Wegbegleiter zwischen Theorie und Praxis:
Open Science Initiativen aus Mainz und Frankfurt stellen sich vor

Frankfurt **O**pen **S**cience **I**nitiative:
Julia Beitner, Lea Müller Karoza, Prof. Dr. Martin Schultze

Mainzer **O**pen **S**cience **I**nitiative:
Dr. Felicitas Flade, Verena Heidrich, Dr. Marlene Stoll, Fiona Kazarovytska, Tisa Bertlich

Wieso Open Science? – 2011

Psychological Science
Volume 22, Issue 11, November 2011, Pages 1359-1366
© Association for Psychological Science 2011, Article Reuse Guidelines
https://doi.org/10.1177/0956797611417632

SAGE journals

General Article

False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant

Joseph P. Simmons[1], Leif D. Nelson[2], and Uri Simonsohn[1]

https://journals.sagepub.com/doi/full/10.1177/0956797611417632

Table 1. Likelihood of Obtaining a False-Positive Result

	Significance level		
Researcher degrees of freedom	$p < .1$	$p < .05$	$p < .01$
Situation A: two dependent variables ($r = .50$)	17.8%	9.5%	2.2%
Situation B: addition of 10 more observations per cell	14.5%	7.7%	1.6%
Situation C: controlling for gender or interaction of gender with treatment	21.6%	11.7%	2.7%
Situation D: dropping (or not dropping) one of three conditions	23.2%	12.6%	2.8%
Combine Situations A and B	26.0%	14.4%	3.3%
Combine Situations A, B, and C	50.9%	30.9%	8.4%
Combine Situations A, B, C, and D	81.5%	60.7%	21.5%

Research Article

aps ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

Psychological Science
23(5) 524-532

DOI: 10.1177/0956797611430953
http://pss.sagepub.com
SAGE

Measuring the Prevalence of Questionable Research Practices With Incentives for Truth Telling

Leslie K. John[1], George Loewenstein[2], and Drazen Prelec[3]
[1]Marketing Unit, Harvard Business School; [2]Department of Social & Decision Sciences, Carnegie Mellon University; and [3]Sloan School of Management and Departments of Economics and Brain & Cognitive Sciences, Massachusetts Institute of Technology

	Self-admission rate (%)	
Item	Control group	BTS group
1. In a paper, failing to report all of a study's dependent measures	63.4	66.5
2. Deciding whether to collect more data after looking to see whether the results were significant	55.9	58.0
3. In a paper, failing to report all of a study's conditions	27.7	27.4
4. Stopping collecting data earlier than planned because one found the result that one had been looking for	15.6	22.5
5. In a paper, "rounding off" a p value (e.g., reporting that a p value of .054 is less than .05)	22.0	23.3
6. In a paper, selectively reporting studies that "worked"	45.8	50.0
7. Deciding whether to exclude data after looking at the impact of doing so on the results	38.2	43.4
8. In a paper, reporting an unexpected finding as having been predicted from the start	27.0	35.0
9. In a paper, claiming that results are unaffected by demographic variables (e.g., gender) when one is actually unsure (or knows that they do)	3.0	4.5
10. Falsifying data	0.6	1.7

Wieso Open Science? – 2015

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Science

Estimating the reproducibility of psychological science

OPEN SCIENCE COLLABORATION Authors Info & Affiliations

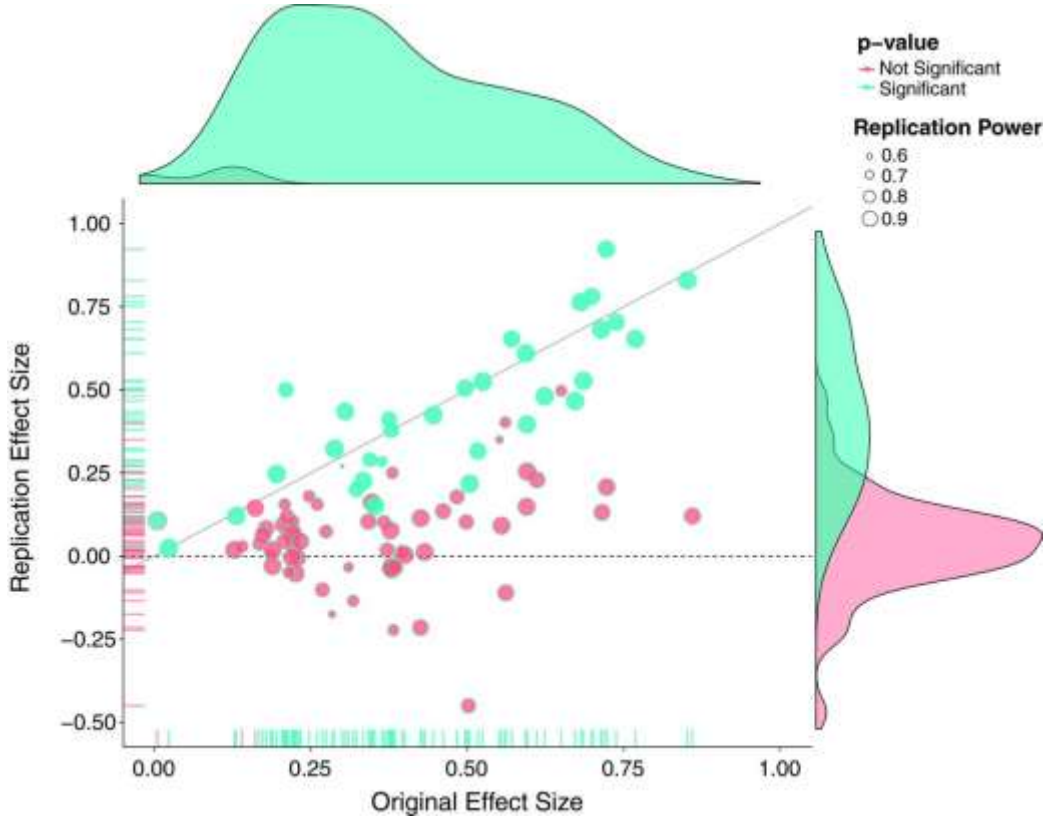
SCIENCE · 28 Aug 2015 · Vol 349, Issue 6251 · DOI: 10.1126/science.aac4716

Empirically analyzing empirical evidence

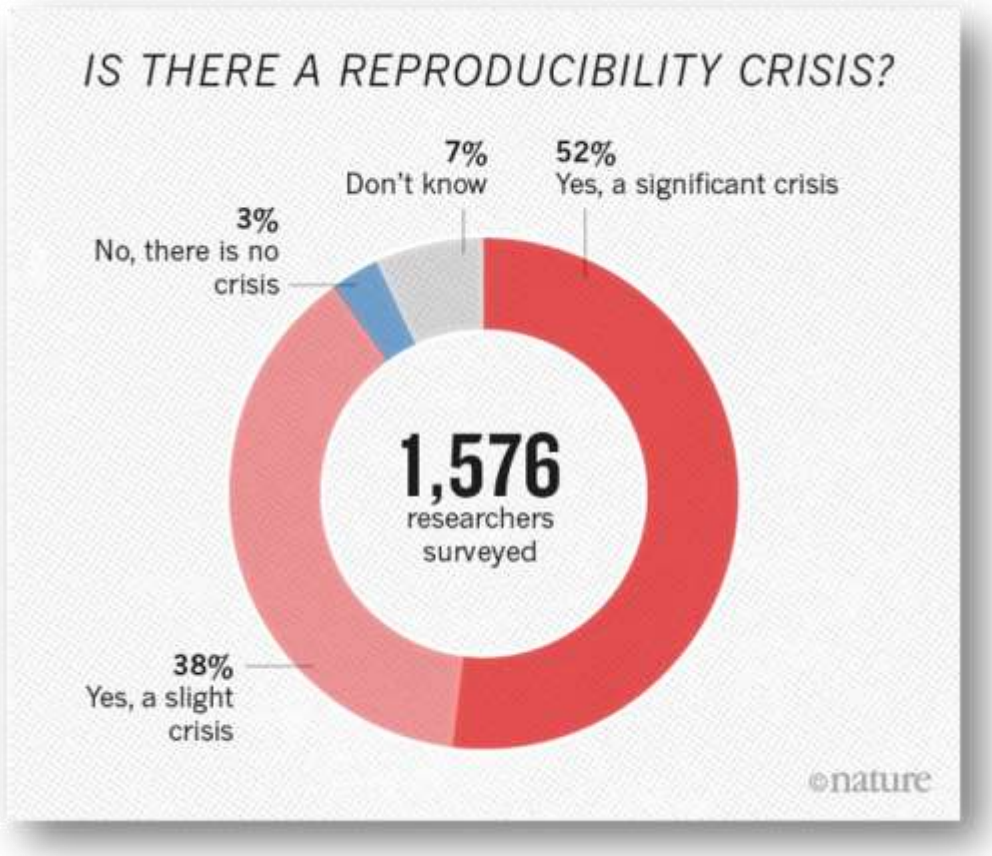
One of the central goals in any scientific endeavor is to understand causality. Experiments that seek to demonstrate a cause/effect relation most often manipulate the postulated causal factor. Aarts *et al.* describe the replication of 100 experiments reported in papers published in 2008 in three high-ranking psychology journals. Assessing whether the replication and the original experiment yielded the same result according to several criteria, they find that about one-third to one-half of the original findings were also observed in the replication study.

Science, this issue 10.1126/science.aac4716

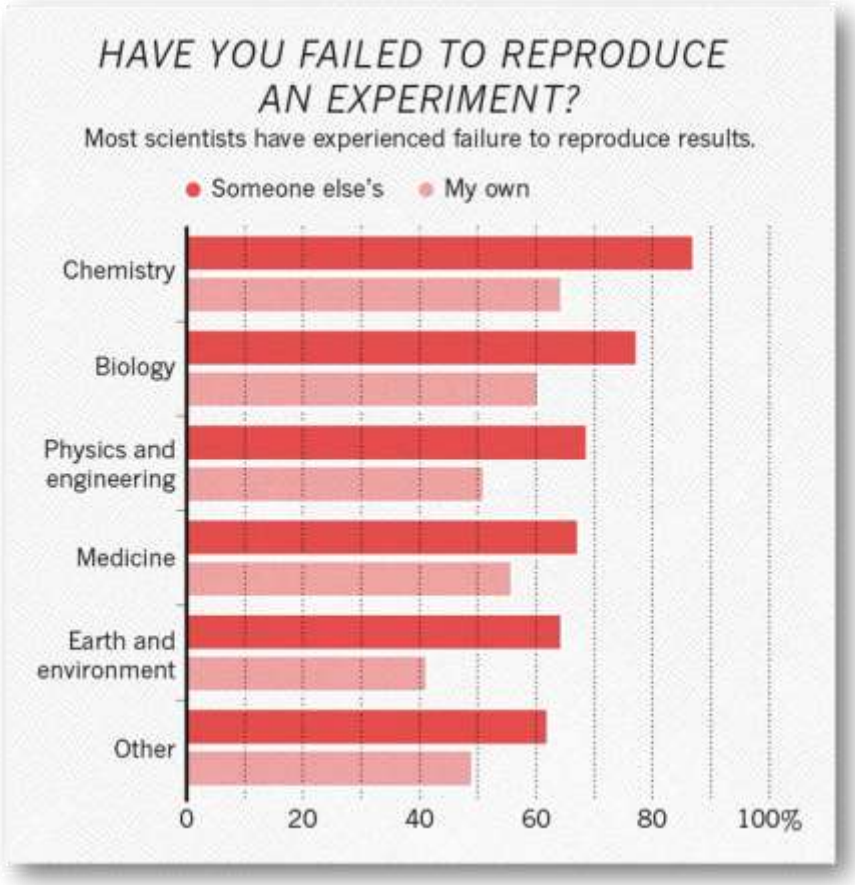
https://www.science.org/doi/full/10.1126/science.aac4716



Wieso Open Science?



https://www.nature.com/articles/533452a



Wieso Open Science?

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Research replication only works if there is confidence built into the results.

BY ANDY COCKBURN, PIERRE DRAGICEVIC, LONNI BESANÇON, AND CARL GUTWIN

Threats of a Replication Crisis in Empirical Computer Science

Comment | Published: 04 October 2021

Avoiding a replication crisis in deep-learning-based bioimage analysis

Romain F. Laine, Ignacio Arganda-Carreras, Ricardo Henriques & Guillaume Jacquemet

Nature Methods **18**, 1136–1144 (2021) | Cite this article

10k Accesses | **4** Citations | **157** Altmetric | Metrics

The Replication Crisis and Chemistry Education Research

Melanie M. Cooper*

View Author Information

Cite this: *J. Chem. Educ.* 2018, 95, 1, 1-2
Publication Date: January 9, 2018
https://doi.org/10.1021/acs.jchemed.7b00907
Copyright © 2018 The American Chemical Society and Division of Chemical Education, Inc.
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Article Views 2749 | Altmetric 28 | Citations 7

LEARN ABOUT THESE METRICS

Does health informatics have a replication crisis?

Enrico Coiera ✉, Elske Ammenwerth, Andrew Georgiou, Farah Magrabi

Journal of the American Medical Informatics Association, Volume 25, Issue 8, August 2018, Pages 963–968, https://doi.org/10.1093/jamia/ocy028

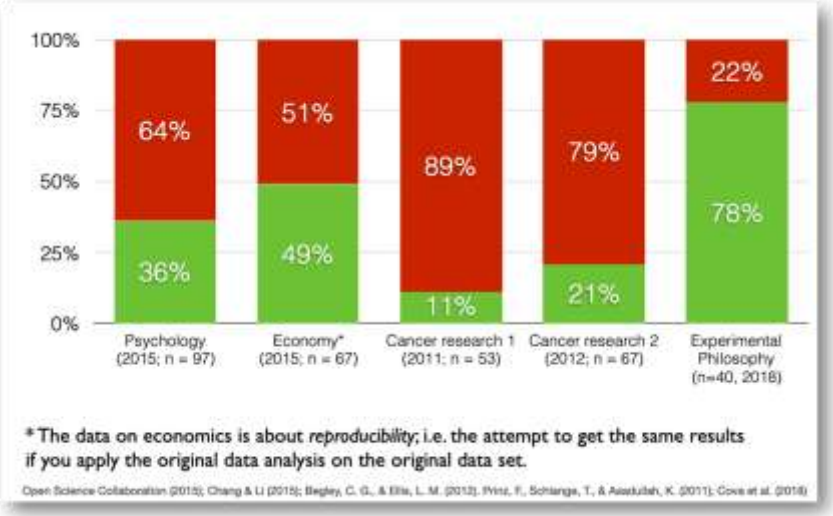
Research Article

Open science, the replication crisis, and environmental public health

Daniel J. Hicks ✉

Accepted author version posted online: 30 Jul 2021, Published online: 17 Aug 2021

Download citation | https://doi.org/10.1080/08989621.2021.1962713



*The data on economics is about *reproducibility*; i.e. the attempt to get the same results if you apply the original data analysis on the original data set.

Open Science Collaboration (2015); Chang & Li (2015); Begley, C. G., & Ellis, L. M. (2012); Prinz, F., Schlange, T., & Asadullah, K. (2011); Cova et al. (2018)

OPEN ACCESS

ESSAY

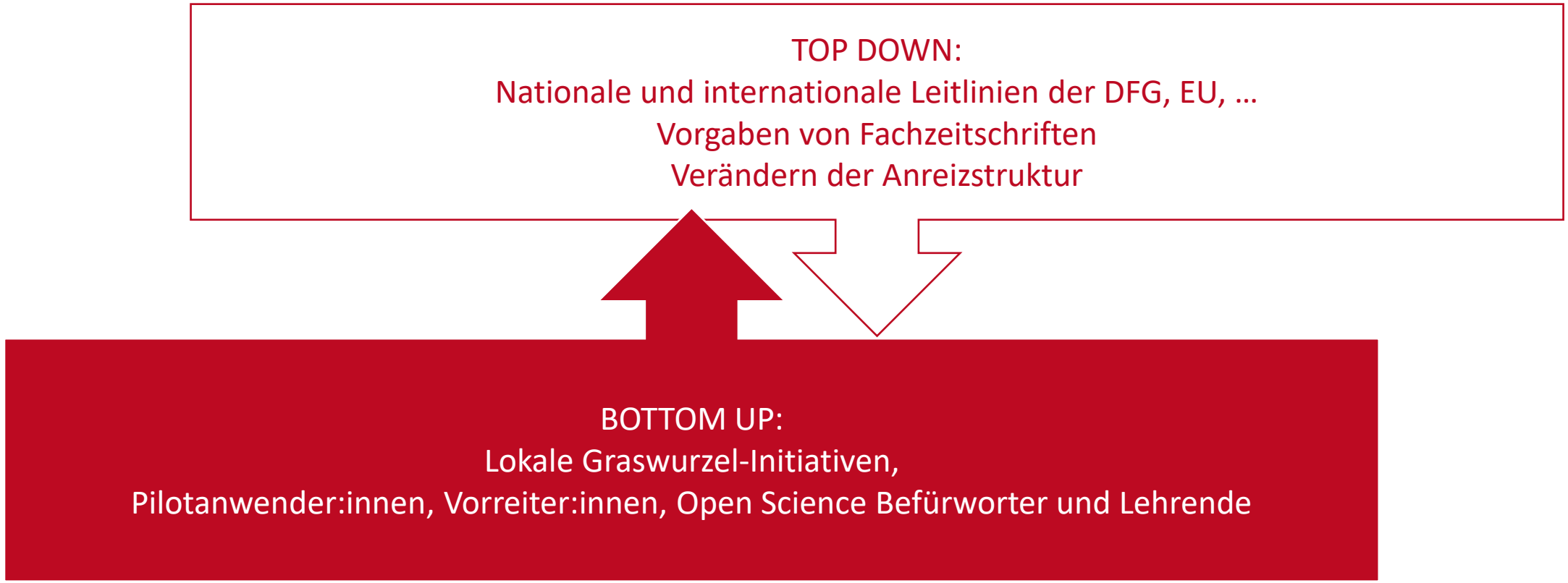
Why Most Published Research Findings Are False

John P. A. Ioannidis

Published: August 30, 2005 • https://doi.org/10.1371/journal.pmed.0020124

68,436 Save	3,458 Citation
2,916,318 View	10,484 Share

Was tun?
Eine Bottom-Up / Top-Down - Strategie

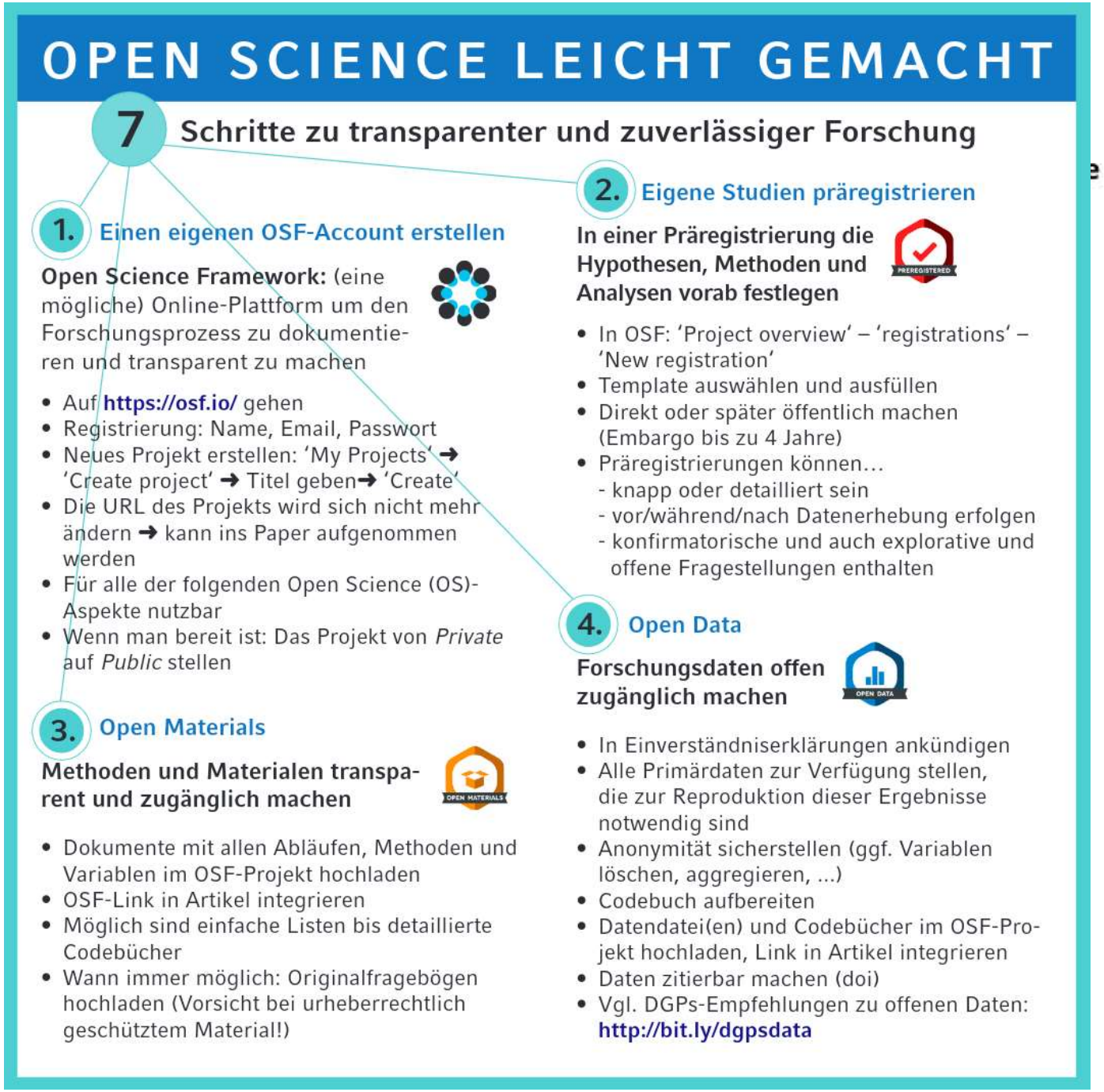


2016: Felix Schönbrodt; https://osf.io/dgmkq

Was kann ich tun?

- 7 Schritte zu transparenter und zuverlässiger Forschung

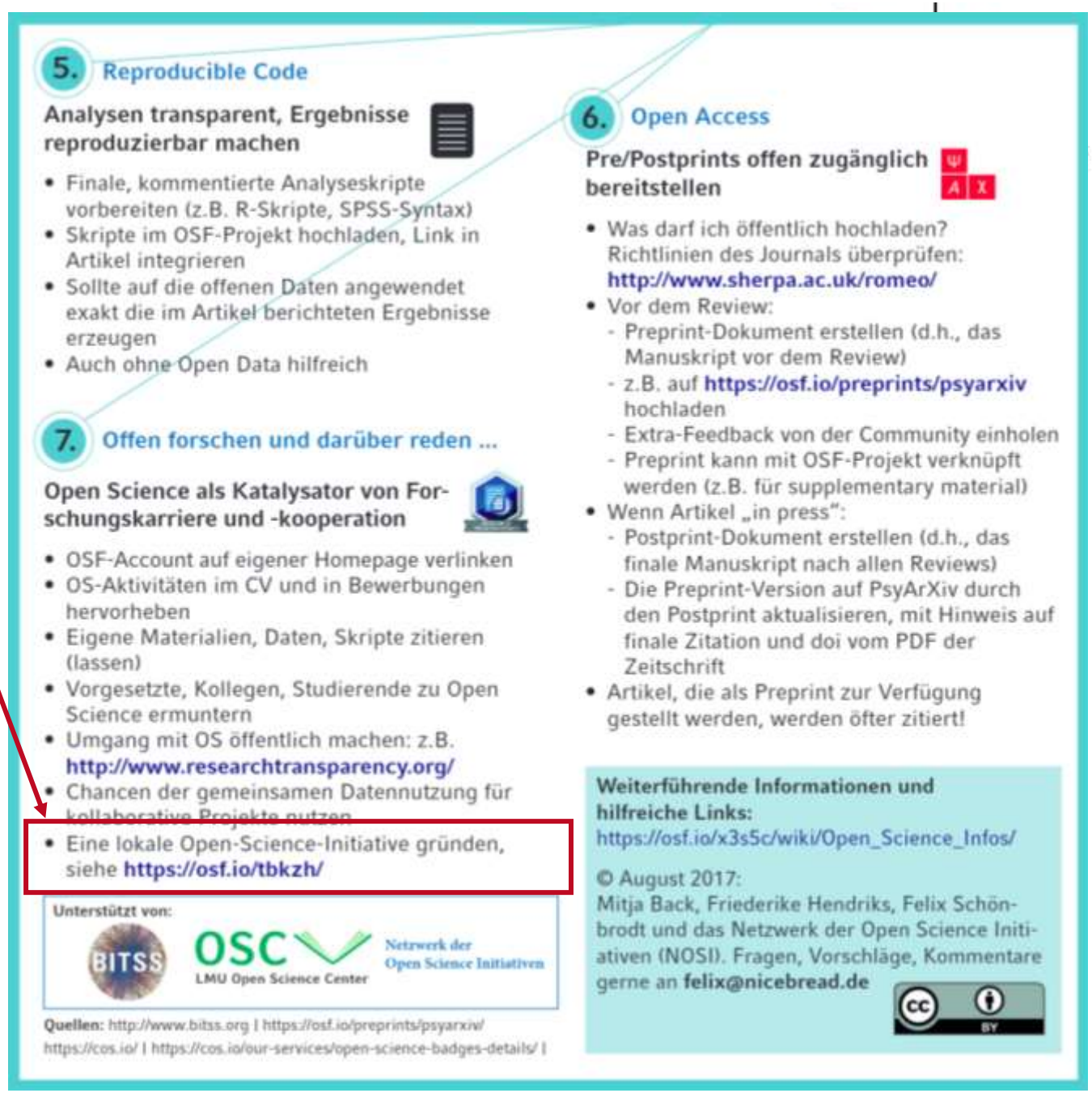
- 2017: Mitja Back, Friederike Hendriks, Felix Schönbrodt und das Netzwerk der Open Science Initiativen (NOSI)
- https://osf.io/7au4n



Was kann ich tun?

- Schritt 7: offen forschen und darüber reden
  - Eine lokale Open-Science-Initiative gründen

- 2017: Mitja Back, Friederike Hendriks, Felix Schönbrodt und das Netzwerk der Open Science Initiativen (NOSI)
- https://osf.io/7au4n



5. Reproducible Code

Analysen transparent, Ergebnisse reproduzierbar machen

- Finale, kommentierte Analyseskripte vorbereiten (z.B. R-Skripte, SPSS-Syntax)
- Skripte im OSF-Projekt hochladen, Link in Artikel integrieren
- Sollte auf die offenen Daten angewendet exakt die im Artikel berichteten Ergebnisse erzeugen
- Auch ohne Open Data hilfreich

6. Open Access

Pre/Postprints offen zugänglich bereitstellen

- Was darf ich öffentlich hochladen? Richtlinien des Journals überprüfen: http://www.sherpa.ac.uk/romeo/
- Vor dem Review:
  - Preprint-Dokument erstellen (d.h., das Manuskript vor dem Review)
  - z.B. auf https://osf.io/preprints/psyarxiv hochladen
  - Extra-Feedback von der Community einholen
  - Preprint kann mit OSF-Projekt verknüpft werden (z.B. für supplementary material)
- Wenn Artikel „in press“:
  - Postprint-Dokument erstellen (d.h., das finale Manuskript nach allen Reviews)
  - Die Preprint-Version auf PsyArXiv durch den Postprint aktualisieren, mit Hinweis auf finale Zitation und doi vom PDF der Zeitschrift
- Artikel, die als Preprint zur Verfügung gestellt werden, werden öfter zitiert!

7. Offen forschen und darüber reden ...

Open Science als Katalysator von Forschungskarriere und -kooperation

- OSF-Account auf eigener Homepage verlinken
- OS-Aktivitäten im CV und in Bewerbungen hervorheben
- Eigene Materialien, Daten, Skripte zitieren (lassen)
- Vorgesetzte, Kollegen, Studierende zu Open Science ermuntern
- Umgang mit OS öffentlich machen: z.B. http://www.researchtransparency.org/
- Chancen der gemeinsamen Datennutzung für kollaborative Projekte nutzen
- Eine lokale Open-Science-Initiative gründen, siehe https://osf.io/tbkzh/

Weiterführende Informationen und hilfreiche Links:
https://osf.io/x3s5c/wiki/Open_Science_Infos/

Unterstützt von: BITSS, OSC LMU Open Science Center, Netzwerk der Open Science Initiativen

Quellen: http://www.bitss.org | https://osf.io/preprints/psyarxiv/ https://cos.io/ | https://cos.io/our-services/open-science-badges-details/ |

Mainzer
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Science
Initiative

Wer wir sind – MOPSI


Marius Frenken, M.Sc.


Dr. Felicitas Flade


Meike Steinhilber, M.Sc.


Dr. Henrik Bellhäuser


Sebastian Brand, M.Sc.


Tisa Bertlich, M.Sc.


Prof. Dr. Anna-Lena Schubert


Fiona Kazarovytska, M.Sc.

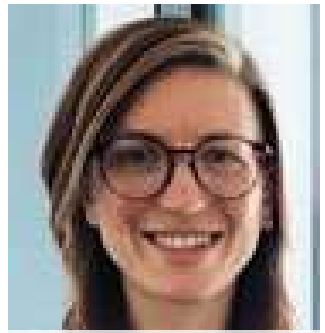

Verena Heidrich


Prof. Dr. Stefan Berti


Cordula Hunt, M.Sc.


Dr. Mario Wenzel


José C. García Alanis


Dr. Marlene Stoll

Wer wir sind - FOSI

Julia Beitner, M.Sc.

Lucie Binder, M.Sc.

Prof. Dr. Christian Fiebach

Dr. Alexa von Hagen

Lea Müller Karoza, B.Sc.

Dr. Thomas Lösch

Gözem Turan, M.A.

Prof. Dr. Martin Schultze

Prof. Dr. Yee Lee Shing

Dominik Welke, M.Sc.

Elli Zey, M.Sc.

+ 23 supporting members

Ziele

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Initiative

- Erfahrungsaustausch über Open Science
- Gegenseitige Unterstützung
- Förderung von Open Science in Forschung und Lehre

Bisherige Aktivitäten MOPSI

Mainzer
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- Gründung im Herbst 2021
- Regelmäßige Treffen ca. 3x pro Semester
- Werkstattgespräche ca. 2x pro Semester
- Vorträge im Institutskolloquium:
  - Dr. Rima-Maria Rahal , MPI Bonn (27.10.2021)
  - Dr. Anne Vieten, JGU Mainz (06.10.2021)
  - Dr. Christina Bergmann, MPI Nijmegen (24.11.2021)
- Open Science Day im Juni 2022
- Ansprechpartner für Open Science engagierte Studierende

Bisherige Aktivitäten FOSI

Mainzer
OPen
Science
Initiative

- Gründung im Sommer 2018
- Regelmäßige Treffen ca. 2-3 pro Semester
- Open Science Day im Juni 2018 & Januar 2020
- Open Science Forum mit der Universitätsbibliothek Juli 2022
- Events wie Film Screening von Paywall, repliCATS Workshop, ZPID Roadtour
- Über 10 Workshops zu Präregistrierung, Power Analysen, Replikationsstudien, git, docker, etc.
- Open Science Fellowships für Studierende und Promovierende
- Erster ReproducibiliTea Journal Club in Deutschland

ReproducibiliTea der FOSI

Date	Theme	presented by	Article
Week 1 26.10.22 + Café	**Open Educational Resources**	Julien Irmer Goethe University Frankfurt	PandaR as an Example for Open Teaching Practices https://pandar.netlify.app/
Week 2 09.11.22	**The What and How of Open Peer Review**	Dr. Roland Wagner Open Access Commissioner at Goethe University Frankfurt	Ross-Hellauer, T. (2017). What is open peer review? A systematic review. *F1000Research*, 6. https://doi.org/10.12688/f1000research.11369.2
Week 3 23.11.22 + Café	**p-Hacking Strategies**	Angelika Stefan University of Amsterdam	Stefan, A. M., & Schönbrodt, F. D. (2022). Big Little Lies: A Compendium and Simulation of p-Hacking Strategies. https://doi.org/10.31234/osf.io/xy2dk
Week 4 07.12.22	**A new system for diverse, inclusive, and creative scientific ecosystem**	Dr. Rebecca Willen Linnaeus University, Institute for Globally Distributed Open Research and Education (IGDORE)	Lancaster, A. K., Thessen, A. E., & Virapongse, A. (2018). A new paradigm for the scientific enterprise: nurturing the ecosystem. *F1000Research*, 7. https://doi.org/10.12688/f1000research.15078.1
Week 5 11.01.23 + Café	**Impact of Open Science Badges**	Elli Zey Goethe University Frankfurt	Norris, E., & O'Connor, D. B. (2019). Science as behaviour: Using a behaviour change approach to increase uptake of open science. *Psychology & Health*, 34(12), 1397-1406. https://doi.org/10.1080/08870446.2019.1679373
Week 6 25.01.23	**How to deal with pyramids of data analysis?**	Gözem Turan Goethe University Frankfurt	Wagenmakers, E., Sarafoglou, A., & Aczel, B. (2022). Facing the Unknown Unknowns of Data Analysis. https://doi.org/10.31234/osf.io/mjw2c
Week 7 08.02.23 + Café	**Perception of Preregistration**	Lisa Spitzer Leibniz Institute for Psychology	Spitzer, L., & Mueller, S. (2021). Registered Report Protocol: Survey on attitudes and experiences regarding preregistration in psychological research. *PloS one*, *16*(7). https://doi.org/10.1371/journal.pone.0253950

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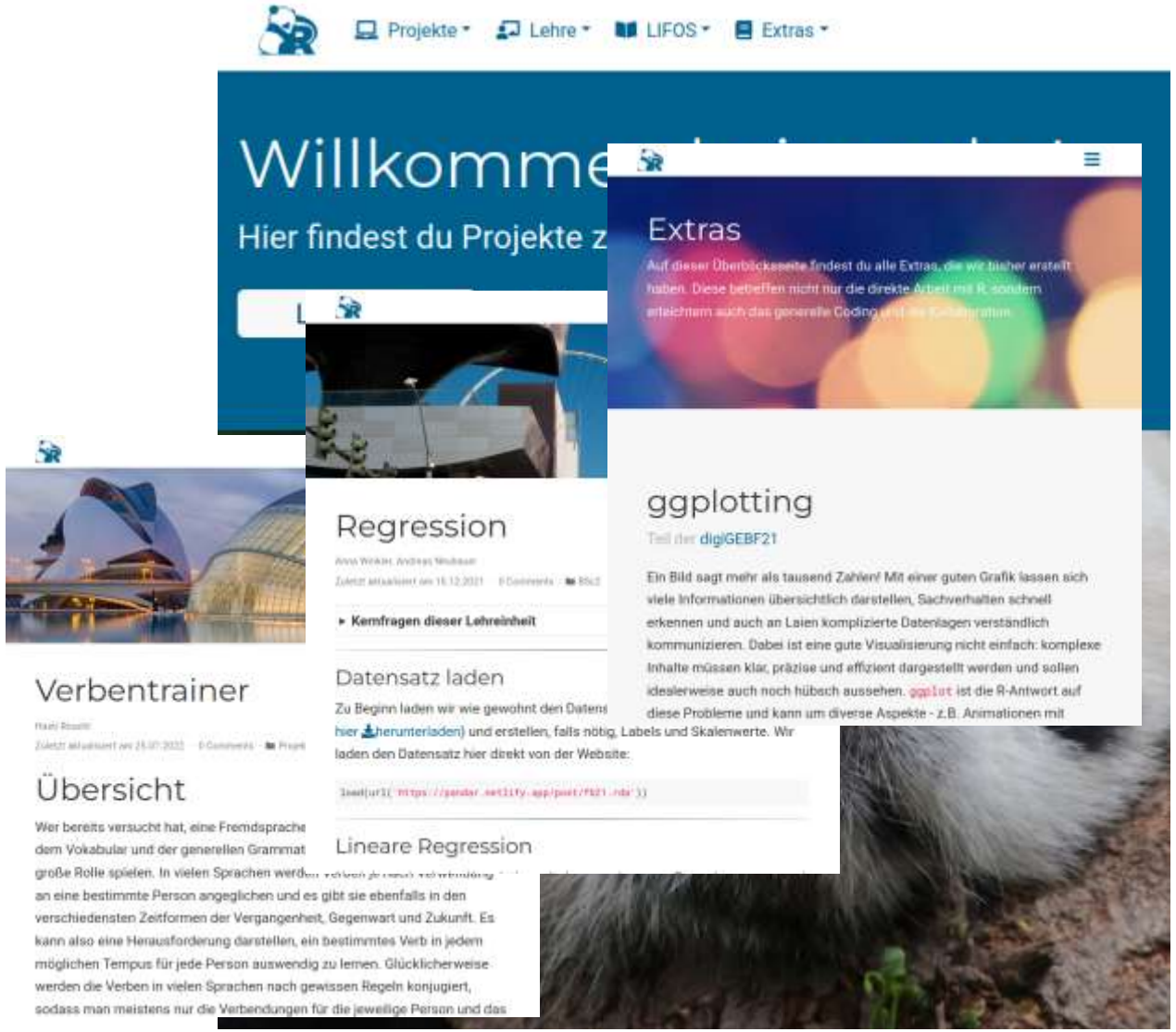
ReproducibiliTea

Offen für alle! :)

https://osf.io/254t7/

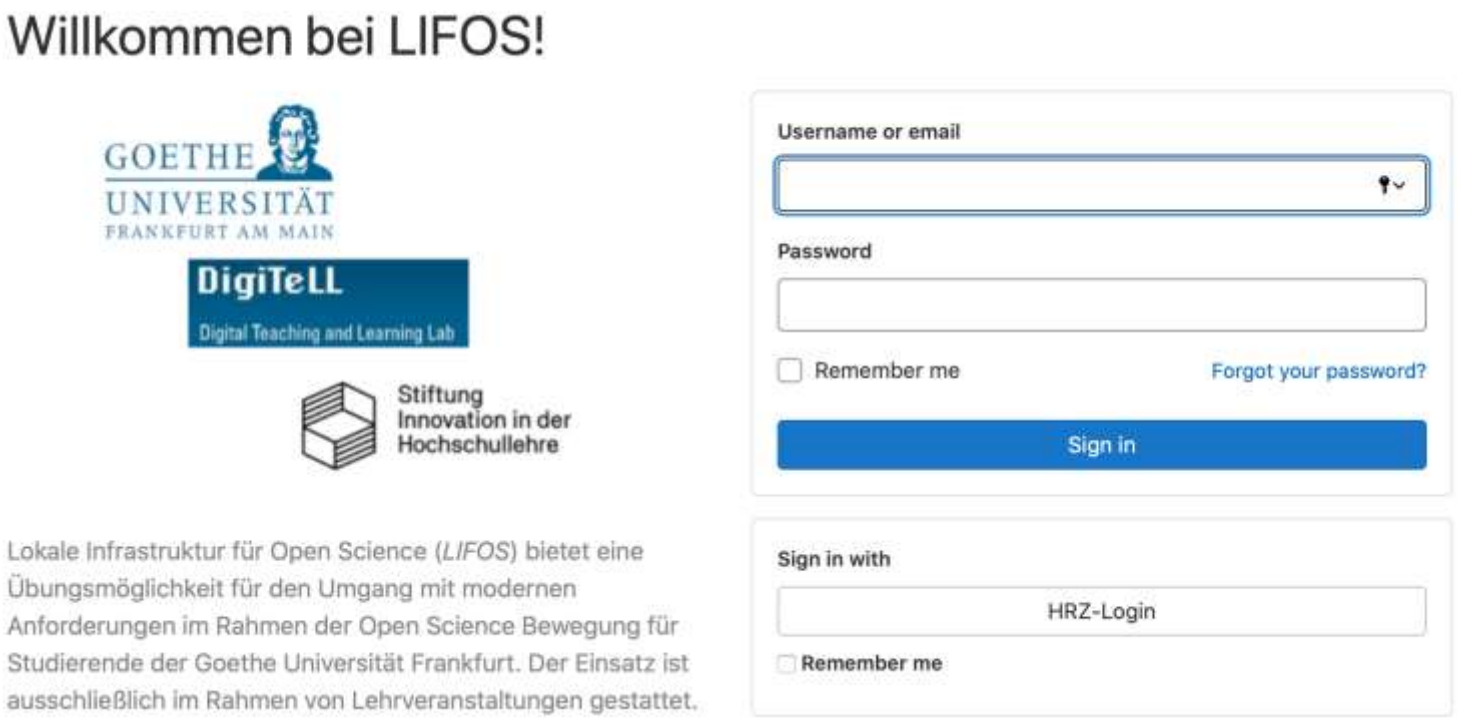
Open Educational Resources

- https://pandar.netlify.app/
  - Seit 2019 Website zur Vertiefung von R-Kenntnissen
  - Projekte für Anwendungen über Curriculum hinaus
  - Seit 2020 Lehrinhalte der Methodenabteilungen
  - Inhalte von Workshops und andere Extras
  - Derzeit Einbinden von Inhalten anderer Abteilungen
- Im OER-Späti gelistet



LIFOS

- Einführung in das Erstellen von OS Repos in lokaler Instanz



LIFOS

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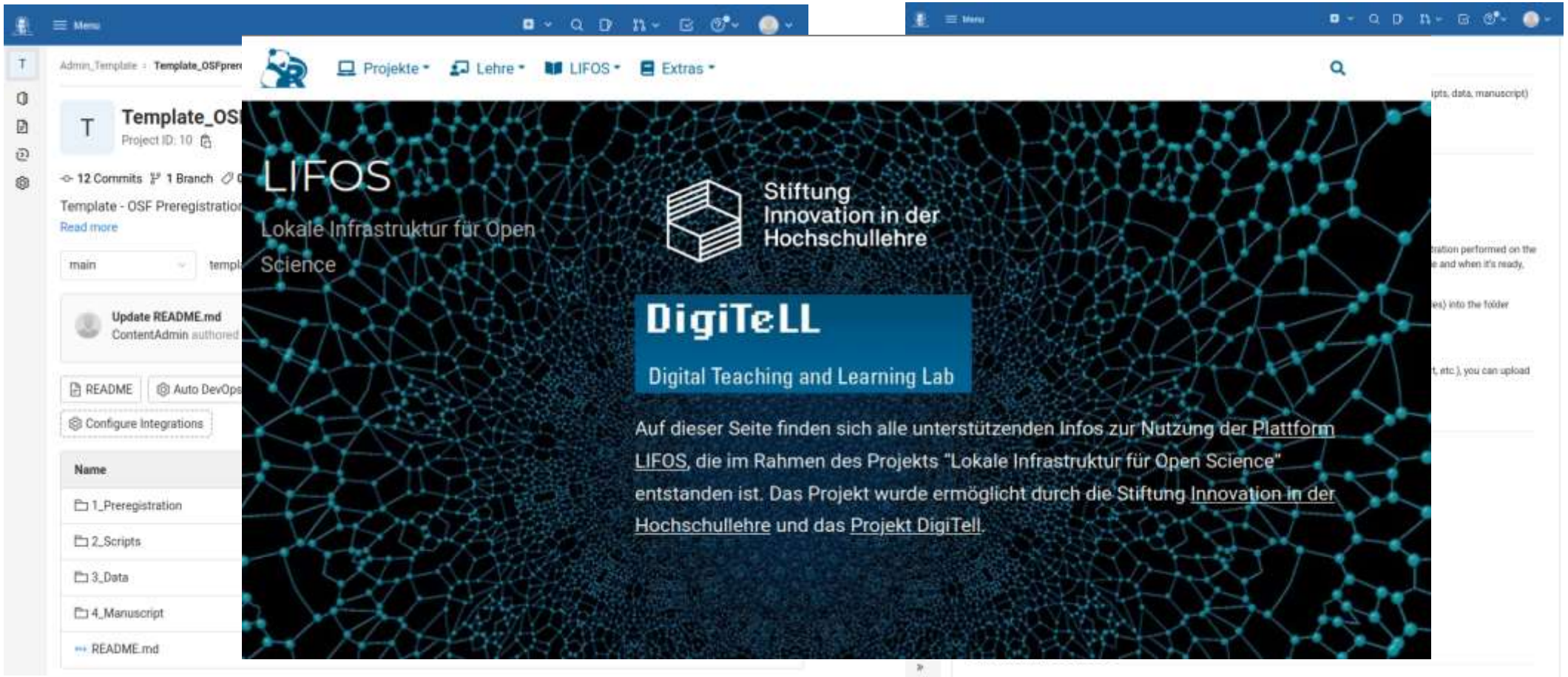

Weiter informiert bleiben

Mainzer
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- Homepage: https://mopsi.uni-mainz.de
- Email: mopsi-psy@uni-mainz.de
- Twitter: https://twitter.com/MOPSI_Mainz

- Homepage: https://frankfurt-osi.netlify.app
- Email: osi@psych.uni-frankfurt.de
- Twitter: https://twitter.com/OpenScienceFFM

Was hat mich zu MOPSI/ FOSI gebracht?

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Mainzer OPen Science Initiative

Wie ist das bei euch?

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Was gibt’s noch?

- Center for Open Science

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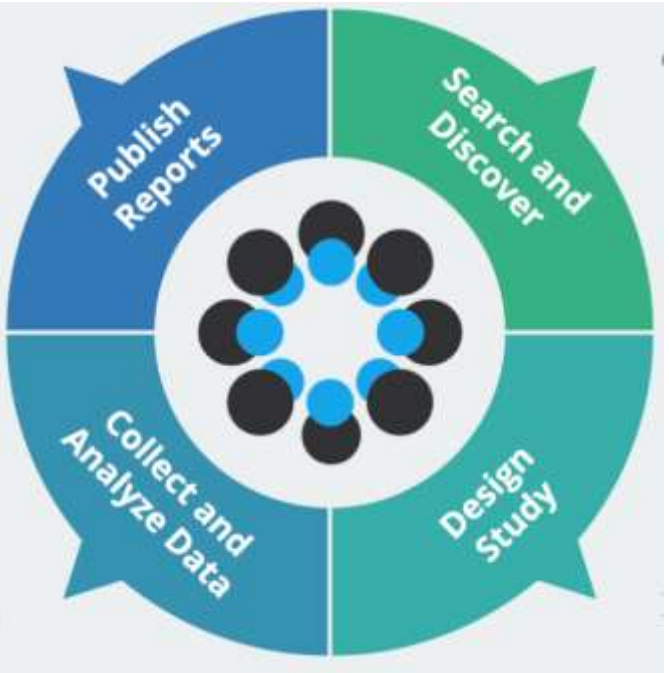
COS
CENTER FOR
OPEN SCIENCE

Was gibt’s noch?

- Center for Open Science
- Open Science Framework



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

Was gibt’s noch?

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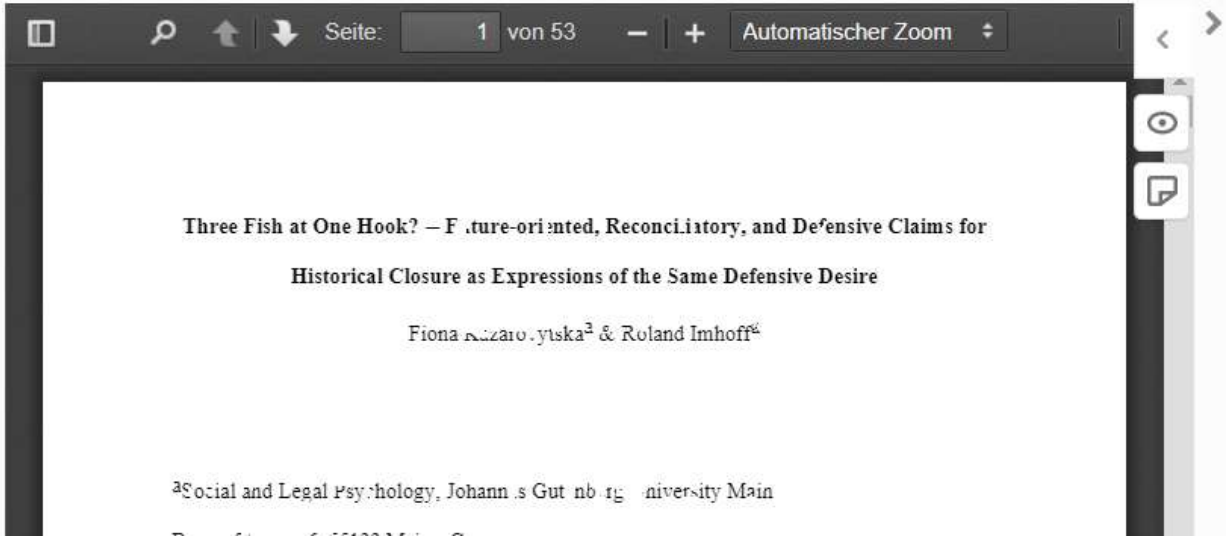
(Preprint) Three Fish at One Hook? — Future-oriented, Reconciliatory, and Defensive Claims for Historical Closure as Expressions of the Same Defensive Desire

AUTHORS

Fiona Kazarovytska, Roland Imhoff

AUTHOR ASSERTIONS

Conflict of Interest: No ▾ Public Data: Available ▾ Preregistration: Available ▾



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Abstract

Historical perpetrator groups seek to shield themselves from image threat by advocating for closing the discussion of their crimes. However, from a broader theoretical perspective, such demand for

io/products/osf

Was gibt’s noch?

- Center for Open Science
- Open Science Framework
- Student:inneninitiativen

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SIOS AMSTERDAM

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

Was gibt’s noch?

- Center for Open Science
- Open Science Framework
- Student:inneninitiativen
- Open Science Twitter/Mastodon

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Was gibt’s noch?

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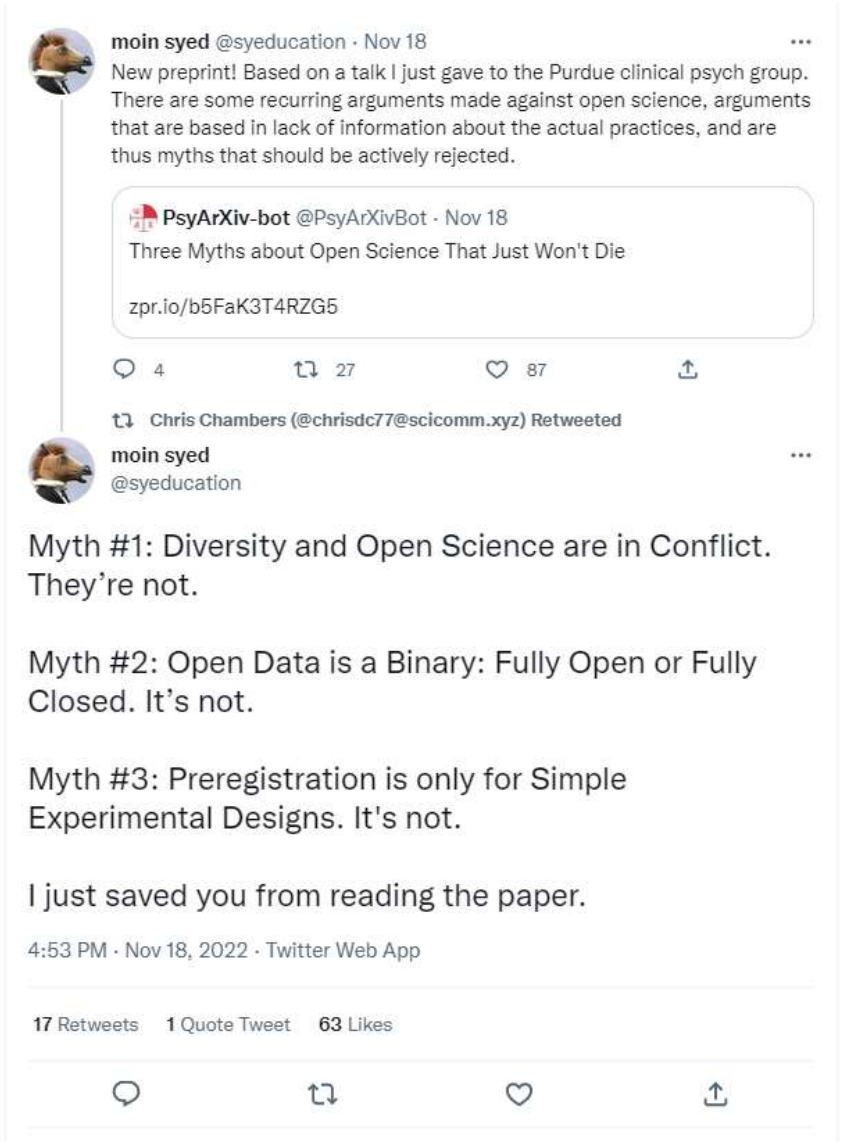

moin syed @syeducation · Nov 18

New preprint! Based on a talk I just gave to the Purdue clinical psych group. There are some recurring arguments made against open science, arguments that are based in lack of information about the actual practices, and are thus myths that should be actively rejected.

> **PsyArXiv-bot** @PsyArXivBot · Nov 18
> Three Myths about Open Science That Just Won't Die
>
> zpr.io/b5FaK3T4RZG5

4 27 87

Chris Chambers (@chrisdc77@scicomm.xyz) Retweeted

moin syed
@syeducation

Myth #1: Diversity and Open Science are in Conflict. They’re not.

Myth #2: Open Data is a Binary: Fully Open or Fully Closed. It’s not.

Myth #3: Preregistration is only for Simple Experimental Designs. It's not.

I just saved you from reading the paper.

4:53 PM · Nov 18, 2022 · Twitter Web App

17 Retweets 1 Quote Tweet 63 Likes

https://twitter.com/NSkjerdingstad/status/1595021745060200456

Was gibt’s noch?

https://twitter.com/syeducation/status/1593633478649823232

Was gibt’s noch?

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Mainzer OPen Science Initiative

Twitter Accounts

@OSFramework
@StatModeling
@BrianNosek
@chrisdc77
@robustgar
@blackgoatpod
@hertzpodcast
@siminevazire
@RolfZwaan
@improvingpsych
@hardsci
@blackgoatpod
@PsychFileDrawer
@sTeamTraen
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@MicheleNuijten
@JelteWicherts
@annemscheel
@jamesheathers
@JeffSpies
@bengoldacre
@dora_matzke
@ReproducibiliT
@JnfrLTackett
@katiecorker
@dingding_peng
@deevybee
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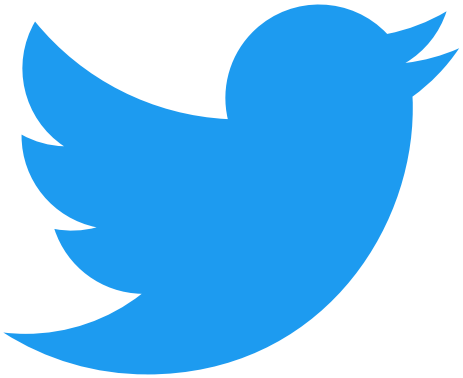
@peder_isager
@LisaDeBruine
@a_sarafoglou
@DenOlmo
@dstephenlindsay
@ephemeralidea
@dsquintana



Was gibt’s noch?

- Center for Open Science
- Open Science Framework
- Student:inneninitiativen
- Open Science Twitter/Mastodon
  - https://germanrepro.github.io/Mastodon-OpenScience/
  - https://kaitclark.github.io/mastodon-psychology/

Was gibt’s noch?

- Open Science Blogs
  - http://andrewgelman.com/
  - https://www.bayesianspectacles.org/
  - http://sometimesimwrong.typepad.com/
  - https://rolfzwaan.blogspot.nl/
  - https://hardsci.wordpress.com/
  - http://www.the100.ci/
  - http://datacolada.org/
  - http://www.nicebread.de/
  - https://retractionwatch.com/
  - https://learnbayesstats.com/
  - http://daniellakens.blogspot.com/

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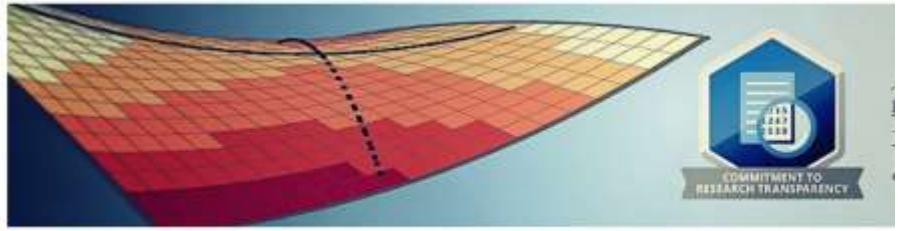
DATA COLADA

Thinking about evidence, and vice versa



NICEBREAD.DE

Prof. Dr. Felix Schönbrodt

Was gibt’s noch?

Frankfurt OPEN SCIENCE

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- Open Science Podcasts
  - Everything Hertz: https://soundcloud.com/everything-hertz
  - The Black Goat: https://www.theblackgoatpodcast.com/
  - Reproducibili-Tea: https://soundcloud.com/reproducibilitea
  - Open Science Talk: https://open.spotify.com/show/4AR79xdrvdvzMI4kjRRU2C

Everything Hertz

Methodology, scientific life, and bad language.

THE BLACK GOAT

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