

Anne Gärtner  
Faculty of Psychology

# Workshop Open Science Practices

## Part 2

### Open Data and Materials

# Overview

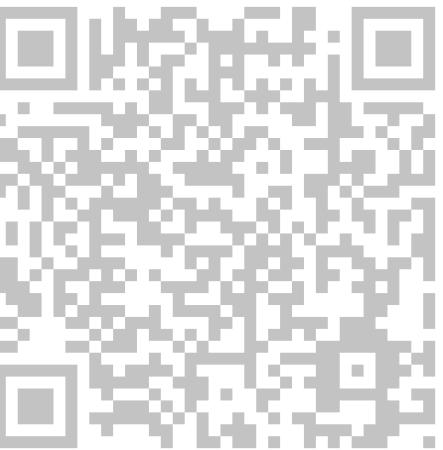
Time	Topic
13:30 – 13:40	Welcome
13:40 – 14:10	Open Access ( <a href="#">Anne</a> )
14:10 – 14:50	Open Data and Materials ( <a href="#">Anne</a> )
14:50 – 15:10	Break
15:10 – 15:55	Reproducible Analyses ( <a href="#">Alex + Christoph</a> )
15:55 – 17:25	Practices ( <a href="#">Alex + Christoph</a> )
17:25 – 17:40	Group Discussion ( <a href="#">Anne</a> )
17:40 – 17:50	Wrap Up, Evaluation

OSF

The screenshot shows the OSF project page for 'Open Science Workshop for CRC at TUD'. It includes a header with navigation links like 'My Projects', 'Search', 'Support', and 'Donate'. Below the header, there's a brief description of the project, its contributors (Josephine Zerna, Alexander Strobel, Anne Gärtnert), and its creation date (2023-03-02). The main content area displays a file tree under the 'Self-Study Material' folder, which contains 'Slides of Workshop I' and 'Slides of Workshop II'. A sidebar on the right provides options for adding components, citation information, and tags.

github

The screenshot shows the GitHub repository page for 'JZerna / OpenScience\_Course'. It features a 'Code' tab, a commit history showing contributions from JZerna, and a detailed description of the repository as a course host for Modulgradu and the Collabor 940 at TU Dresden. The repository has 0 stars, 2 watchers, and 0 forks.



# Outline

## Introduction

- What is open data
- Data decay, Why open data

## Privacy Protection with Open Data

### Not only open, but FAIR

- Findable, accessible, interoperable, reproducible



## Consent form template

## Exercise

## Summary

# Open Data

## Introduction

“Open Data should be available to everyone to access, use, and share.”

(GO FAIR, 2018)



# Open Data

## Introduction



# Open Data Introduction

## Data & analysis script availability (prevalence estimates)

	Data	Analysis scripts
Psychology (2014-2017) <sup>1</sup>	2% [1-4%]*	1% [0-1%]
Social Sciences (2014-2017) <sup>2</sup>	7% [2-13%]	1% [0-3%]

<sup>1</sup>Hardwicke et al. (2021)

\*[95% confidence intervals]

<sup>2</sup>Hardwicke et al. (2020)

## Data availability on request (selected studies)

	Data shared
141 articles published in four major APA journals (2004) <sup>3</sup>	27%
516 ecology articles published (1991-2011) <sup>4</sup>	20%
111 most highly-cited psychology & psychiatry articles (2006-2016) <sup>5</sup>	14%

<sup>3</sup>Wicherts et al. (2006)

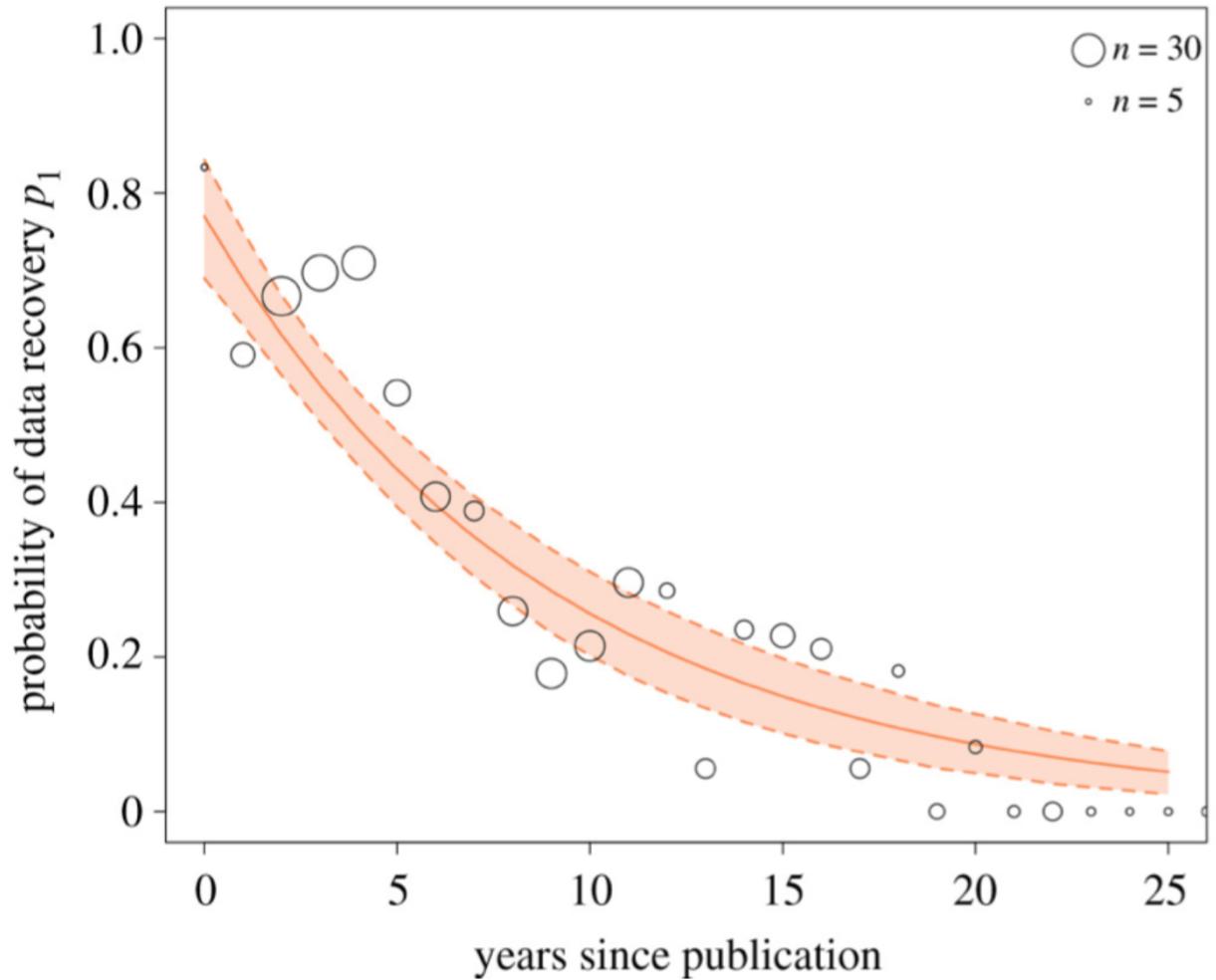
<sup>4</sup>Vines et al. (2014)

<sup>5</sup>Hardwicke & Ioannidis (2018)

# Open Data

## Data decay

- „probability of finding material for any publication **halves every 5.7 years**“
- „probability of recovering data for studies > 20 years ago is **close to zero**“



# Open Data

## Why open data?



Win the trust of other researchers



Others may derive new insights from your data that you did not think of  
(secondary use)



Never again lose unpublished data (e.g., crashed hard drive)



Comply with the guidelines of funding agencies (e.g., DFG, NIH, ERC, Wellcome trust, Schweizerischer Nationalfonds), see for example DFG Guidelines for Handling Research Data  
[www.dfg.de/en/research\\_funding/proposal\\_review\\_decision/applicants/research\\_data/index.html#anker62237206](http://www.dfg.de/en/research_funding/proposal_review_decision/applicants/research_data/index.html#anker62237206)



# Open Data

## Funders demand it

UK:



„We expect our researchers to maximise the availability of research data, software and materials with as few restrictions as possible. **As a minimum, the data underpinning research papers should be made available to other researchers at the time of publication. [...]**

Wellcome will also consider whether researchers have managed and shared their research outputs in line with our requirements, as a critical part of the end of grant reporting process“

USA:



„The NIH expects and supports the **timely release and sharing of final research** data from NIH-supported studies for use by other researchers. [...] ... are expected to include a plan for data sharing or state why data sharing is not possible.“

EU:



„FAIR (Findable, Accessible, Interoperable and Re-usable data) and open data sharing **should become the default for the results of EU-funded scientific research.**“

<https://wellcome.ac.uk/funding/managing-grant/policy-data-software-materials-management-and-sharing>

<https://grants.nih.gov/grants/guide/notice-files/NOT-OD-03-032.html>

[http://europa.eu/rapid/press-release\\_IP-18-4041\\_en.htm](http://europa.eu/rapid/press-release_IP-18-4041_en.htm)

# Open Data

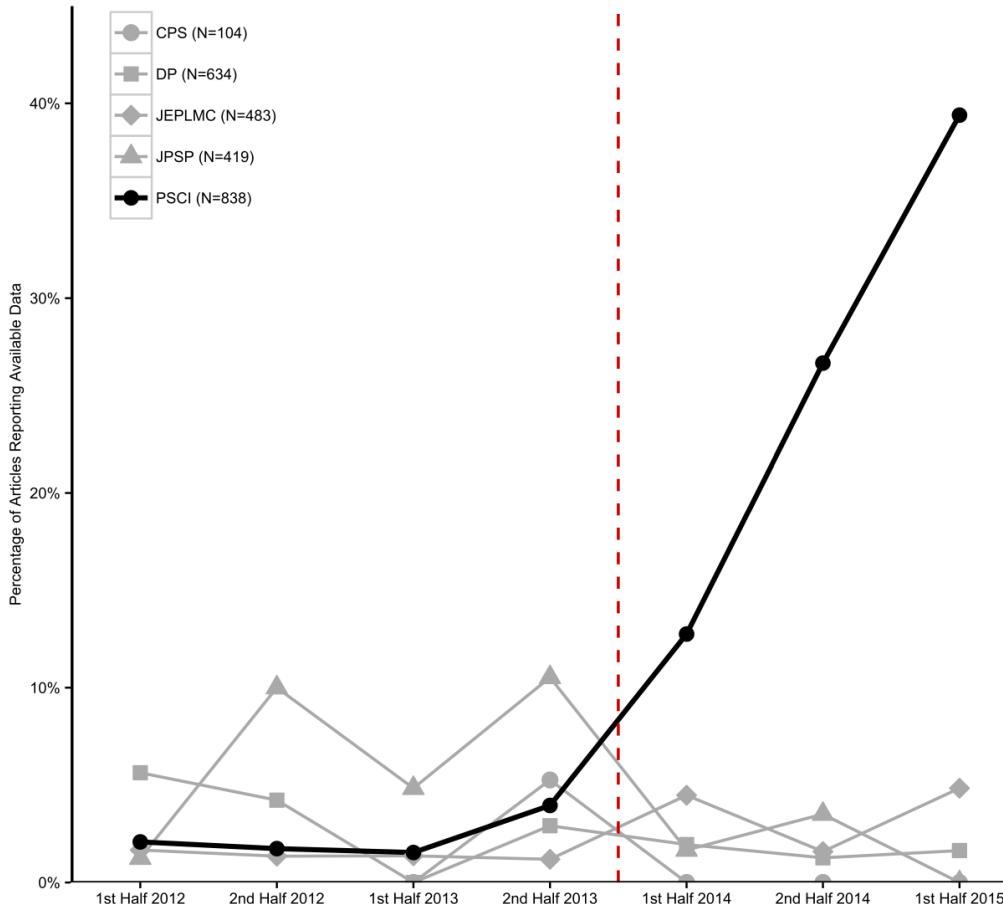
## Journals demand it

- **TOP Level 3** = Data must be posted to a trusted repository, and reported analyses will be reproduced independently prior to publication.
- **TOP Level 2** = Data must be posted to a trusted repository. Exceptions must be identified at article submission.
- As of Dec 2020, the TOP factor website lists for psychology:
  - 1 journal with data transparency level 3
  - 14 journals with level 2

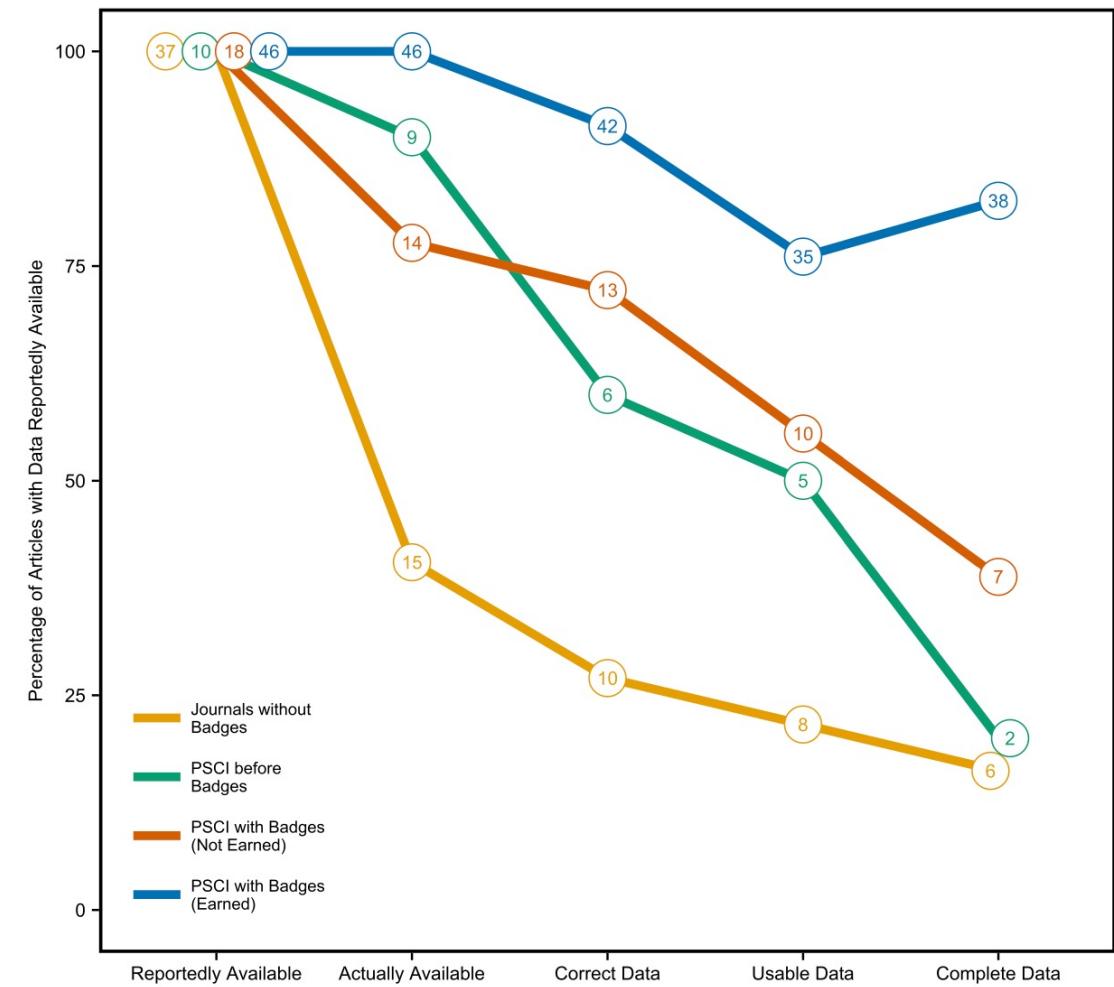
Journal	Total	Data Citation	↓	Data Transparency	Analysis Code Transparency
Meta-Psychology  LNU Open	27	3		3	3
Archives of Scientific Psychology  American Psychological Association	3	0		2	0
Journal of Research in Personality  Elsevier	19	0		2	2
Social Psychological Bulletin  PsychOpen	18	1		2	1
Collabra  University of California Press	20	2		2	2
Social Cognition  Guilford Press	13	2		2	2
Personality Science 	24	3		2	2
Cortex  Elsevier	23	3		2	2
Royal Society Open Science  Royal Society Publishing	14	2		2	2
Advances in Methods and Practices in Psychological Science  SAGE	25	2		2	2
Science  AAAS	11	2		2	2

<https://topfactor.org/>

# Open Science Badges improve research

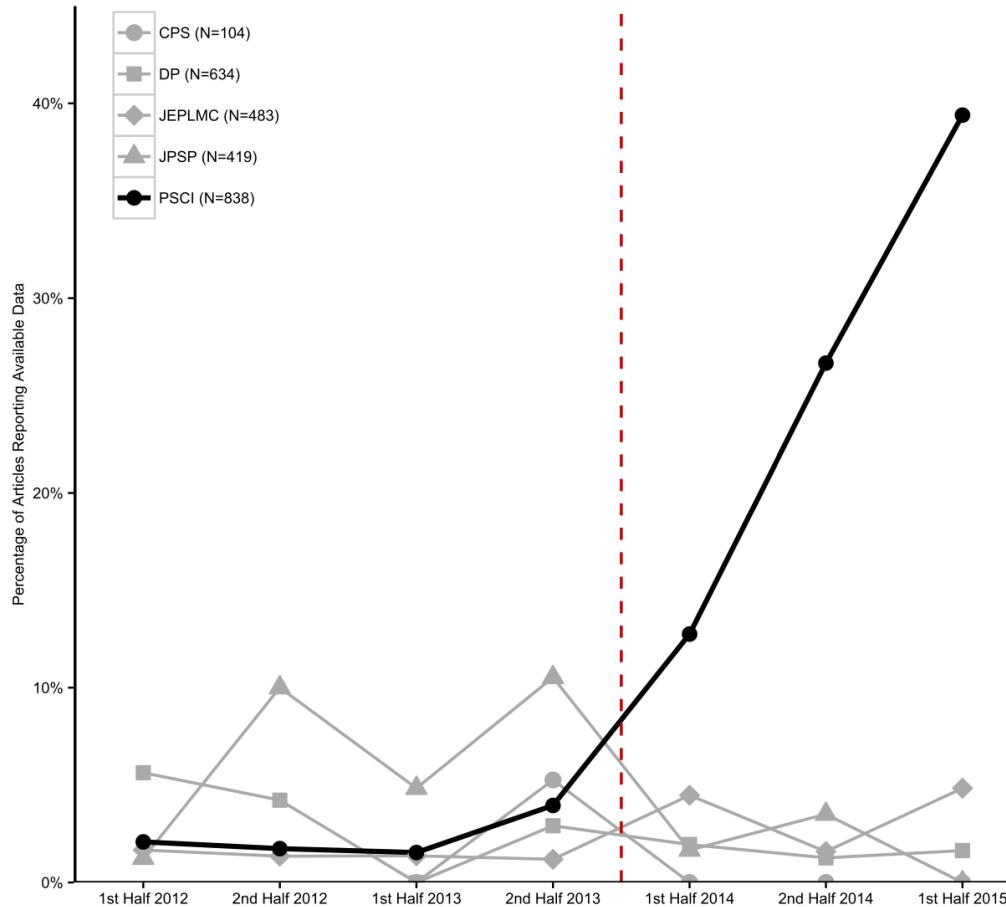


**Fig 2. Reportedly available data.** Percentage of articles reporting open data by half year by journal. Darker line indicates *Psychological Science*, and dotted red line indicates when badges were introduced in *Psychological Science* and none of the comparison journals. Underlying data (<https://osf.io/a29bt/>) and scripts (<https://osf.io/bdtng/>) to reproduce this figure can be found on the Open Science Framework.

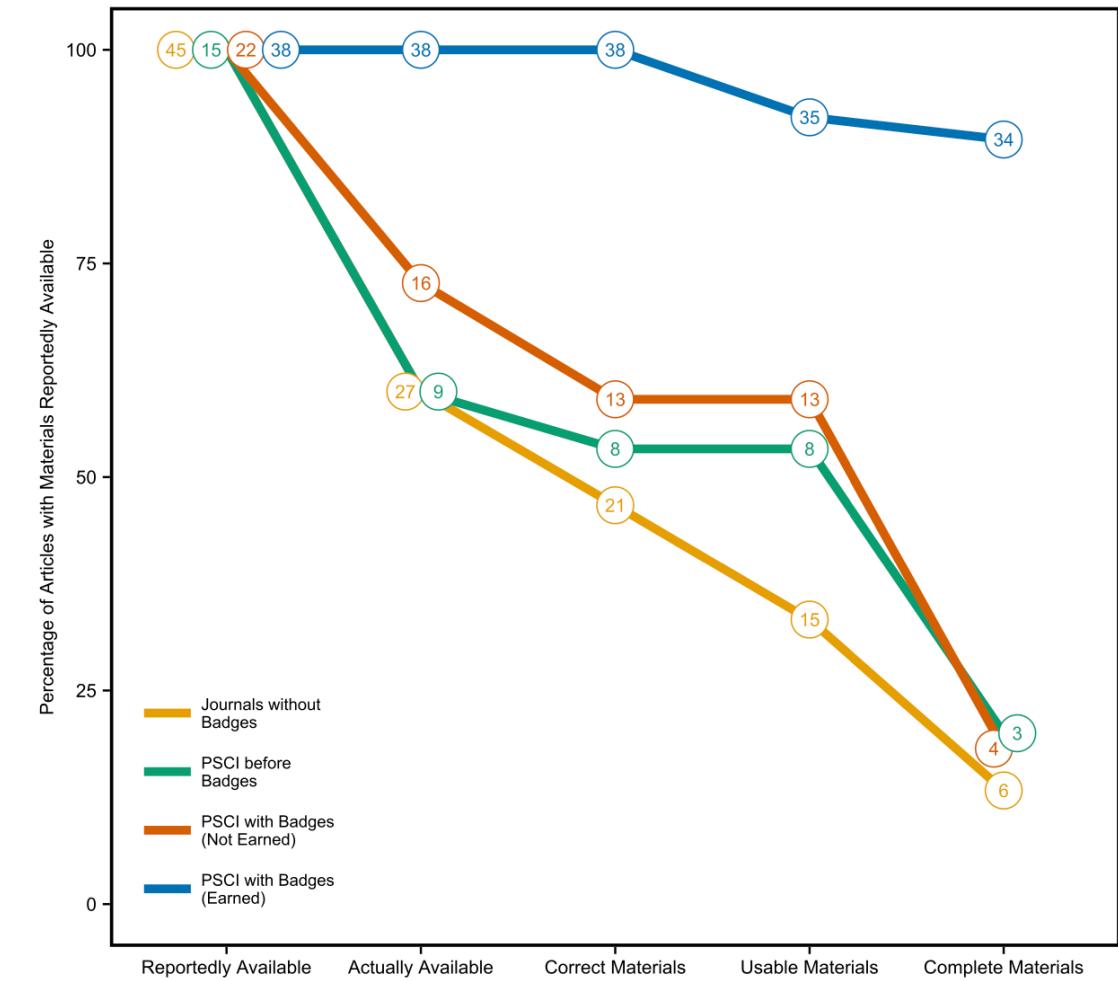


**Fig 4. Actually available, correct, usable, and complete data.** Percentage of articles with data reported available at an independent archive or personal website that were actually available, had correct data, had usable data, and had complete data. Once *Psychological Science* started offering badges, some articles reported availability but either did not apply for or earn a badge; others reported availability and did earn a badge. These are represented separately. Total number of articles reported in data points. Underlying data (<https://osf.io/srgjb/>) and scripts (<https://osf.io/d78cf/>) to reproduce this figure are available on the Open Science Framework.

# Open Science Badges improve research



**Fig 2. Reportedly available data.** Percentage of articles reporting open data by half year by journal. Darker line indicates *Psychological Science*, and dotted red line indicates when badges were introduced in *Psychological Science* and none of the comparison journals. Underlying data (<https://osf.io/a29bt/>) and scripts (<https://osf.io/bdtng/>) to reproduce this figure can be found on the Open Science Framework.



**Fig 5. Actually available, correct, usable, and complete materials.** Percentage of articles with materials reported available at an independent archive or personal website that were actually available, had correct materials, had usable materials, and had complete materials. Once *Psychological Science* started offering badges, some articles reported availability but did not earn a badge, and others reported availability and did earn a badge. These are represented separately. Total number of articles reported in data points. Underlying data (<https://osf.io/8ds2g/>) and scripts (<https://osf.io/fkqrj/>) to reproduce this figure are available on the Open Science Framework.

# Data, Code and Material Sharing

From a strategical point of view

+ 25.36%  
citation rate!

RESEARCH ARTICLE

## The citation advantage of linking publications to research data

**Giovanni Colavizza**<sup>1,2</sup>, **Iain Hrynaszkiewicz**<sup>3,4</sup>, **Isla Staden**<sup>1,5</sup>, **Kirstie Whitaker**<sup>1,6</sup>, **Barbara McGillivray**<sup>1,6\*</sup>

**1** The Alan Turing Institute, London, United Kingdom, **2** University of Amsterdam, Amsterdam, Netherlands,  
**3** Springer Nature, London, United Kingdom, **4** Public Library of Science, Cambridge, United Kingdom,  
**5** Queen Mary University, London, United Kingdom, **6** University of Cambridge, Cambridge, United Kingdom

# Privacy Protection with Open Data

Can I share my data?



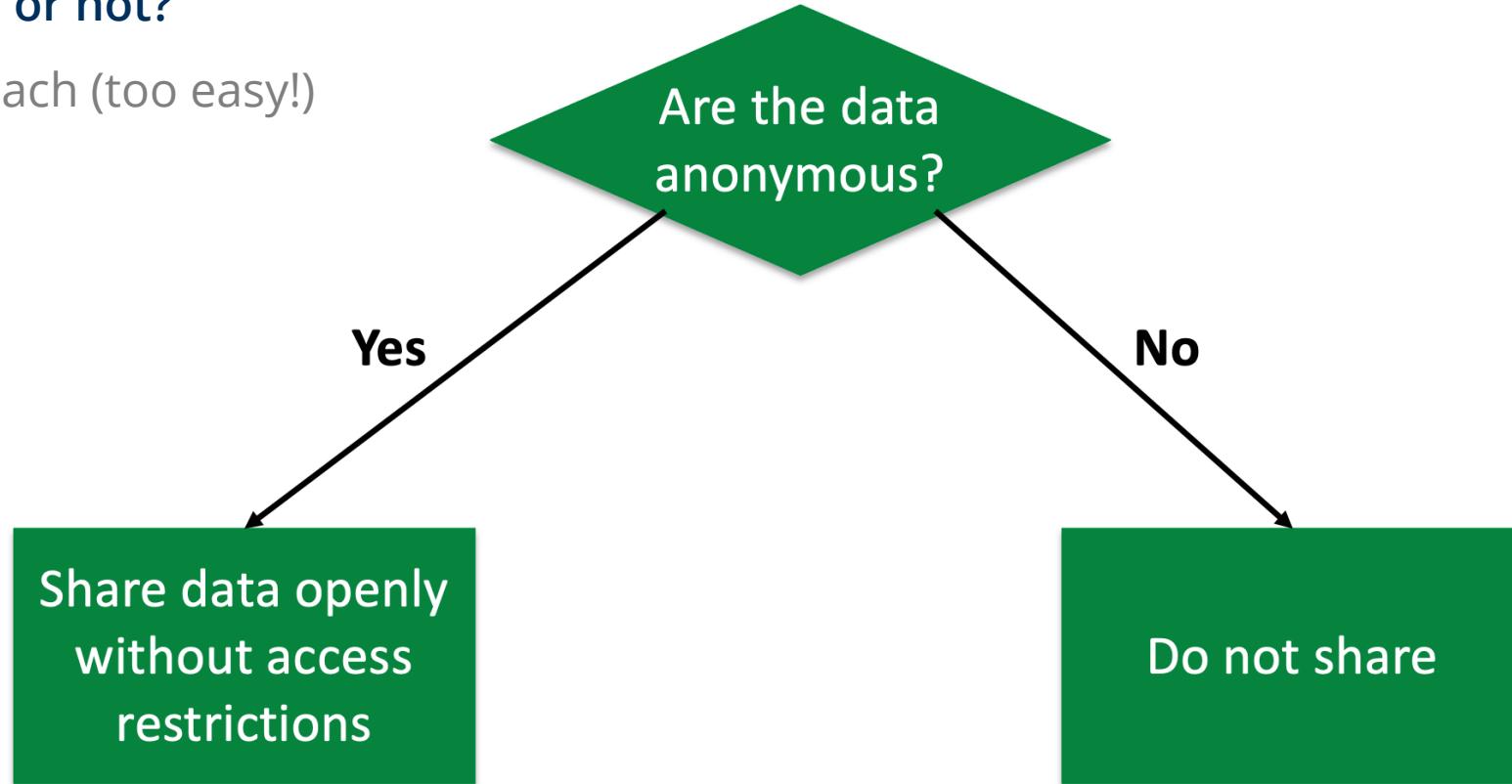
Many people do not  
share their data out of  
privacy concerns.  
Is this justified?

# Privacy Protection with Open Data

Can I share my data?

**Anonymous or not?**

A first approach (too easy!)



# Privacy Protection with Open Data

## Limits of sharing: Personal Data

### What is Personal Data (1)

Data that can directly identify a person („identifier“)



Name



Email Address



Fingerprints

...



Address



Date of Birth



DNA

GDPR (2016)

# Privacy Protection with Open Data

## Limits of sharing: Personal Data

### What is Personal Data (2)

Unique combinations of other data that allow to identify a single person.

.... who can be identified directly or indirectly, in particular by reference to [...] one or more factors specific to the [...] natural person. [...] To determine whether a natural person is identifiable, account should be taken of all the means *reasonably likely* to be used, such as **singling out**"  
(GDPR, 2016)

**Who is the male person, age 46, who studies psychology in the first semester at TU Dresden?**

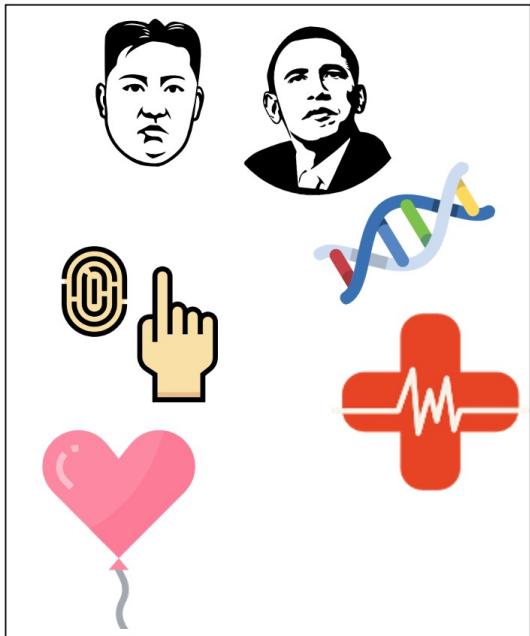
Full text of the GDPR: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32016R0679&from=EN>

# Privacy Protection with Open Data

## Limits of sharing: Personal Data

### What is Sensitive Data?

According to § 9(1) GDPR:

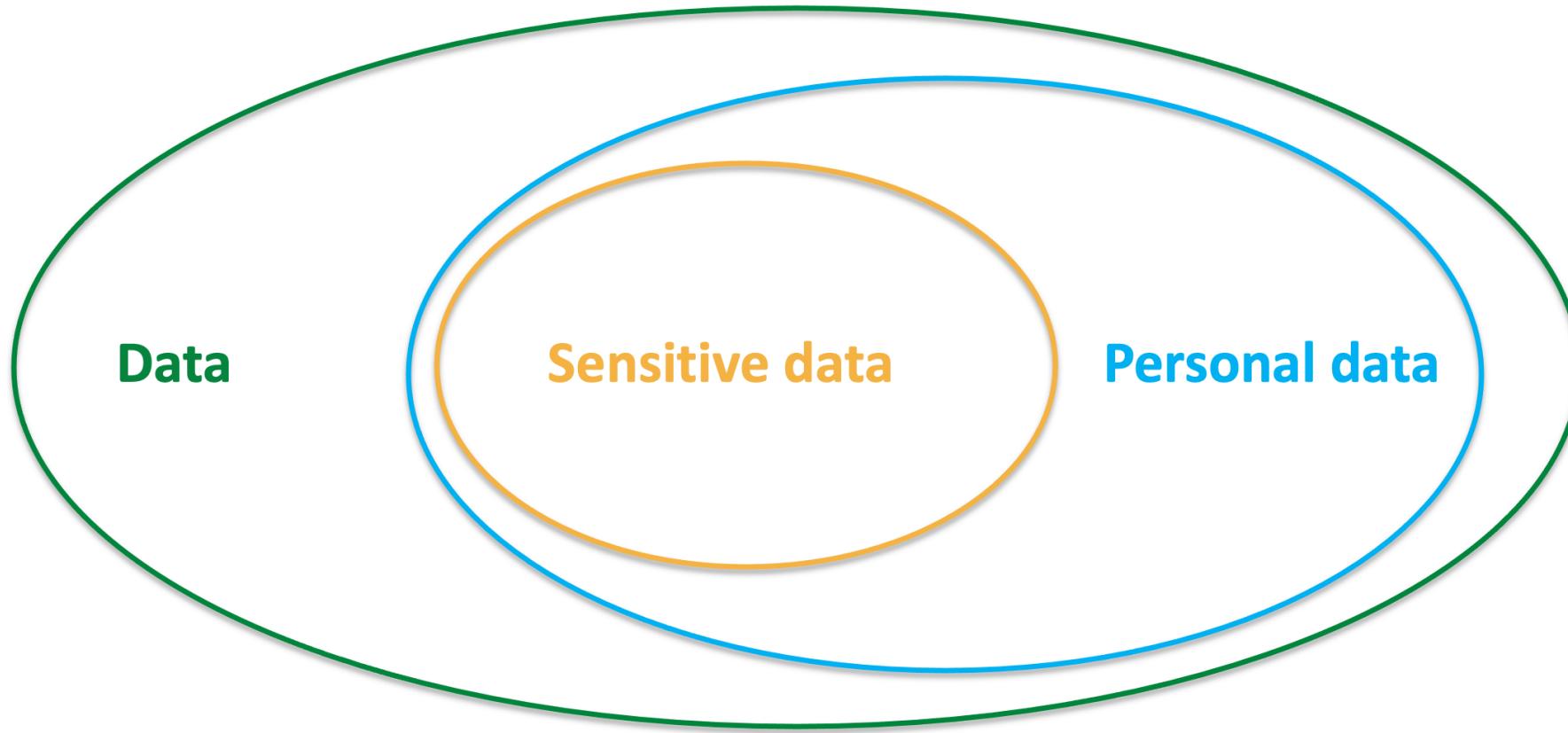


- Ethnic group, political attitudes, religious beliefs, membership to a union
- Genetic data
- Biometric data allowing re-identification
- Health data
- Data on sexual life or sexual preferences

GDPR (2016)

# Privacy Protection with Open Data

Limits of sharing: Personal Data



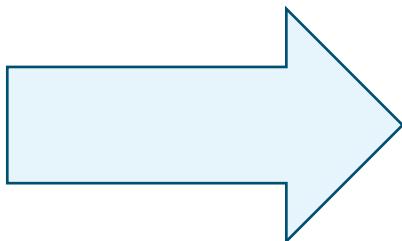
GDPR (2016)

# Privacy Protection with Open Data

## Data Processing: Personal Data

"Processing [of personal data] shall be lawful only if [...] the data subject has given consent to the processing of his or her personal data **for one or more specific purposes**."

(GDPR 2016 §6(1))



You are not allowed to collect, analyze, or share personal data if the participant did not consent to it.

Consent must be given to one or more specific purposes!

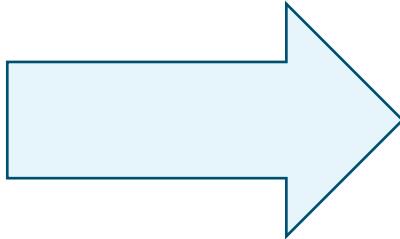
# Privacy Protection with Open Data

## Data Processing: Sensitive Data

“(1) Processing [of sensitive data] shall be prohibited.

(2) Paragraph 1 shall not apply if [...] the data subject has given **explicit consent** to the processing of those [...] data for one or more **specified purposes**.”

(GDPR 2016 §9(1-2))



You are not allowed to collect, analyze, or share sensitive data if the participant did not explicitly consent to it.

# Privacy Protection with Open Data

## Data Processing: Sensitive Data

Explicit consent must contain:

- A **statement** specifying the **nature of the data** being collected, details of automated decisions (if applicable), details of the data to be internationally transferred and the **risks** of the transfer.
- An **explicit action** by a subject agreeing with the statement (“I agree”)

After you have read our data privacy information sheet, please indicate if you agree with the data processing of your personal data by clicking on “I agree” or “I do not agree”.

van den Heuvel (2017)

# Privacy Protection with Open Data

## Data Processing: Sensitive Data

Explicit consent must contain:

- A **statement** specifying the **nature of the data** being collected, details of automated decisions (if applicable), details of the data to be internationally transferred and the **risks** of the transfer.
- An **explicit action** by a subject agreeing with the statement (“I agree”)

**Recommendation:**

Do not measure sensitive data at all if you do not need to.

If you have to, take extra special care.

# Open data: Consent form

## Template from TUD

### 8 Informationen zum Datenschutz

Erhebung ohne Schlüsseltabelle = ANONYM  
Erhebung mit Schlüsseltabelle = PSEUDONYM

#### 8.1 Was passiert mit meinen Daten?

Folgende Daten werden ausschließlich zur Kontaktaufnahme zu Ihrer Person verarbeitet: Name, Adresse, E-Mail-Adresse und ggf. Telefonnummer. Sie dienen dazu, Sie vor den Untersuchungszeitpunkten zu kontaktieren und Ihnen den Link zu den Online-Fragebögen zukommen zu lassen. Wir versichern, dass diese personenbezogenen Daten unverzüglich gelöscht werden, sobald die Datenerhebung beendet ist. Alle weiteren Angaben, die Sie im Rahmen dieses Forschungsprojektes machen, werden pseudonymisiert, d.h. als einziges Identifikationsmerkmal dient ein Code aus einer Buchstaben- und Zahlenkombination, erfasst und können auf keinen Fall mit den personenbezogenen Daten in Verbindung gebracht werden.

ggf. weitere einfügen

Insofern dies nicht anders gesetzlich bestimmt ist oder Sie im Einzelfall ausdrücklich eingewilligt haben, erfolgt keine Übermittlung von personenbezogenen Daten an Dritte. Die Weitergabe der Daten im Rahmen von wissenschaftlichen Kooperationsprojekten erfolgt ausschließlich in anonymisierter Form zu statistischen Zwecken, d.h. die Daten können nicht mehr einer natürlichen Person zugeordnet werden. Die Forschungsergebnisse werden in wissenschaftlich üblicher Form (u.a. Open Science Plattformen) und in Gruppen zusammengefasst veröffentlicht. Wir sichern zu, dass aus den Veröffentlichungen keinerlei Rückschlüsse auf natürliche Personen möglich sind.

Die Daten werden entsprechend der Vorgabe Deutschen Forschungsgemeinschaft für mindestens 10 Jahre aufbewahrt.

# Open data: Consent form

## Template from TUD

### 8.2 Auf welcher Rechtsgrundlage erfolgt die Verarbeitung meiner Daten?

Die Datenverarbeitung erfolgt auf Grundlage von Art. 6 Abs. 1 UAbs. 1 lit. a und ggf. Art. 9 Abs. 2 lit. a DSGVO (Einwilligung). Die Vorgaben des § 12 SächsDSDG für die Verarbeitung personenbezogener Daten zu Forschungszwecken werden beachtet.

# **Open data: Consent form**

## Template from TUD

### *8.4 Auskunfts- und Widerrufsrecht*

Falls Sie Ihre Einwilligung widerrufen möchten, informieren Sie bitte Ihren Studienleiter oder schreiben Sie eine formlose E-Mail. In diesem Fall müssen Sie den von Ihnen gebildeten Versuchspersonencode nennen. Anschließend werden alle anonymisierten Daten, die Ihrem Code zugeordnet werden können, gelöscht. Dies ist nur bis zur Beendigung der Datenerhebungsphase möglich.

Sie können jederzeit schriftlich Auskunft über die zu Ihrer Person verarbeiteten Daten sowie die möglichen Empfänger dieser Daten, an die diese übermittelt wurden, verlangen. Eine Antwort steht Ihnen mit der Frist von einem Monat nach Eingang des Auskunftsersuchens zu.

### *8.5 Recht auf Berichtigung, Löschung und Einschränkung*

Sie können jederzeit gegenüber der Studienleitung die Berichtigung oder Löschung Ihrer personenbezogenen Daten oder die Einschränkung der Verarbeitung verlangen.

### *8.6 Recht auf Datenübertragbarkeit*

Sie können verlangen, dass die Studienleitung Ihnen Ihre personenbezogenen Daten in maschinenlesbarer Form übermittelt. Alternativ können Sie die direkte Übermittlung der von Ihnen bereitgestellten personenbezogenen Daten an eine:n andere:n Verantwortliche:n verlangen, soweit dies möglich ist.

# Open data: Consent form

## Template from TUD

### 8.7 Datenschutzbeauftragter und Aufsichtsbehörde für den Datenschutz

Sie können sich jederzeit an den Datenschutzbeauftragten der TU Dresden, Jens Syckor, ([informationssicherheit@tu-dresden.de](mailto:informationssicherheit@tu-dresden.de), Tel. +49 351 463-32839) sowie bei einer Beschwerde nach Art. 77 DSGVO an die zuständige Aufsichtsbehörde zum Datenschutz wenden. Die zuständige Aufsichtsbehörde ist:

Sächsischer Datenschutzbeauftragter  
Postfach 11 01 32  
01330 Dresden  
Tel.: +49 (0) 351 85471 101

# Privacy Protection with Open Data

Can I share my data?

Please keep your promises!



# Not only open, but FAIR

## FAIR principles

### The FAIR principles



**Findable**



**Accessible**



**Interoperable**



**Reusable**

Good research data management

# Not only open, but FAIR

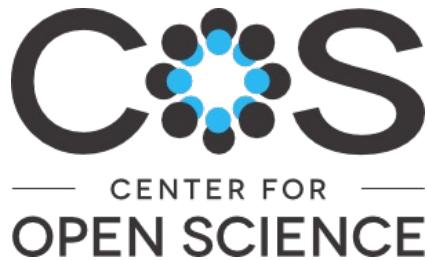
## Findable



Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services.

<https://www.go-fair.org/fair-principles/>

Step 1 Find a home for your data (Find a specialized data repository on [re3data.org](https://re3data.org))



**General data repositories**



**OpenNEURO**  
Neuroimaging

**Specific data repositories**

Icon from flaticon.com

# Not only open, but FAIR

## Findable

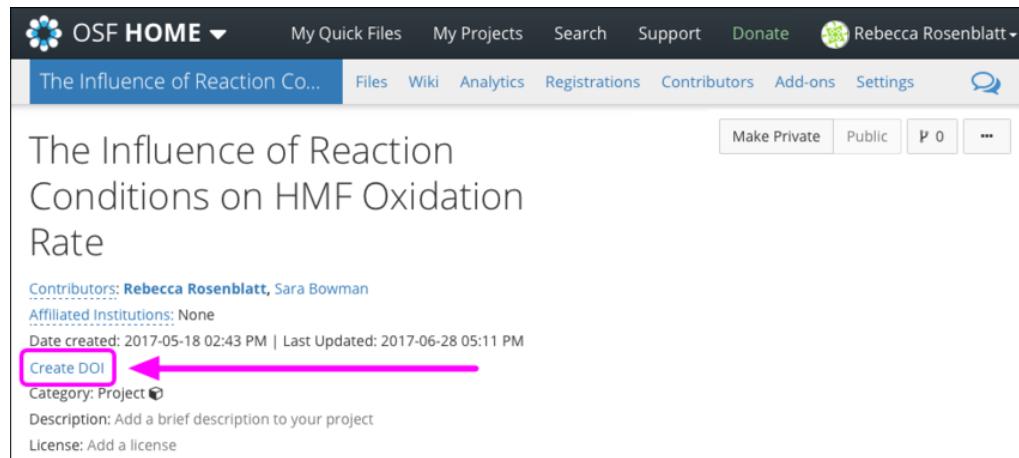


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**Step 1 Find a home for your data** (Find a specialized data repository on [re3data.org](https://re3data.org))

**Step 2: Give your data a DOI** (or another persistent identifier)



The screenshot shows a project page on the OSF. The title is "The Influence of Reaction Conditions on HMF Oxidation Rate". Below the title, it says "Contributors: Rebecca Rosenblatt, Sara Bowman" and "Affiliated Institutions: None". It also shows the date created as "2017-05-18 02:43 PM | Last Updated: 2017-06-28 05:11 PM". At the bottom left, there is a button labeled "Create DOI" with a pink arrow pointing to it. Other buttons include "Make Private", "Public", "P 0", and "...".

Icon from flaticon.com

# Not only open, but FAIR

## Findable



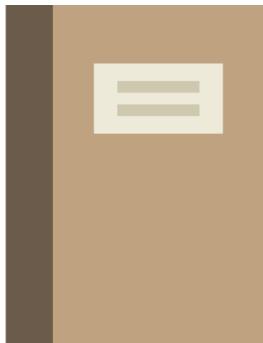
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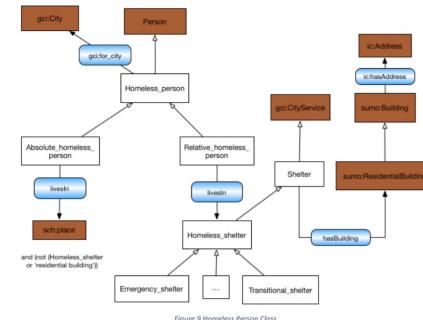
**Step 1 Find a home for your data** (Find a specialized data repository on [re3data.org](https://re3data.org))

**Step 2: Give your data a DOI** (or another persistent identifier)

**Step 3: Describe your data with metadata** („Data that provides information about other data“)



Codebook



Existing metadata standards  
[www.rd-alliance.org/](http://www.rd-alliance.org/)

Open Lab Notebooks: SciNote

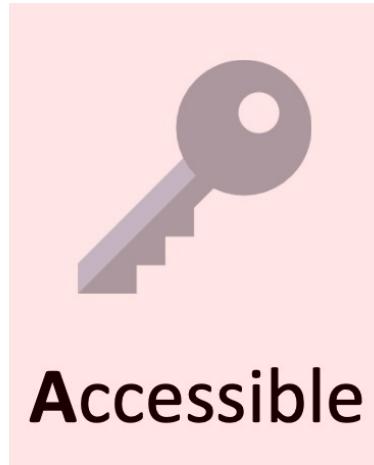
# Not only open, but FAIR

## FAIR principles

### The FAIR principles



Findable



Accessible



Interoperable



Reusable

Good research data management

# Not only open, but FAIR

## Accessible



Once the user finds the required data, she/he needs to know how can they be accessed, possibly including authentication and authorisation.

<https://www.go-fair.org/fair-principles/>

“Open data should be available to everyone to access, use, and share.” (GO FAIR, 2018)

### What can you do if your data is sensitive?

- Is all your data sensitive? Maybe you can openly share parts of your data.
- Restrict the access to your data to a relevant group (e.g., to researchers) and be clear and transparent about why you restrict the access and how people can gain access
- Publish only metadata

# Not only open, but FAIR

## FAIR principles

### The FAIR principles



**Findable**



**Accessible**



**Interoperable**

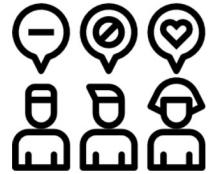


**Reusable**

Good research data management

# Not only open, but FAIR

## Interoperable



The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.

<https://www.go-fair.org/fair-principles/>

**Interoperability:** Do not use proprietary data formats or software

Format / Software	Proprietary	Open
Text files	Word (.doc), Pages (.pages)	Open Office (.odt), .txt, LaTeX
Spreadsheets	Excel (.xls), Numbers (.numbers)	Open Office (.ods), .csv
Video	.avi, .wmv, .mov, .qtvr, .rv	.mpg, .mp4
Audio	.wma, .ASF, .ra, .wav	.mp3
Presentations	PowerPoint (.ppt), Keynote (.key)	PDF, HTML
Statistical Analyses	SPSS (.sav), Matlab (.m), SAS (.sas), Stata (.dta)	R, JASP (.jasp), Python
Experimental Software / Questionnaires	E-Prime, Presentation, SurveyMonkey, UniPark	PsychoPy, Limesurvey, formr

# Not only open, but FAIR

## FAIR principles

### The FAIR principles



**Findable**



**Accessible**



**Interoperable**



**Reusable**

Good research data management

# Not only open, but FAIR

## Reusable



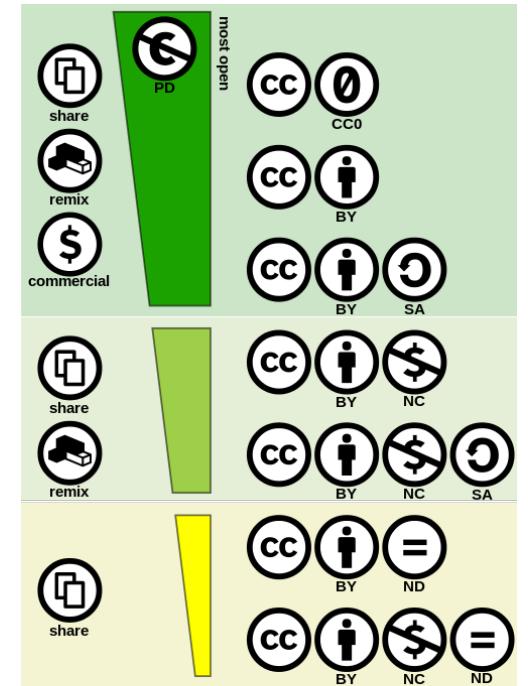
The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

<https://www.go-fair.org/fair-principles/>

### Step 1: Choose a license

### Step 2: Make your analysis code reproducible

- **!!! Always comment your code !!!**
- Choose a **coherent file / function naming system** and coding style. Consult programming language style guides (e.g., <http://adv-r.had.co.nz/Style.html>)
- Consider **version control**
- Record the used **packages and software**
- Write a **README** with details on the workflow if code fragments need to be combined



# Data, Code and Material Sharing

## Platforms



[www.osf.io](http://www.osf.io)



[www.figshare.com](http://www.figshare.com)



[leibniz-psychology.org](http://leibniz-psychology.org)

**PsychArchives**

[www.psychdata.de](http://www.psychdata.de)

**PsychData**



[www.zenodo.org](http://www.zenodo.org)



A public repository of unthresholded statistical maps,  
parcellations, and atlases of the brain

[www.neurovault.org](http://www.neurovault.org)



**OpenNEURO**  
[www.openneuro.org](http://www.openneuro.org)



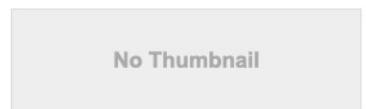
[www.github.com](http://www.github.com)

# Data, Code and Material Sharing

## Our own studies: OPARA, GitHub, OSF

### Data and Material for "Should we detach from detachment? Regulatory and post-regulatory effects of emotion downregulation"

Subtitle: Collaborative Research Centre 940 subproject A5 "Volitional emotion regulation: The costs of control"



Datum  
2021

Autor  
Gaertner, Anne

Metadaten  
Zur Langanzeige

Zusammenfassung  
These files provide first level fMRI data for reproducing the results of "Should we detach from detachment? Regulatory and post-regulatory effects of emotion downregulation" by Kersten Diers and colleagues. Due to the upload limit on OSF, the materials have been partitioned. Behavioral data, second level fMRI data, ROI masks, materials such as the experimental design and paradigms, the preprint and scripts can be found at OSF: <https://osf.io/mg5ac/>.

URI  
<https://opara.zih.tu-dresden.de/xmlui/handle/123456789/1951>  
<http://dx.doi.org/10.25532/OPARA-120>

The screenshot shows the OPARA study page. At the top, there's a navigation bar with links like 'Why GitHub?', 'Team', 'Enterprise', 'Explore', 'Marketplace', 'Pricing', and a search bar. Below the navigation is a header for the repository 'pjawinski / emotion' (Public). The main content area has tabs for 'Code', 'Issues', 'Pull requests', 'Actions', 'Projects', 'Wiki', and 'Settings'. Under the 'Code' tab, it shows 'main' branch, 1 branch, 0 tags, and a commit history for 'pjawinski Update README.md ...' dated 29 Nov 2021. Below the commit history is a 'README.md' section with the following text:

**Individual differences in inhibitory control are not related to emotion regulation**

This page contains the analysis scripts referring to our manuscript entitled '[Individual differences in inhibitory control are not related to emotion regulation](#)' ([PsyArXiv](#)). We provide a reproducible and portable R environment, all statistical analysis scripts, and the original dataset to re-run our code. Please find [additional materials on the OSF](#).

**Abstract**

Although cognitive control and emotional control have been proposed to rely on similar cognitive processes, their specific relationship is not well understood. Given that down-regulation of negative emotion requires inhibiting or limiting the

### Individual differences in inhibitory control: A latent variable analysis

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Category: Project

Description: Inhibitory control represents a central component of executive functions and focuses on the ability to inhibit control, correlations between these tasks are rather small, partly because of the task impurity problem. In each other yet separable functions have been identified: prepotent response inhibition and resistance to distractors. To extend previous literature by additionally accounting for speed-accuracy trade-offs, thereby potentially increasing control tasks (stroop task, antisaccade task, stop-signal task, Eriksen flanker task, shape-matching task, word-name task) (combining response times and error rates). In line with previous studies, we found generally low zero-order correlations, we were not able to replicate a satisfactory model with good fit to the data. By using inverse efficiency scores, four out of six tasks demonstrated significant factor loadings. Our results highlight the difficulty in finding robust inferences and accounting for speed-accuracy trade-offs.

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Has supplemental materials for [Individual differences in inhibitory control: A latent variable analysis](#) on PsyArXiv

The screenshot shows the OSF storage page for the project. It has a sidebar with 'Files' and a main area with a table of contents. The table of contents includes:

- Individual differences in inhibitory control: A latent variable analy... (modified 2020-10-16 04:19 PM)
- OSF Storage (Germany - Frankfurt)
  - Data and Analyses
    - Analyses in AMOS
    - Analyses in SPSS
    - Data trimming
    - list of measures.pdf (modified 2020-10-16 04:19 PM)
  - Preprint
    - Grtner\_Inhibitory Control\_Preprint.pdf (modified 2019-07-08 03:39 PM)
  - Supplementary Material
    - Grtner\_Inhibitory Control\_Supplementary Material.pdf (modified 2019-07-08 03:39 PM)
  - Talk DPPD 2021

# Exercise

# Group Discussion

Form groups of 2-3 people from similar fields

10 min. discussion:

- How can you foster Open Data (and Open Material) in your working group? What would be small steps to start?
- If you don't do it yet: What are the (perceived) barriers that prevent you from doing it?



# Summary

# Open Data and Materials

## 3 Easy Steps

### How you can improve your OS record (almost) without effort

1. Upload (stimulus) material that you create on an open repository
2. Ask to see the data when you are reviewing a paper & recommend open sharing when possible (see also Peer Reviewers' Openness Initiative: <https://opennessinitiative.org/>)
3. Hand out a standard consent form to your participants before you conduct a study; ask for consent to publish the data.

# Further recommendations

# Further resources

Workshop on reproducible workflow: [Part 1](#) | [Part 2](#)

Arslan, R. *Maintaining privacy with open data*. Presentation slides available on <https://osf.io/9j27d/>  
DGPs (2017). *Data management in psychological science. Specification of the DFG guidelines*. By Felix Schönbrodt, Mario Gollwitzer, and Andrea Abele-Brehm on behalf of the DGP's Executive Board. [psyarxiv.com/vhx89/](https://psyarxiv.com/vhx89/)

GDPR (2016). *General Data Protection Regulation*. Information on [gdpr-info.eu/](http://gdpr-info.eu/) or [eugdpr.org/](http://eugdpr.org/), full text available on [eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679)

Minocher, R., Atmaca, S., Bavero, C., McElreath, R., & Beheim, B. (2021). Estimating the reproducibility of social learning research published between 1955 and 2018. *Royal Society Open Science*, 8(9), 210450. <https://doi.org/10.1098/rsos.210450>

White, T., Blok, E., & Calhoun, V. D. (2022). Data sharing and privacy issues in neuroimaging research: Opportunities, obstacles, challenges, and monsters under the bed. *Human Brain Mapping*, 43(1), 278-291. <https://doi.org/10.1002/hbm.25120>

# Thank you!

# Credentials

The creation of this workshop material was partially funded by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG; SFB 940/3).

Some slides of the workshop were taken or adapted from the Open Science Workshop Materials of the LMU Open Science Center: <https://osf.io/zjrhu/wiki/home/>



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**Break!**  
**(15 min, until 15:10)**