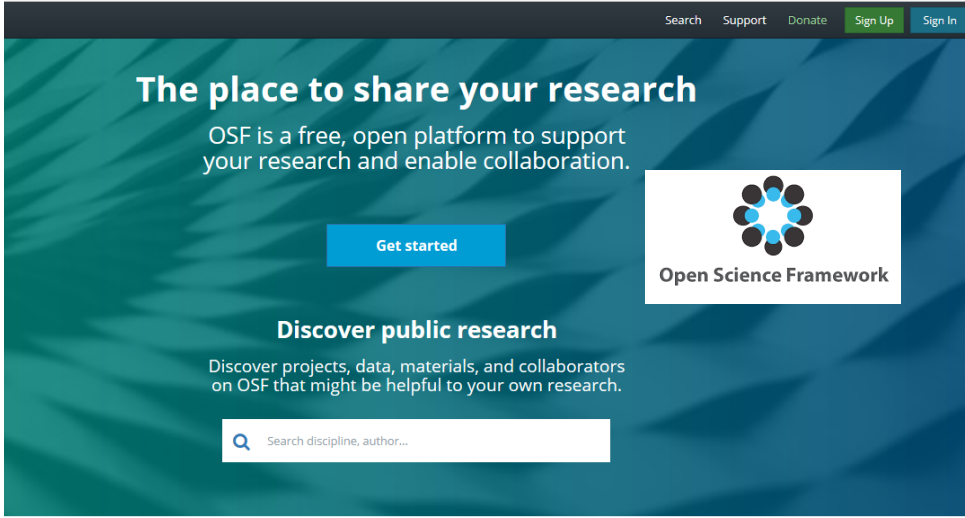
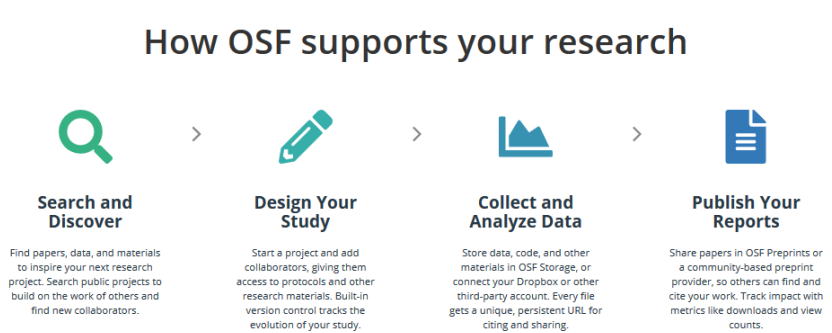
The Open Science Framework (OSF): An easy and intuitive approach to share research materials and data … and more

David F. Urschler

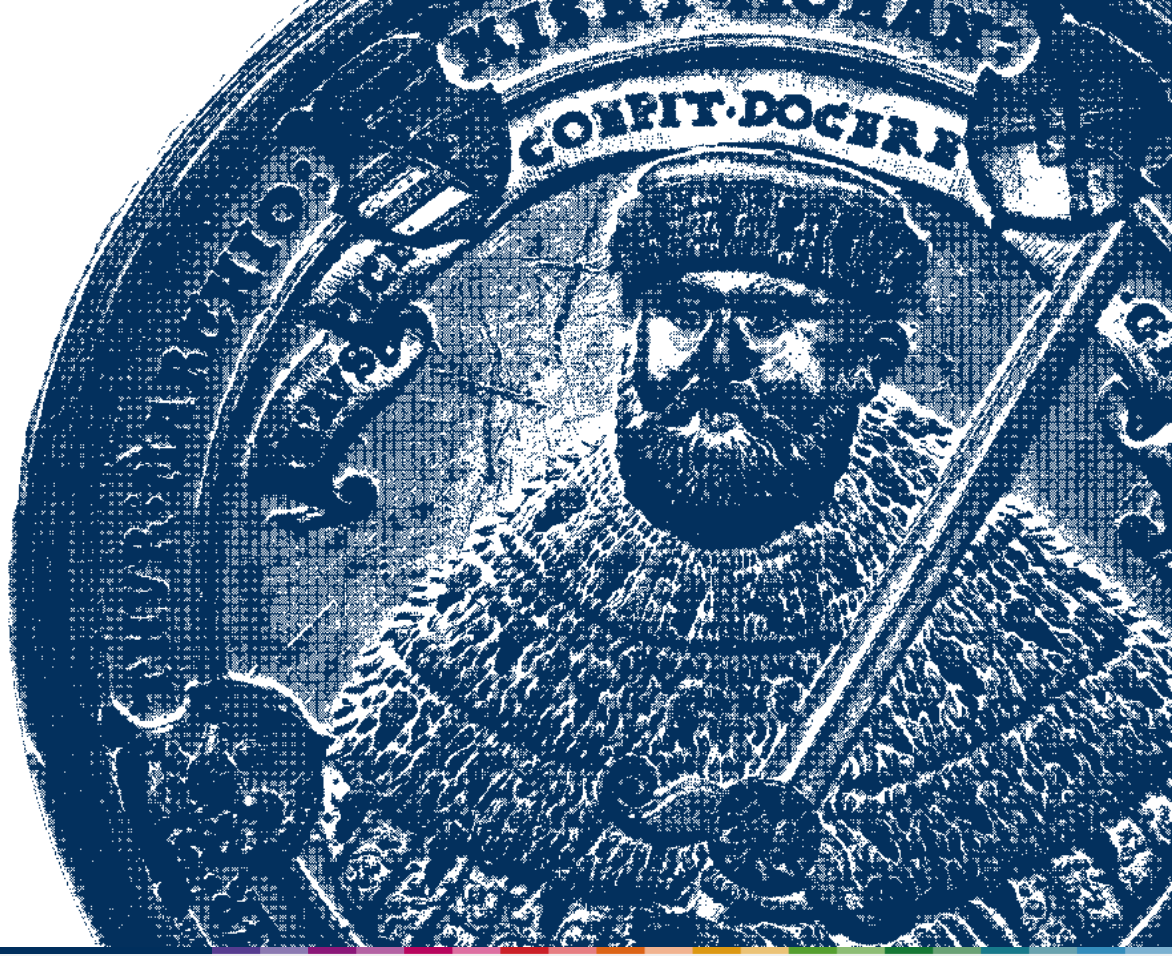
Agenda

- How did I get into the OSF?
- What can you do with the OSF?
- What I have used the OSF for
- Things that I have learned the hard way
- Questions





How did I get into the OSF



How did I get into the OSF

RESEARCH ARTICLE SUMMARY

PSYCHOLOGY

Estimating the reproducibility of psychological science

Open Science Collaboration*

INTRODUCTION: Reproducibility is a defining feature of science, but the extent to which it characterizes current research is unknown. Scientific claims should not gain credence because of the status or authority of their originator but by the replicability of their supporting evidence. Even research of exemplary quality may have irreproducible empirical findings because of random or systematic error.

RATIONALE: There is concern about the rate and predictors of reproducibility, but limited evidence. Potentially problematic practices include selective reporting, selective analysis, and insufficient specification of the conditions necessary or sufficient to obtain the results. Direct viously observed finding and is the means of establishing reproducibility of a finding with new data. We conducted a large-scale, collaborative effort to obtain an initial estimate of the reproducibility of psychological science.

RESULTS: We conducted replications of 100 experimental and correlational studies published in three psychology journals using high-powered designs and original materials when available. There is no single standard for evaluating replication success. Here, we evaluated reproducibility using significance and *P* values, effect sizes, subjective assessments of replication teams, and meta-analysis of effect sizes. The mean effect size (r) of the replication effects (M_r = 0.197, SD = 0.257) was half the magsubstantial decline. Ninety-seven percent of original studies had significant results ($P < .05$). Thirty-six percent of replications had significant results; 47% of original effect sizes were in the 95% confidence interval of the replication effect size; 39% of effects were subjectively rated to have replicated the original result; and if no bias in original results is assumed, combining original and replication results left 68% with statistically significant effects. Correlational tests suggest that replication success was better predicted by the strength of original evidence than by characteristics of the original and replication teams.

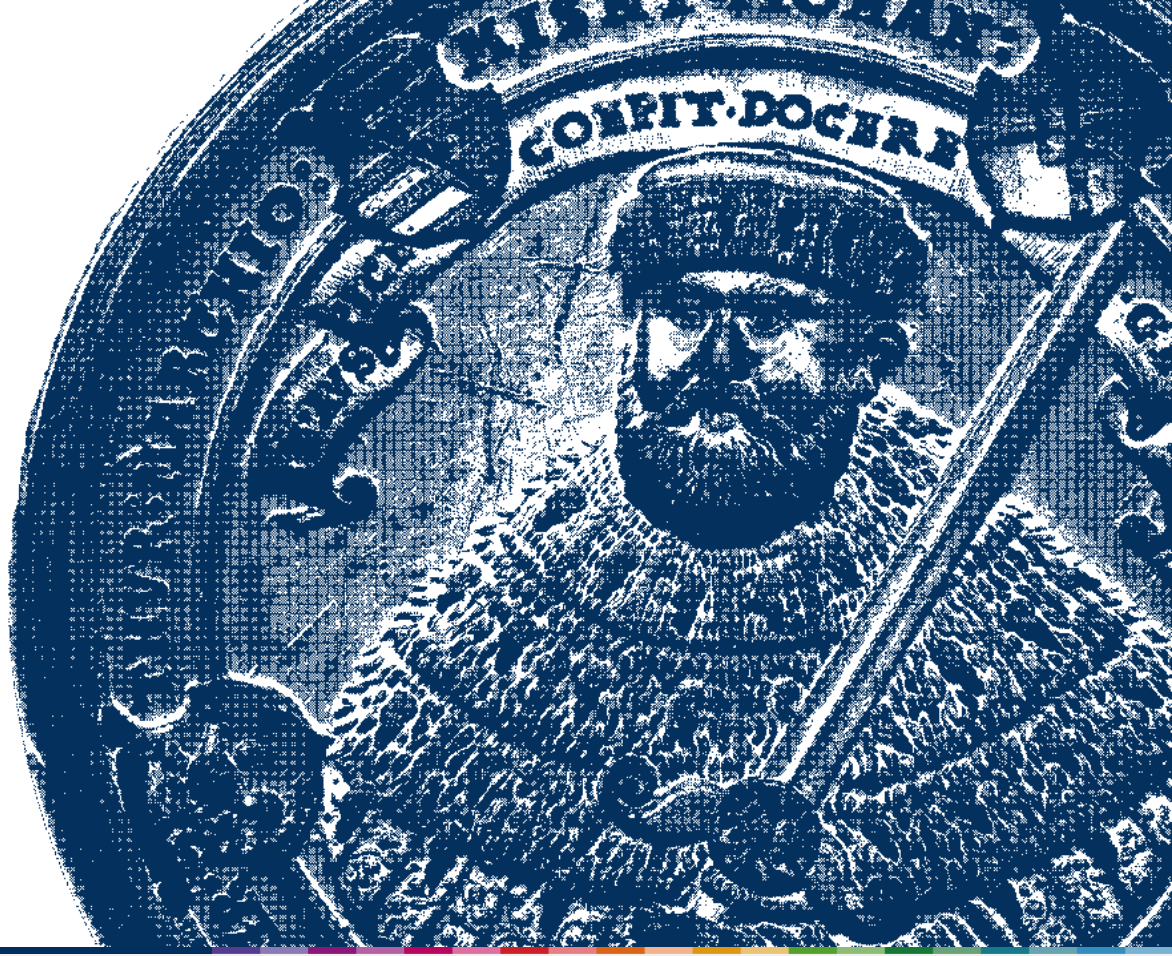
ON OUR WEB SITE

Read the full article at http://dx.doi.org/10.1126/science.aac4716

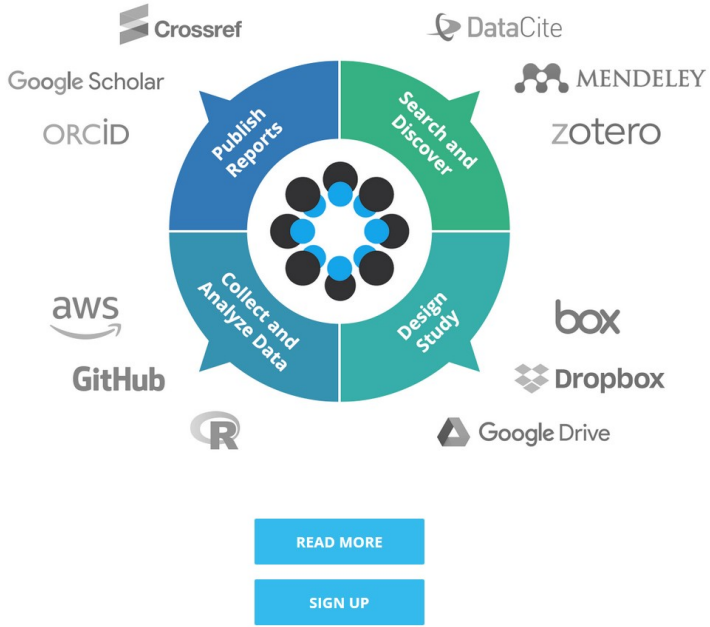
CONCLUSION: No single indicator sufficiently describes replication success, and the five indicators examined here are not the only ways to evaluate reproducibility. Nonetheless, collectively these results offer a clear conclusion: A large portion of replications produced weaker evidence for the original findings despite using materials provided by the original authors, review in advance for methodological fidelity, and high statistical power to detect the original effect sizes. Moreover, correlational evidence is consistent with the conclusion that

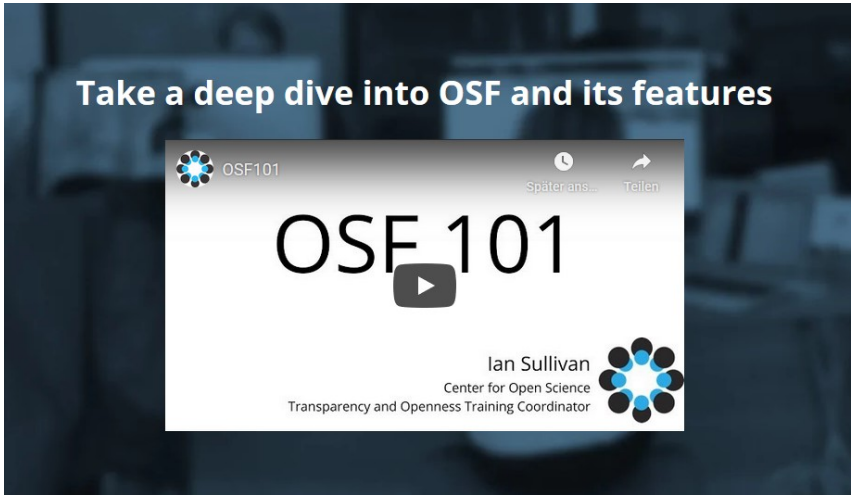
VIEW THE **BADGES:**

What can you do?



What can you do with the OSF? - https://osf.io/





https://www.cos.io/our-products/osf

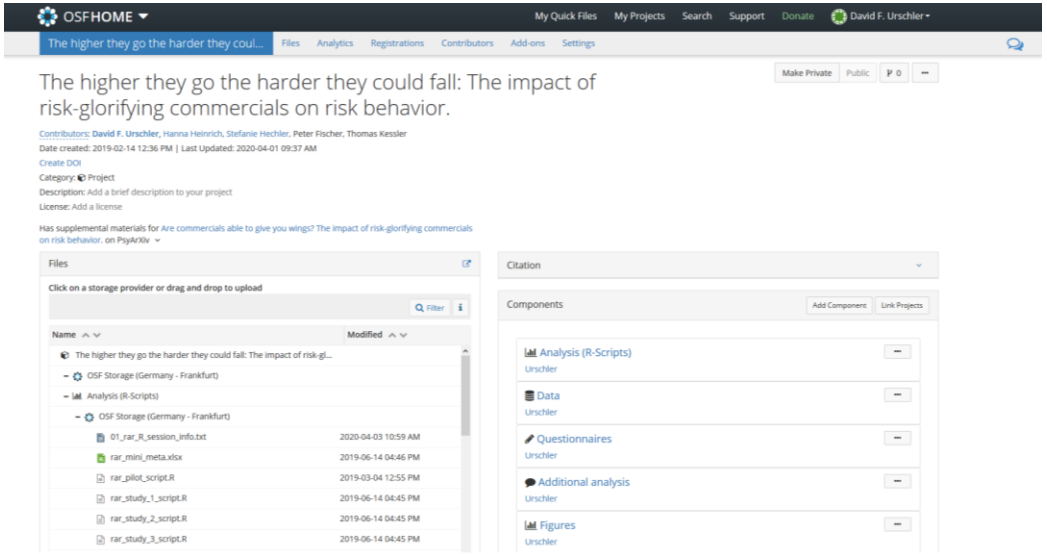
What can you do with the OSF?

- Organize your projects
- Document your process
- Version control
- Register your work
- Share your work
- Project analytics

What can you do with the OSF?

Organize your projects

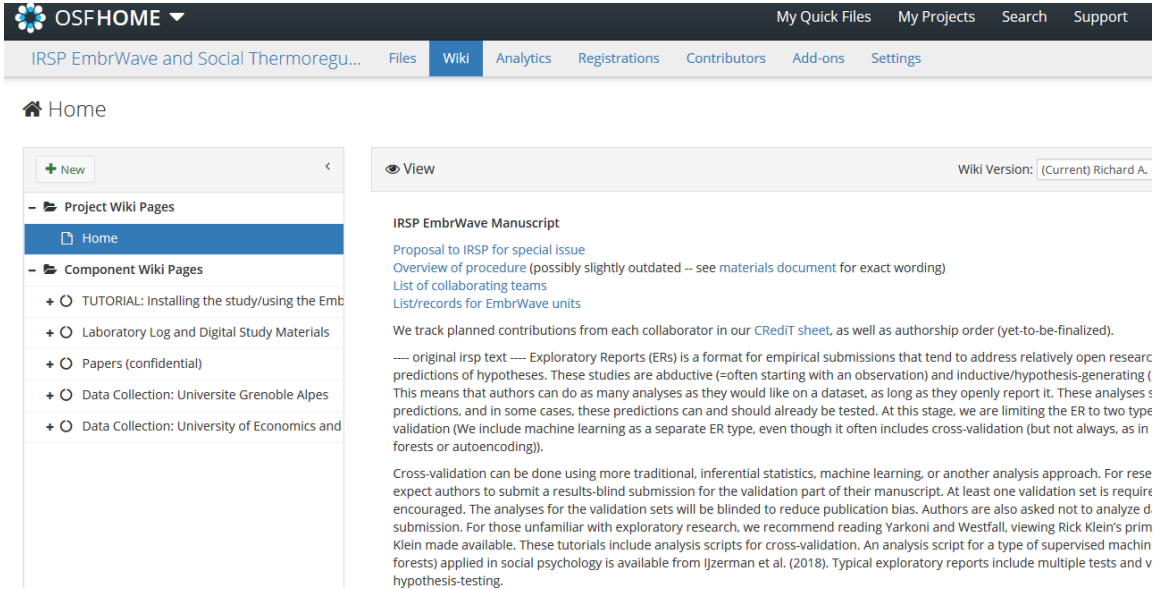
- Structured approach – folder structure
- Control access by collaborators
- Interlink projects – fork structure
- Add preprints



What can you do with the OSF?

Document your process

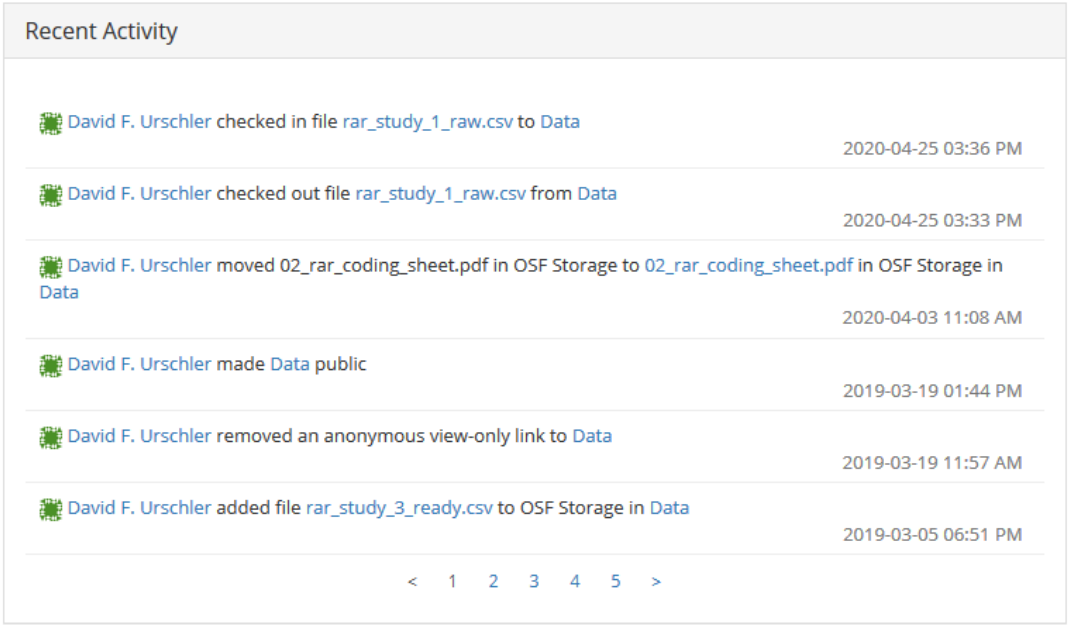
- Project wiki



What can you do with the OSF?

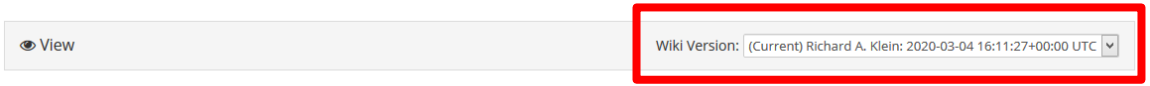
Document your process

- Keep notes and project logs
- Who took action



What can you do with the OSF?

Version control



Study setup

Prerequisites:

- Computer running Windows 10 (note: if you have psychopy installed, it sometimes conflicts and needs uninstalled)
- USB BLE dongle plugged in to computer (if this doesn't work, try installing the firmware from the company)
- Admin access (only needed for installation)
- EmbrWave device (optional - can test the script itself prior to receiving the EmbrWave)

Software setup:
First you'll need to install specifically Python 3.7.5 (not a newer or older version): https://www.python.org/downloads/release/python-375/. During installation, be sure to check the option to "add python to PATH".

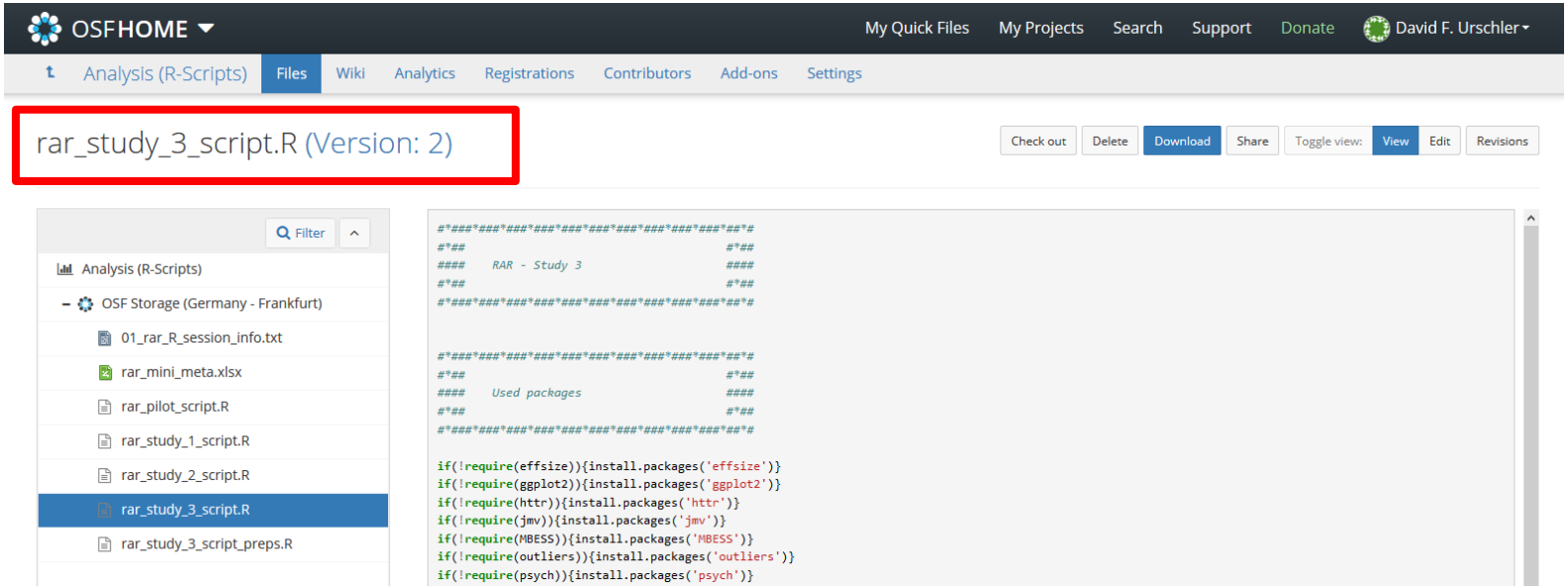
Then, follow the below instructions:

Installing script:

1. Download the repository here as a .zip file: https://github.com/aforren1/embrwave_multisite/
2. Unzip that file to some permanent location on your hard drive (it will store the data, so it shouldn't be anywhere that gets deleted).
3. Open a command prompt as an admin. (click the windows button, type `cmd`, then right-click on "command prompt" and run as admin).
4. In the command prompt window, navigate to the folder where you unzipped the embrwave_multisite-master archive (see https://www.computerhope.com/issues/chusedos.htm for commands to do that)
5. Once the command prompt is "in" the directory, type `pip install .` This should install all prerequisites.
6. Type `python main.py` to start the study.

What can you do with the OSF?

Version control



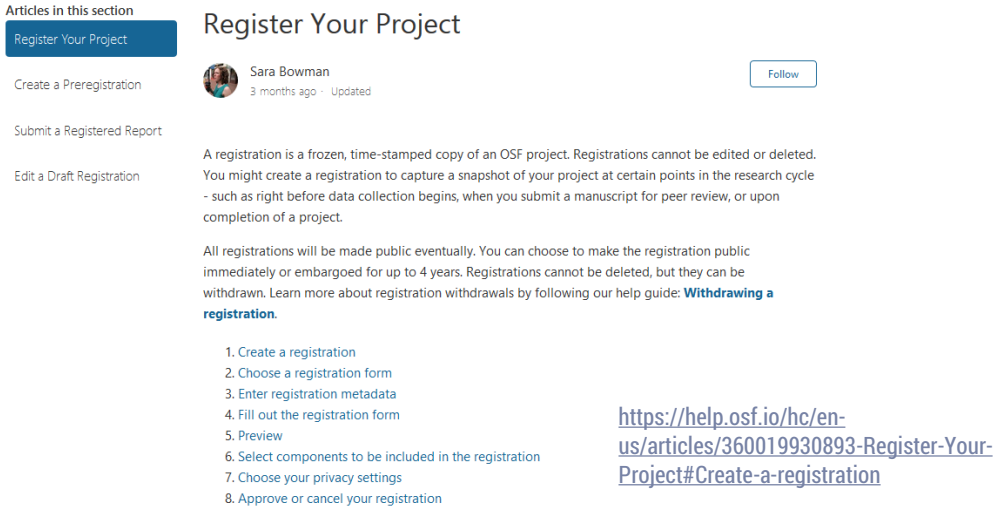
What can you do with the OSF?

Register your work

- A registration is a frozen, time-stamped copy of an OSF project
- Registrations cannot be edited or deleted
- All registrations will be made public eventually

What can you do with the OSF?

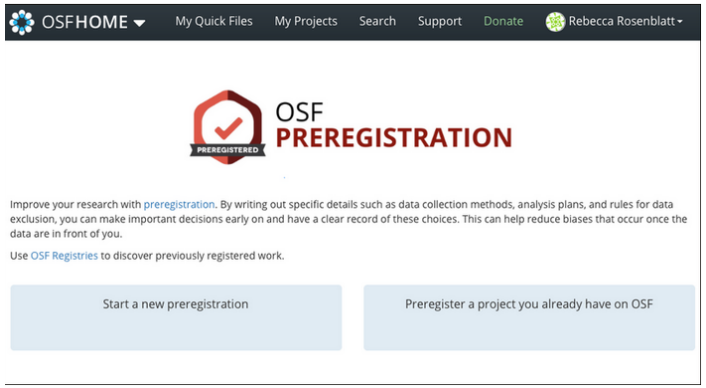
Register your work

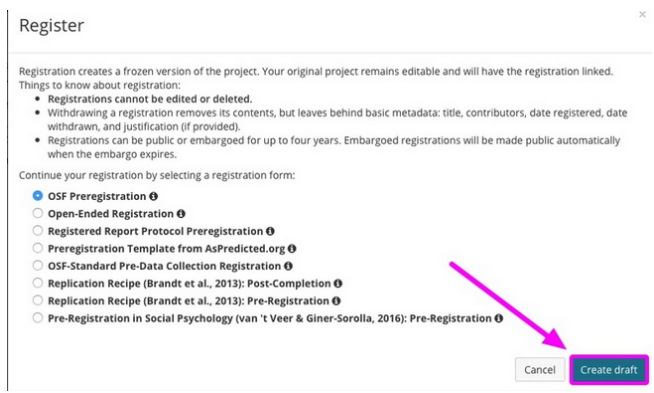


https://help.osf.io/hc/en-us/articles/360019930893-Register-Your-Project#Create-a-registration

What can you do with the OSF?

Register your work – Preregister your hypothesis and analyses





https://osf.io/prereg/

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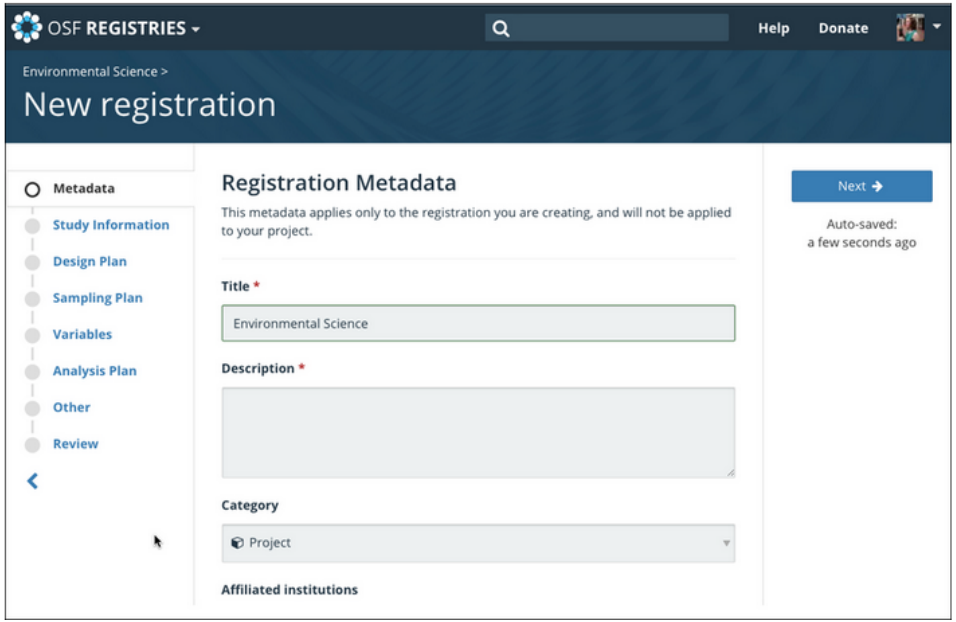
Register your work – Preregister your hypothesis and analyses



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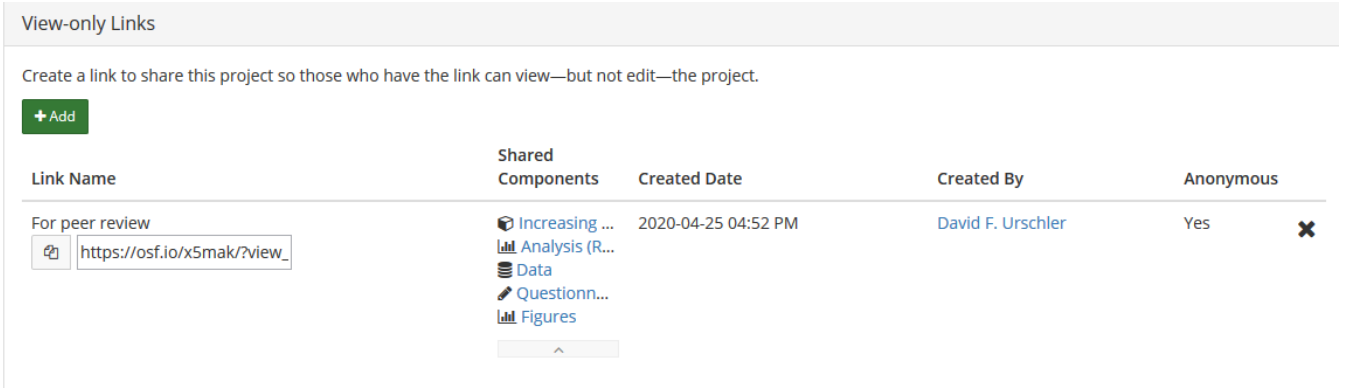
What can you do with the OSF?

Share your work

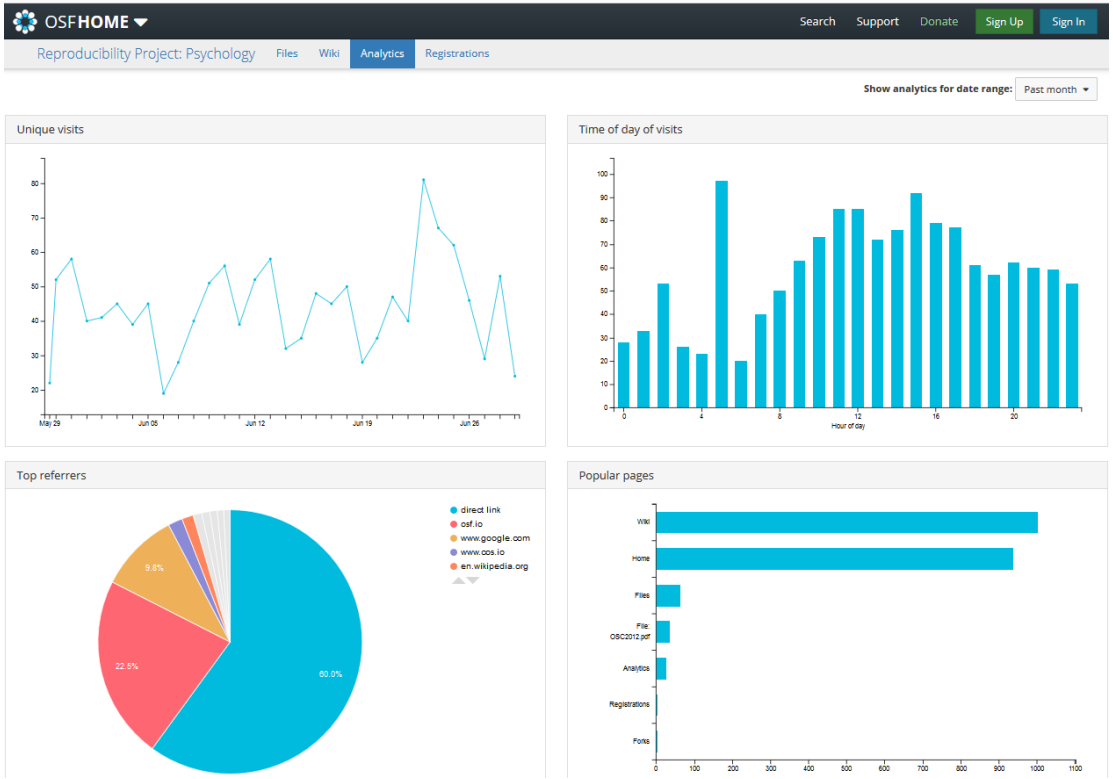
- What you want
- When you want
- Fine-grained control



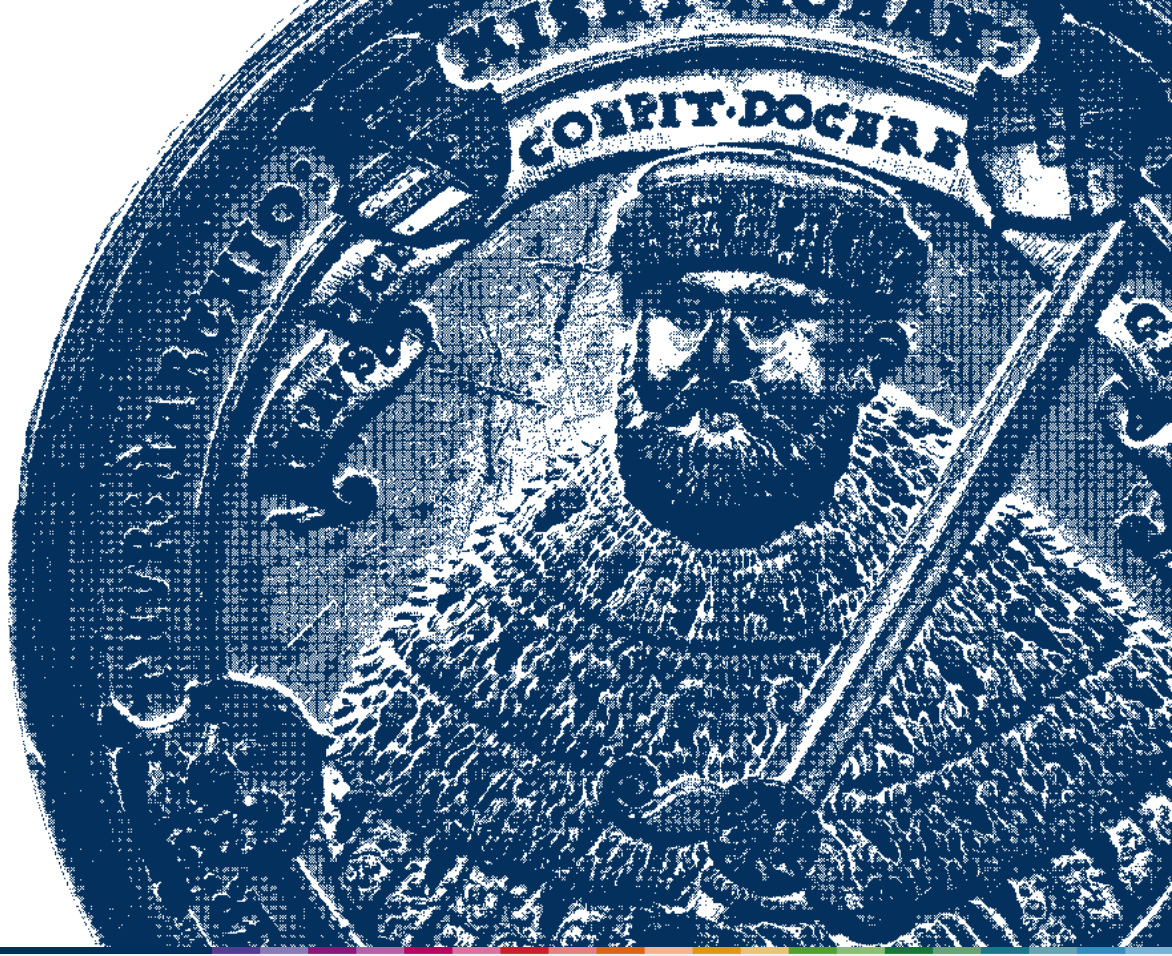
- Everything on OSF is private by default

What can you do with the OSF?

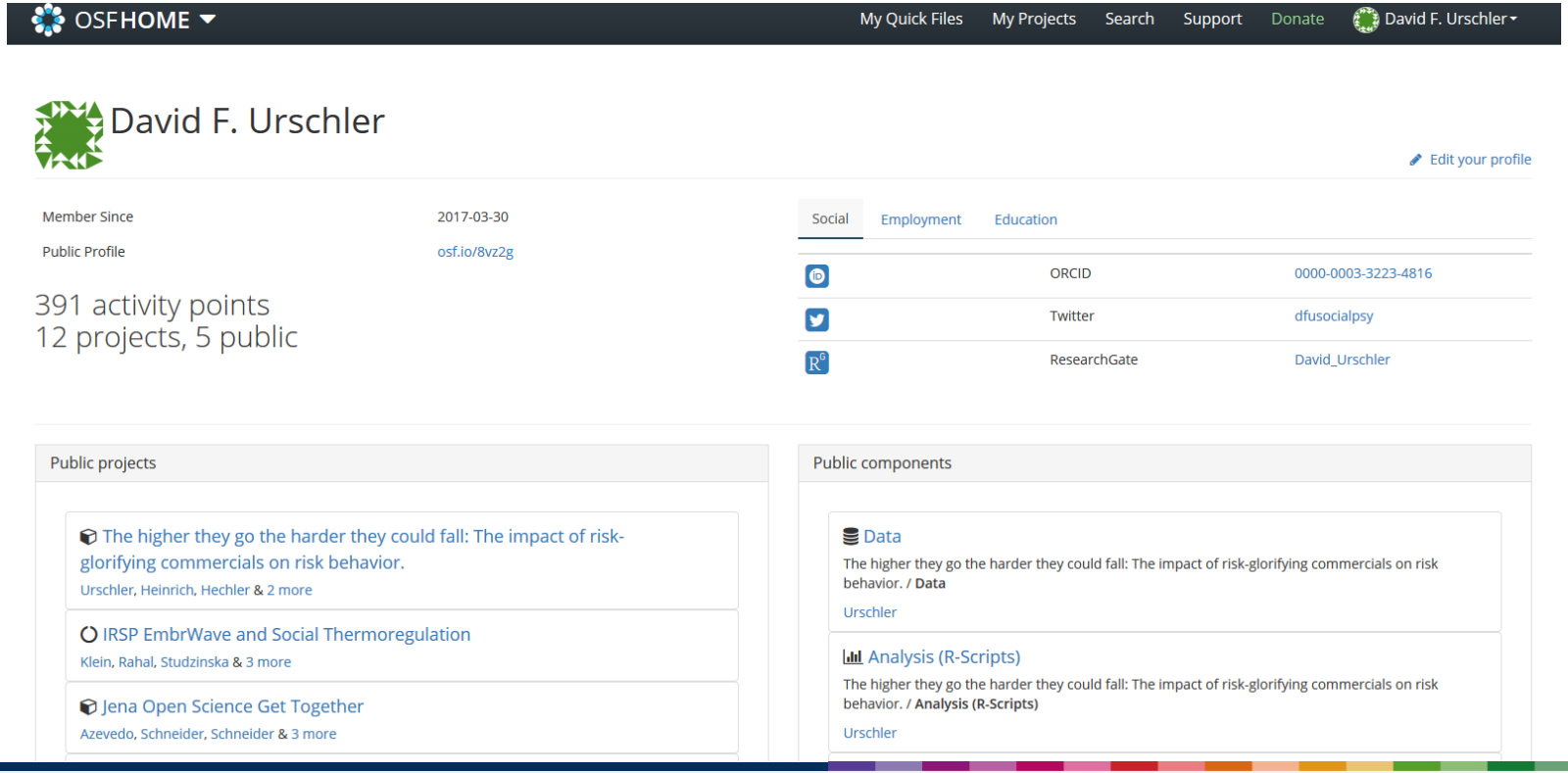
Project analytics



My experiences



What I have used the OSF for

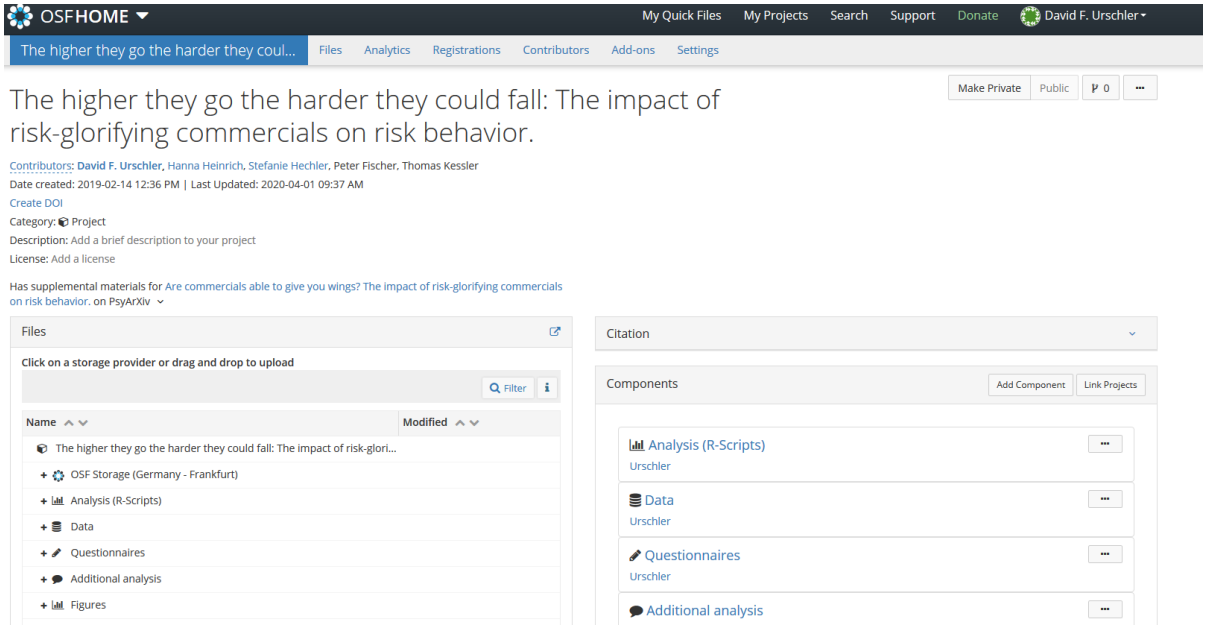


What I have used the OSF for

- Sharing data, materials, R-scripts, and pre-prints
- Pre-registering hypotheses
- Many labs collaborations
- Sharing conference materials

What I have used the OSF for

Sharing data, materials, R-scripts, and pre-prints



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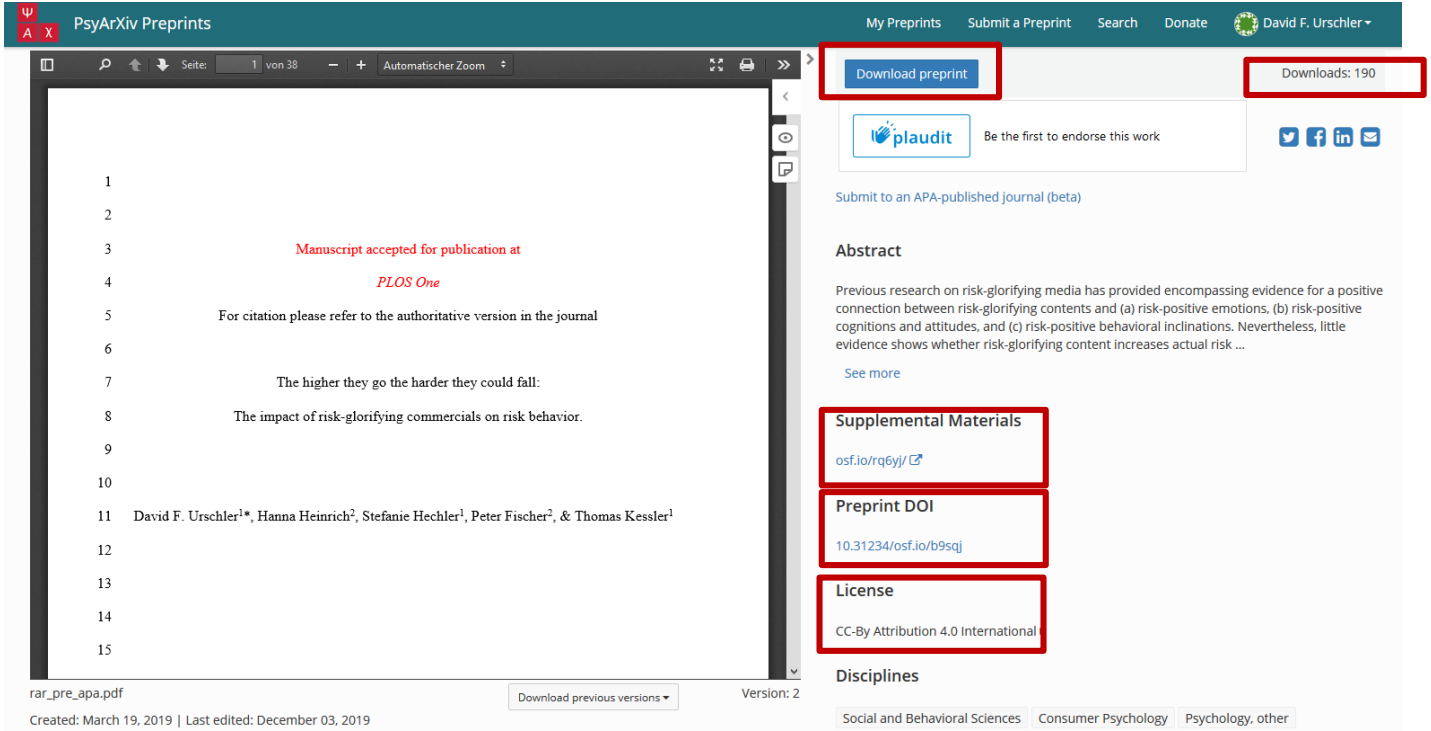
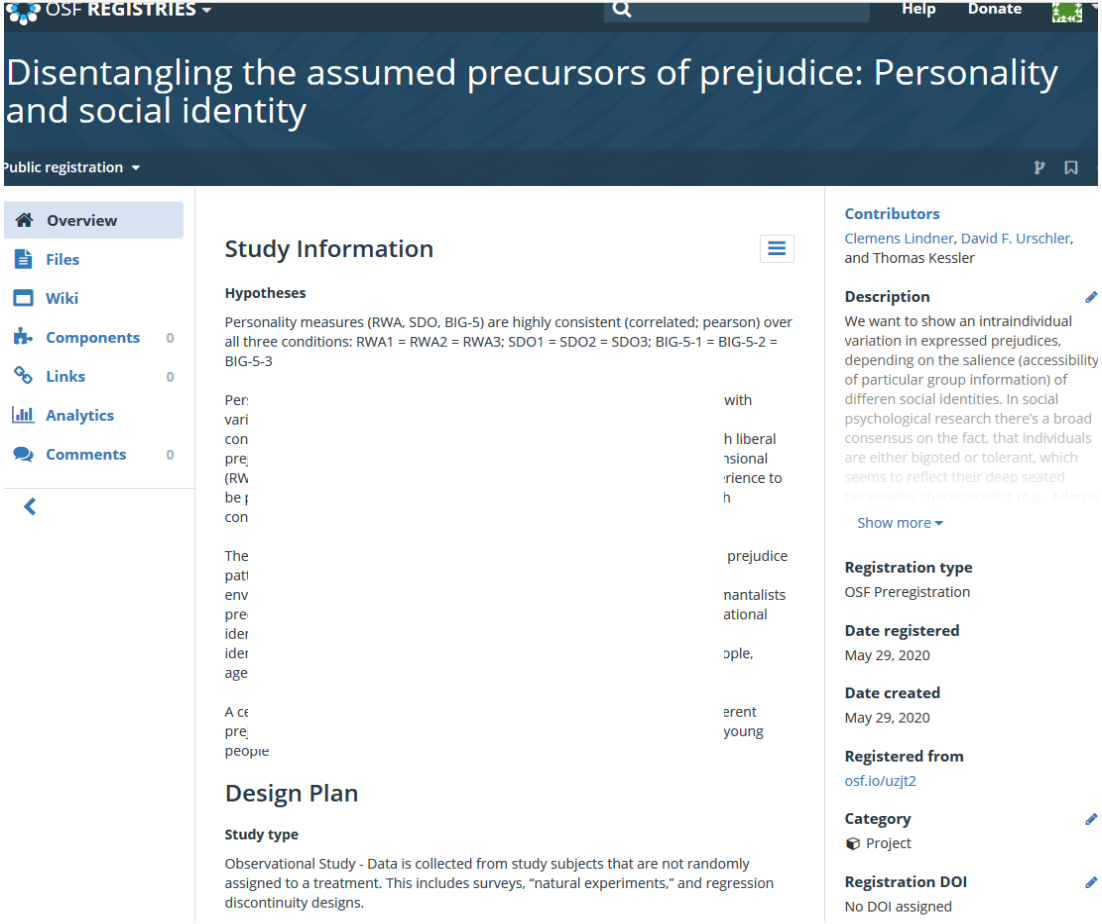


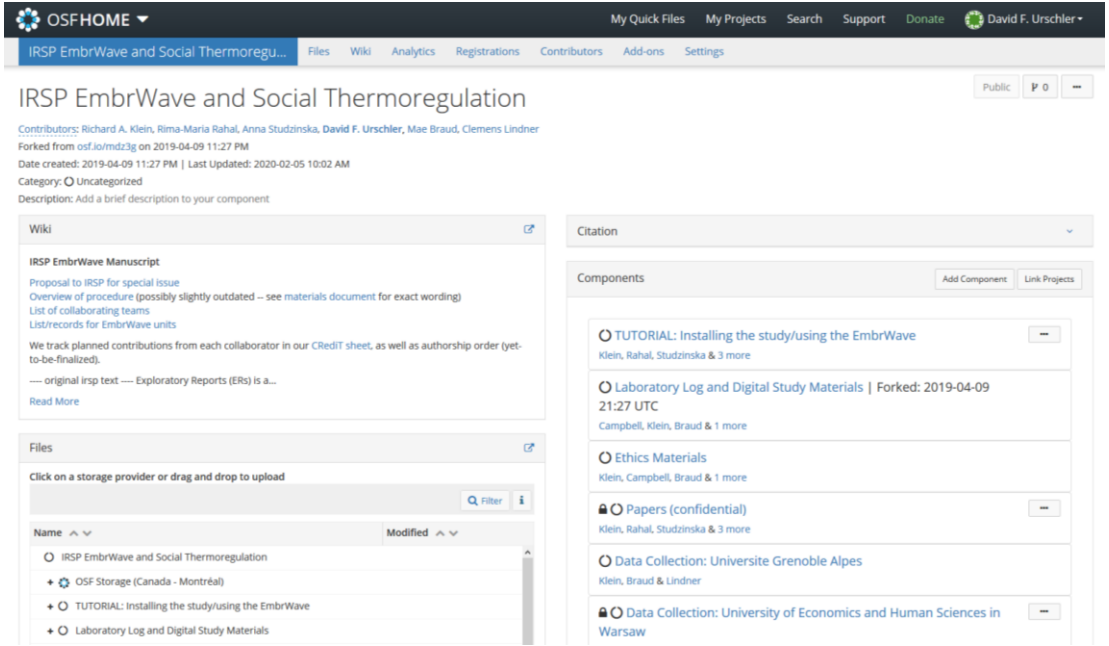
What I have used the OSF for

Pre-registering hypotheses



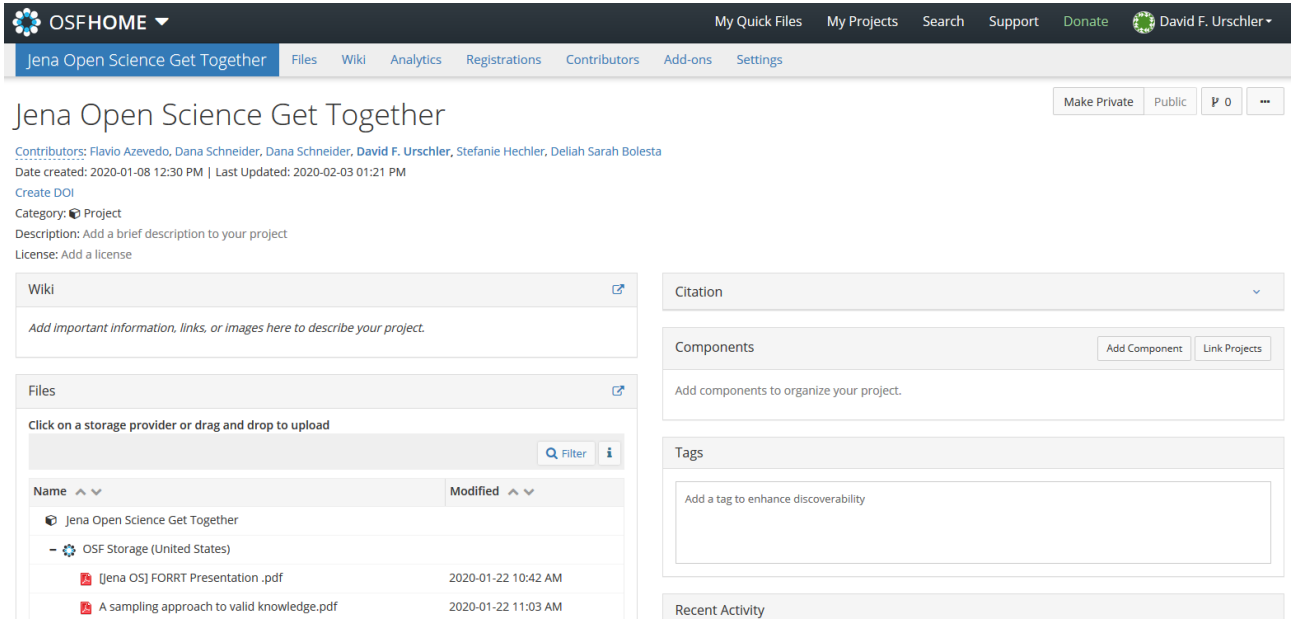
What I have used the OSF for

Many labs collaborations



What I have used the OSF for

Sharing conference materials



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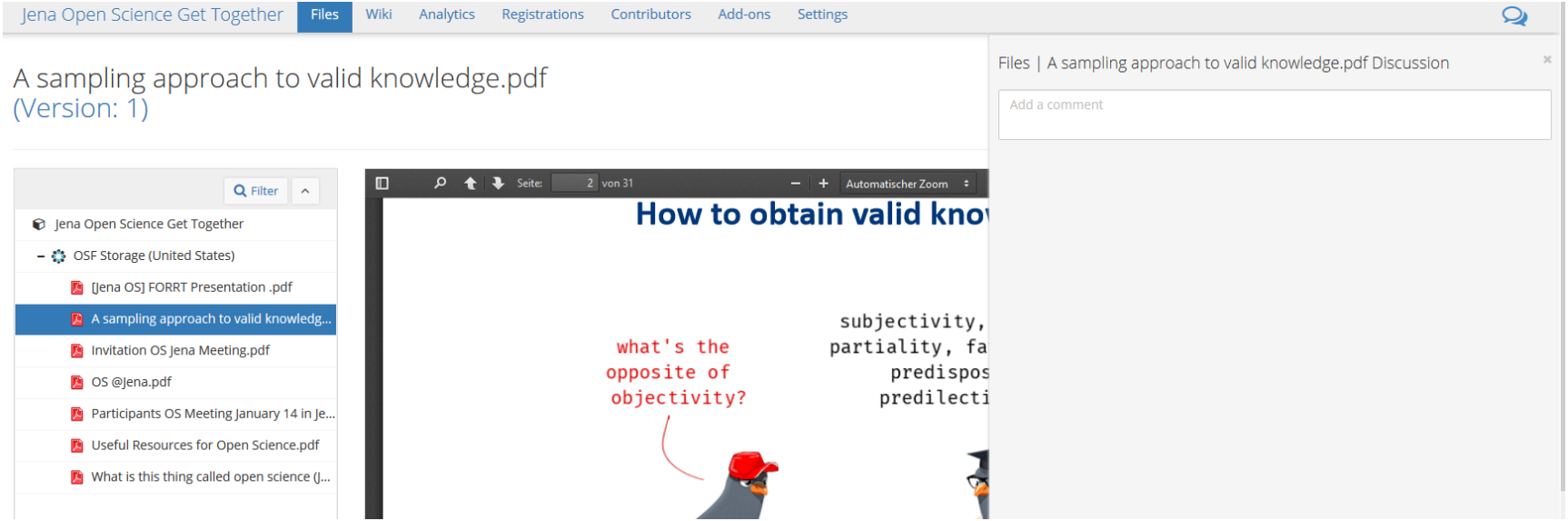

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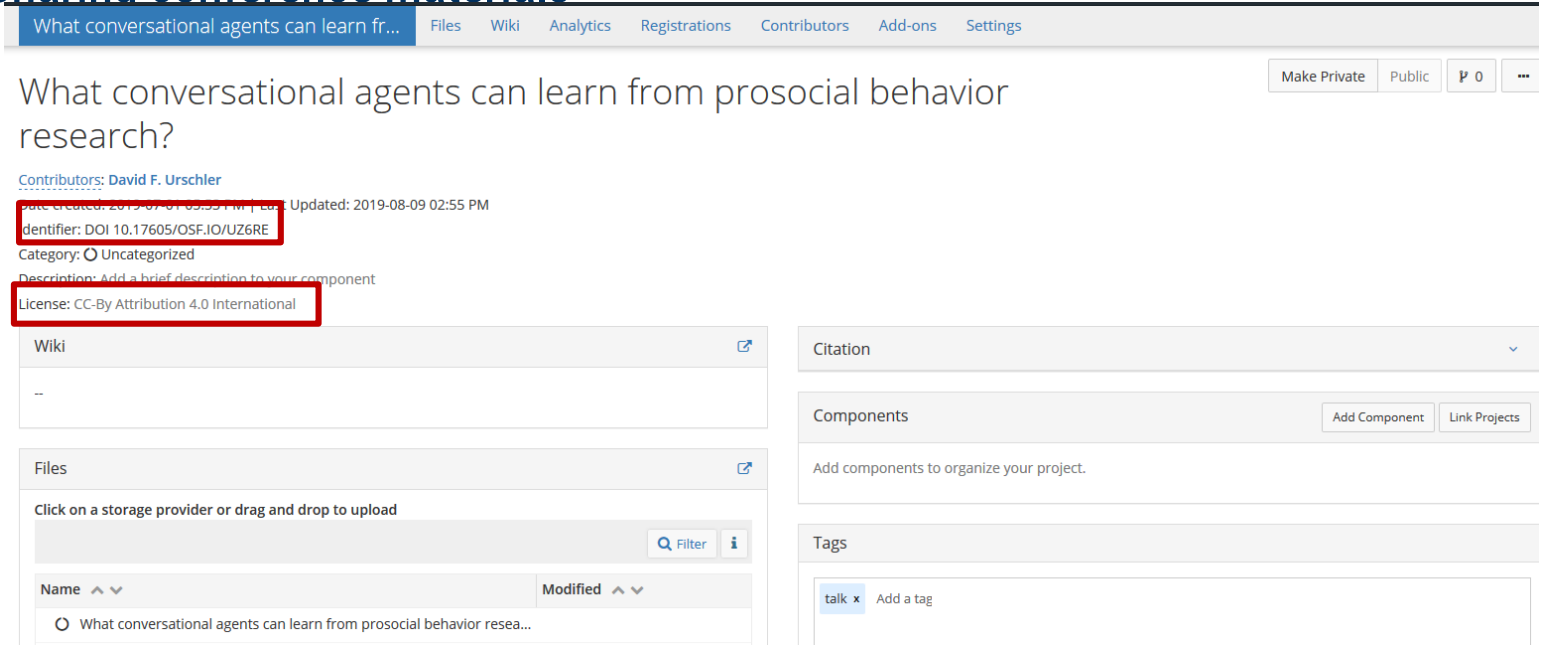
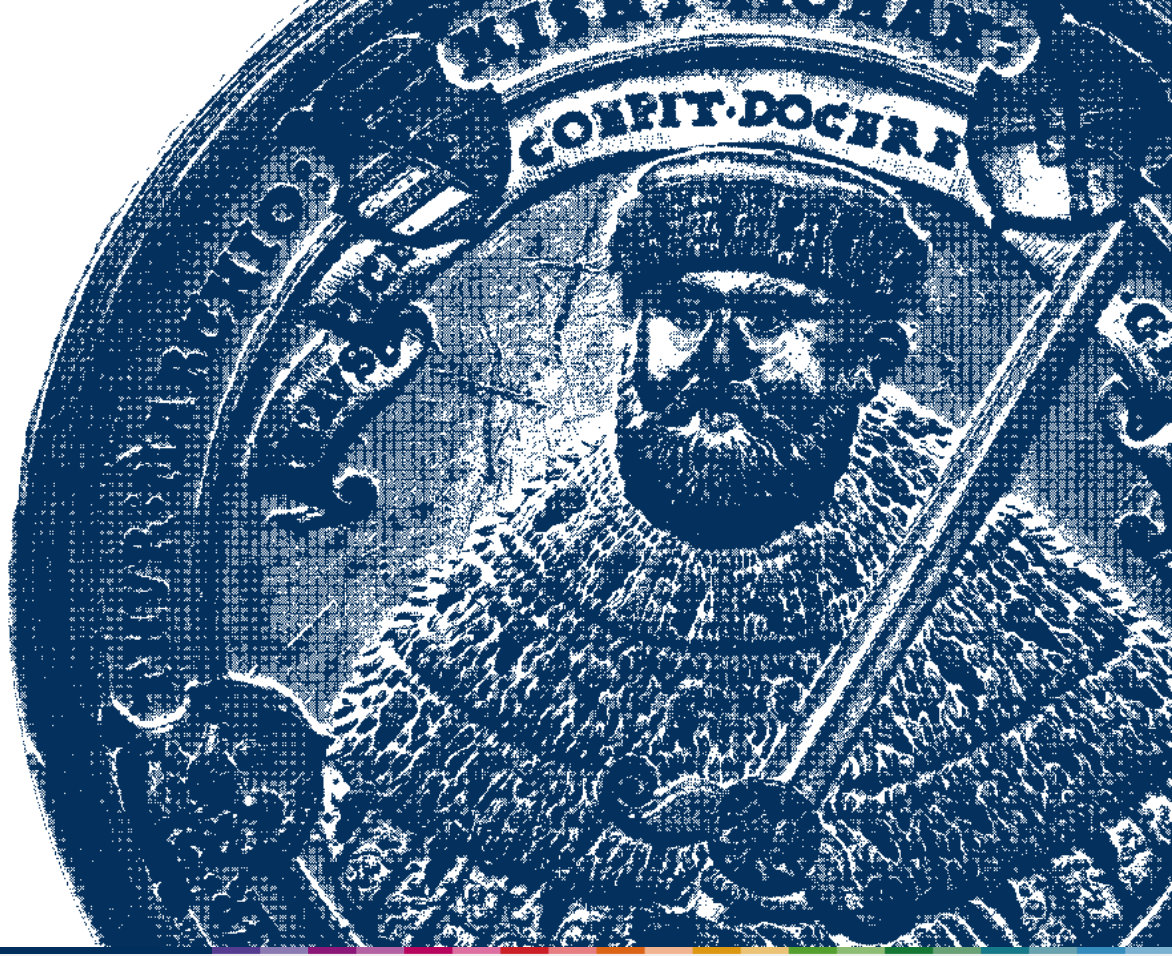


Hard way



Things that I have learned the hard way

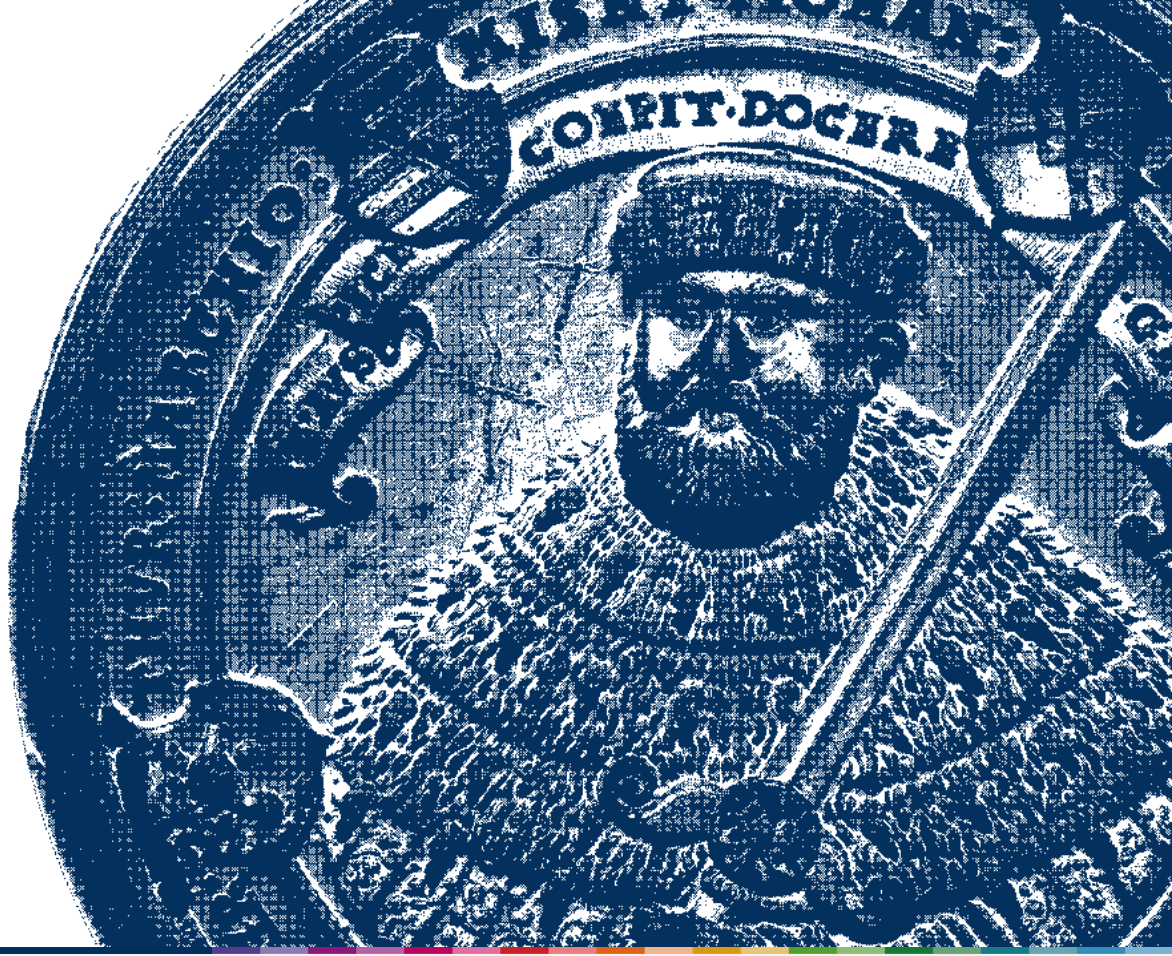
- Start early with your code books

  1 = female, 2 = male vs. 1 = male, 2 = female

- Make sure you that you are sharing what you want to share

  "… I started reading I realized that the authors included a view-only osf link to supplementary materials of their study (including the detailed scenarios used as experimental condition, materials, syntax, data). However the osf-project folder is empty."

Questions



Thanks!

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