

Pre-Registration of experiments

SFB Workshop

Dorothea Pregla, Daniela Mertzen

pregla@uni-potsdam.de

mertzen@uni-potsdam.de

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What is a Pre-Registration?

- Publication of **study hypotheses** and **planned data analysis** strategy before data collection begins.

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Science Head quarters

Psychology's 'registration revolution'

Moves to uphold transparency are not only making psychology more scientific - they are harnessing our knowledge of the mind to strengthen science

527 9

Chris Chambers

@chrisdc77

Tuesday 20 May 2014 07.15 BST



Study registration helps scientists avoid fooling themselves into seeing what they want to see. Photograph: Images.com/Corbis

I'm the first to admit that the "registration revolution" sounds less like a banner for reforming science and more like the march of a thousand bureaucrats, clipboards and pens at the ready. But let's look past the "boring ass word" for a minute. As I wrote back in January, registration of scientific research is one of a

Most popular



Mysterious object confirmed to be from another solar system



Russia reports radioactivity 986 times the norm after nuclear accident claim



Nigeria mosque attack: teenage suicide bomber kills at least 50



Zimbabwe's ousted vice-president calls for Robert Mugabe to quit



After the liberation of Mosul, an orgy of killing

Motivation

De Groot (1956) suggests that we clearly separate **confirmatory** from **exploratory** analyses.

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Proposal: **Pre-registration** can help us to implement this.

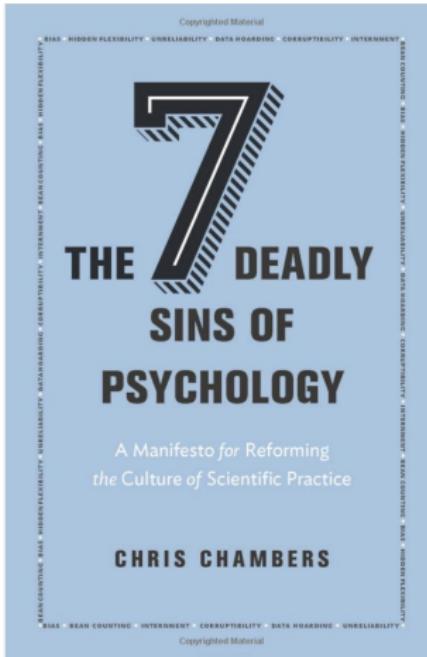
Source: A.D. de Groot (1956/2014), ‘The meaning of “significance” for different types of research.’ Find the paper [here](#).

The steps we can take

- ① Run experiment.
- ② Exploration of the data.
- ③ Formulate your hypothesis.
- ④ Pre-register.
- ⑤ Re-run experiment.
- ⑥ Report confirmatory analysis.
- ⑦ Additionally report any exploratory analysis.



What are the advantages of a pre-registration?



Chambers, C. (2017). The Seven Deadly Sins of Psychology. Princeton University Press.

Pre-registration with peer review

- Some journals offer **registered reports** (part of peer review process happens before researchers conduct experiment).
- Journals decide whether or not to publish your work regardless of whether results are significant or exciting or in line with predictions.

Pre-registration without peer review

- E.g. on Open Science Framework (OSF).

Source: Chambers, C. (2017). The Seven Deadly Sins of Psychology. Princeton University Press.

Registered Reports

Registered Reports

Peer review before results are known to align scientific values and practices



Please see the Registered Reports website (<https://cos.io/rr>) for up to date information about this publishing format, including detailed information for editors, a current list of [participating journals](#), and a comprehensive [FAQ](#).

Stage 1

- Manuscript (incl. hypotheses, methods, planned analyses) is submitted.

Source: <https://osf.io/8mpji/wiki/home/>



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Stage 1

- Manuscript (incl. hypotheses, methods, planned analyses) is submitted.
- Stage 1 peer review (incl. 'Does the proposed study have sufficient power?')
- 'In Principle Acceptance' *independent of results*.

Source: <https://osf.io/8mpji/wiki/home/>



Registered Reports

Stage 2

- Study is conducted.

Registered Reports

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 - results: confirmatory **and** exploratory analyses.
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- Stage 2 peer review.

Stage 2

- Study is conducted.
- Manuscript is resubmitted (+ results, discussion).
 - results: confirmatory **and** exploratory analyses.
 - exploratory analyses are encouraged, but will be clearly distinguishable from confirmatory analysis.
- Stage 2 peer review.
- Publication of manuscript.

Click [here](#) for Cortex guidelines for authors.

Pre-registration at OSF – What has to be done?

- ① Registration at <https://osf.io/>.
 - ② Creation of a project.
 - ③ Insertion of an abstract for the project:
-

test

Contributors: **Dorothea Pregla**

Date created: 2017-06-22 06:07 PM | Last Updated: 2017-06-22 06:11 PM

Category: Project 

Description: Add a brief description to your project

License: Add a license



Upload the project

- a Upload the whole project as one PDF file.
alternatively:
- b Upload the components of the project.

Upload the project

a Upload the whole project as one PDF file

- Inclusion of:

- aim of the study,
- hypotheses & predictions,
- procedure,
- design (including example item),
- stopping rule,
- analysis plan

Upload the project

- b Upload the components of the project:

The screenshot shows a user interface for managing project components. At the top, there is a navigation bar with tabs: method (which is selected and highlighted in blue), Files, Wiki, Analytics, Registrations, and Forks. Below the navigation bar, the word "method" is displayed prominently. Underneath, there is information about contributors: "Contributors: Dorothea Pregla". Below this, the date and time of creation and last update are shown: "Date created: 2017-06-22 06:09 PM | Last Updated: 2017-06-22 06:09 PM". There are several input fields and dropdown menus. One dropdown menu is open, showing categories: Analysis, Communication, Data, Hypothesis, Instrumentation, Methods and Measures (which is selected and highlighted in blue), and Procedure. To the right of the dropdown, there is a note: "your component". On the left side, there are other input fields: "Category: Hypothesis", "Description", and "License: A". On the right side, there is a large text area with a "Wiki" tab at the top. At the bottom right of the interface, there is a small icon.

Who can see the project?

- Certain parts or the whole project can be *made public*.
- The project is not visible to anyone as long as it is not made public.
- To make the project public select those parts that shall be public:

Change privacy settings

Adjust your privacy settings by checking the boxes below.

Checked projects and components will be **public**.

Unchecked components will be **private**.

Select: [Make all public](#) | [Make all private](#)



Who can see the project?

- Public parts can be seen by anyone (including unregistered visitors of OSF).
- Public parts can be made private again.
- Projects can be pre-registered without making them public.

How to pre-register a project

1 Select a registration method (e.g. OSF-Standard)

Register

Registration creates a frozen version of the project that can never be edited or deleted but can be withdrawn. The original project remains editable but will now have the registration linked to it. Things to know about registration:

- Ensure your project is in the state you wish to freeze before registering.
- Consider turning links into forks.
- Registrations can have embargo periods for up to four years. If you choose an embargo period, the registration will automatically become public when the embargo expires.
- Withdrawing a registration removes the contents of the registrations but will leave behind a log showing when the registration was created and withdrawn.

Continue your registration by selecting a registration form:

- Prereg Challenge ⓘ
- Open-Ended Registration ⓘ
- AsPredicted Preregistration ⓘ
- OSF-Standard Pre-Data Collection Registration ⓘ
- Replication Recipe (Brandt et al., 2013): Pre-Registration ⓘ
- Replication Recipe (Brandt et al., 2013): Post-Completion ⓘ
- Pre-Registration in Social Psychology (van 't Veer & Giner-Sorolla, 2016): Pre-Registration ⓘ



How to pre-register a project

2 Fill in the registration form & submit it.

Has data collection begun for this project? (optional)

Please choose

No, data collection has not begun
 Yes, data collection is underway or complete

3 Link the pre-registration when the study is submitted for publication.

How to pre-register a project

Find the OSF pre-registration instructions here:
http://bit.ly/Q_SFB1287