

What We Don't Know Won't Hurt Us: The Illusion of Credible Sociology

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12. November 2018



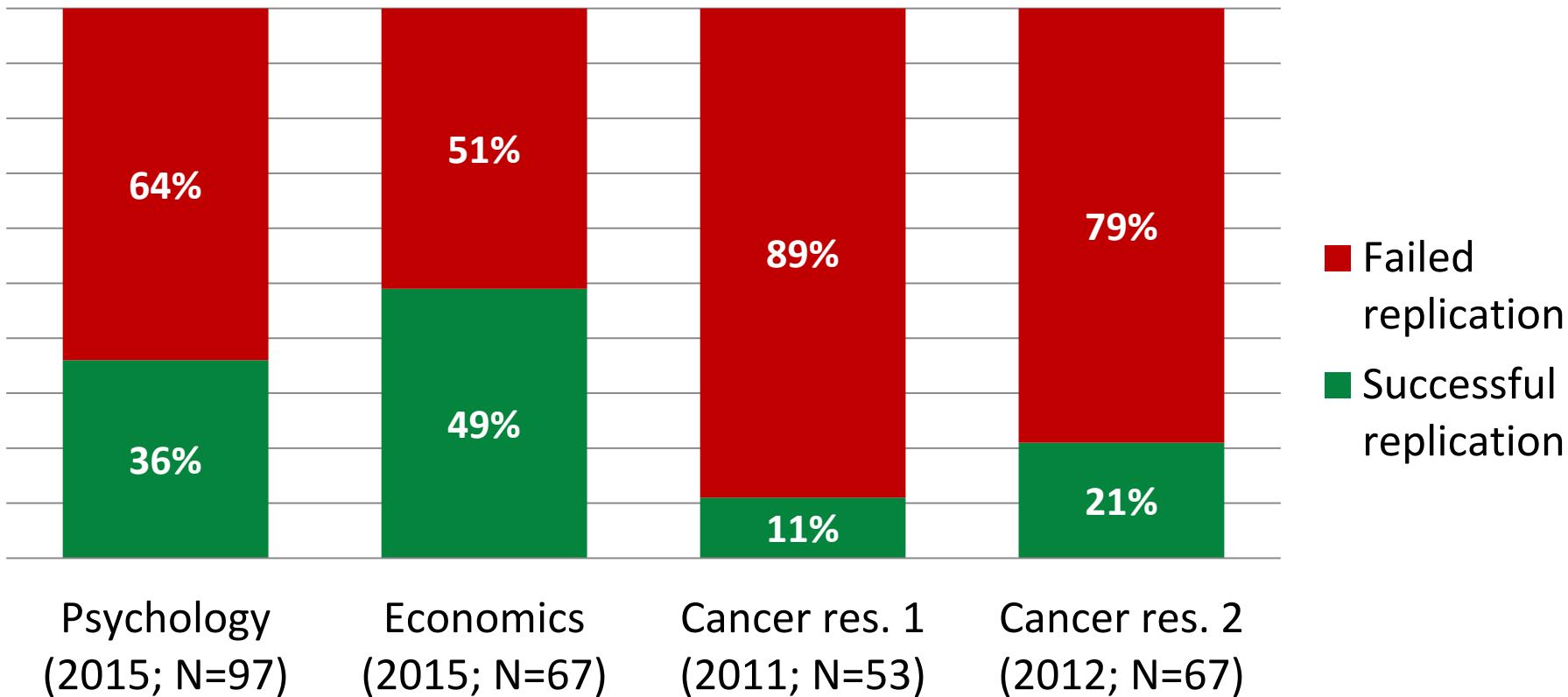
Hintergrund

- „In der ... qualitativen Sozialforschung hingegen, ... eignet sich Replikation grundsätzlich nicht zur Prüfung der Qualität von Studien“
(J. Strübing, „Problem, Lösung oder Symptom? Zur Forderung nach Replizierbarkeit von Forschungsergebnissen“, in *Forschung & Lehre* 02/2018)
- „... „Akademie für Soziologie“ ... Für sie gehört Replikation zum Kern auch der Sozialwissenschaften“
(K. Auspurg/J. Brüderl, „Unerlässlich!“, in *Forschung & Lehre* 04/2018)
- „... in diesem öffentlich inszenierten Methodenstreit von beiden Seiten methodologische, theoretische und wissenschaftsphilosophische Entwicklungen (mindestens) der letzten hundert Jahre vereinfacht oder übergangen werden“
(N. Baur/H. Knoblauch, „Die Interpretativität des Quantitativen“, in *Soziologie* 4/2018)

The Quest for Validity

- Validity is threatened by
 - Unreliable measurement
 - Imprecise instruments
 - Sampling error
 - Non-objective measurement:
result of measurement is influenced by the observer
 - Simple errors
 - Selective reporting, distorting data/results
(questionable research practices, QRP)
 - Due to confirmation bias
 - Due to career pressure (publication bias)
- So much can go wrong in social research. Therefore
 - The core of the scientific method: Permanent doubt
 - Replications are essential to this end

The Replication/Credibility Crisis

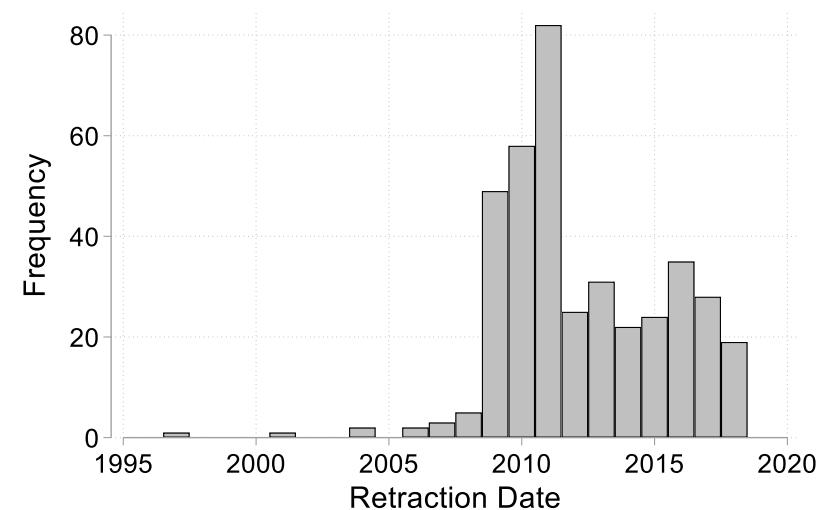


Source: Stefan, Angelika, Felix D Schönbrodt, and Lena Schiestel. 2018. "1 Open Science Intro." OSF. October 11. osf.io/2wvmd/.

Data: Open Science Collaboration (2015); Chang & Li (2015); Begley & Ellis (2012); Prinz et al. (2011)

And in Sociology?

- Retraction Watch Database (Nov. 2018)
 - 390 retractions w/ subject “sociology”
- # retractions by journal (ordered according to impact factor)
 - American Sociological Review: 1
 - American Journal of Sociology: 0
 - Sociological Methods & Research: 0
 - ...
 - Top 10: 1
 - Top 30: 4
 - All 147 SSCI Journals: 11



Retraction in Sociology



202

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Christin I. Munsch

First Published May 31, 2015 | Research Article |  Check for updates
<https://doi.org/10.1177/0003122415579989>

Article information ▾

[correction has been published](#)

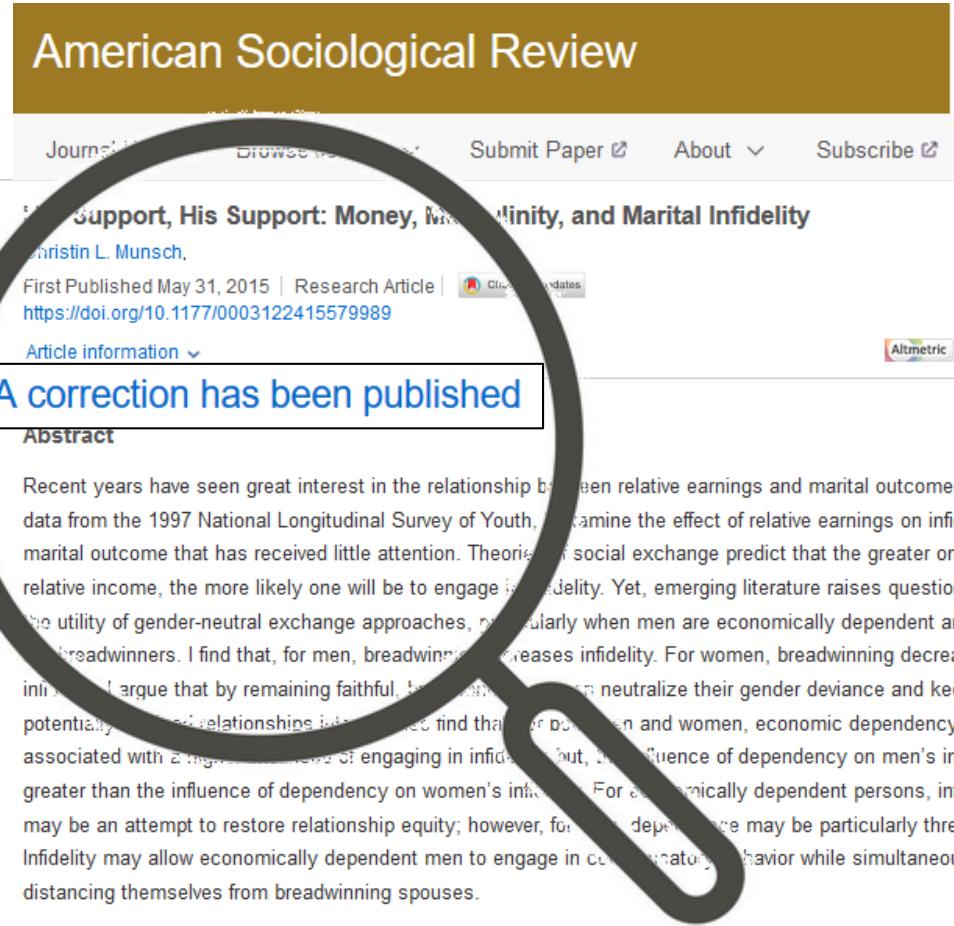
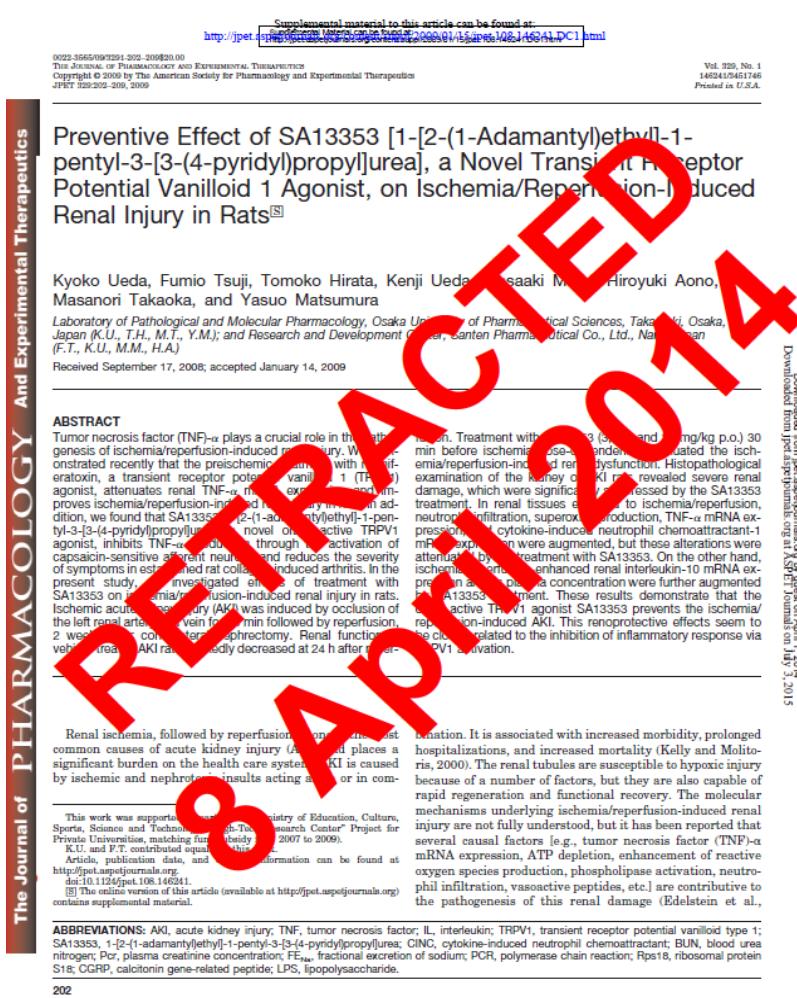
Abstract

Recent years have seen great interest in the relationship between relative earnings and marital outcome data from the 1997 National Longitudinal Survey of Youth, I examine the effect of relative earnings on infidelity marital outcome that has received little attention. Theories of social exchange predict that the greater one's relative income, the more likely one will be to engage in infidelity. Yet, emerging literature raises questions about the utility of gender-neutral exchange approaches, particularly when men are economically dependent and women are breadwinners. I find that, for men, breadwinning increases infidelity. For women, breadwinning decreases infidelity. I argue that by remaining faithful, breadwinning women neutralize their gender deviance and keep potentially strained relationships intact. I also find that, for both men and women, economic dependency is associated with a higher likelihood of engaging in infidelity; but, the influence of dependency on men's infidelity is greater than the influence of dependency on women's infidelity. For economically dependent persons, infidelity may be an attempt to restore relationship equity; however, for men, dependence may be particularly threatening. Infidelity may allow economically dependent men to engage in compensatory behavior while simultaneously distancing themselves from breadwinning spouses.

Keywords

infidelity, relationship instability, breadwinning, economic dependency, dependence effect

Retraction in Sociology



Auspurg & Brüderl

Really no Crisis in Sociology? A Content Analyses of Recent Events

- DGS Kongress 2018 program (84 pages)

– „Krise“:	22
– „Replikation(skrise)“	0
– „Publication Bias“:	1



- Program of the ASA meeting 2018 (189 pages)

– „Crisis“:	37
– „Replication (crisis)“:	1
– „Publication Bias“:	0



- Program of the 1st as-Kongress 2018 (6 pages)

– Krise:	1
– „Replikation(skrise)“:	0
– „Publication Bias“:	0

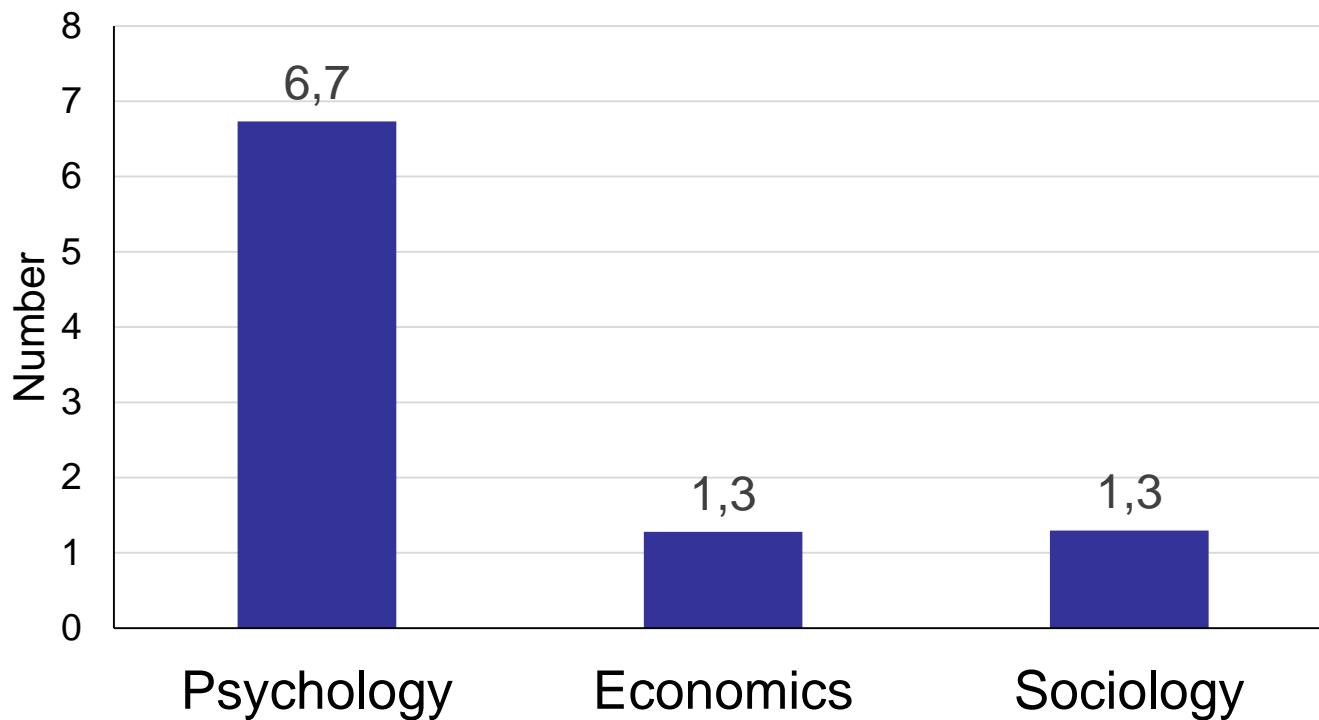
Wachsende Ungleichheit – gespaltene Gesellschaft?
Aktuelle Beiträge der empirisch-analytischen Soziologie



What We Don't Know Won't Hurt ...

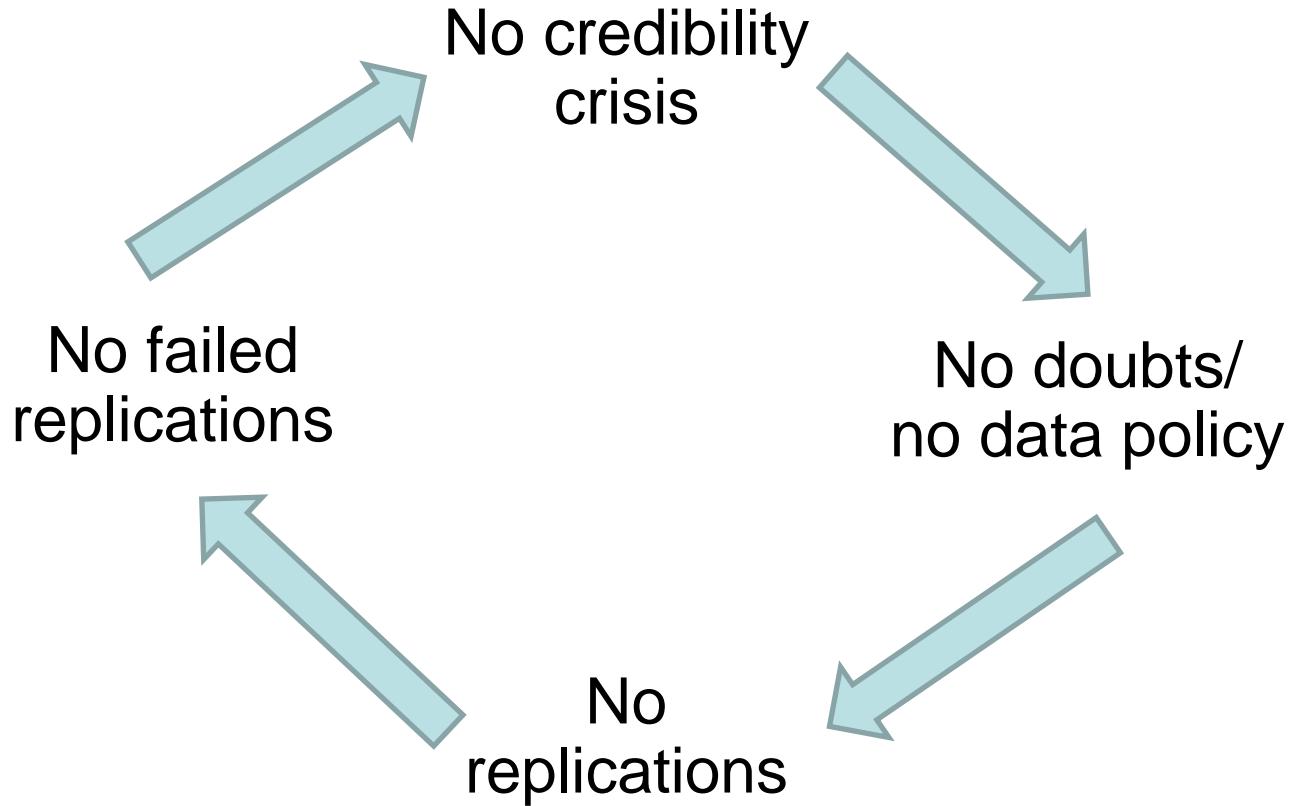


Replications per 1.000 Articles
(Web of Science, SSCI, Nov. 2018)



Source: Own Calculations

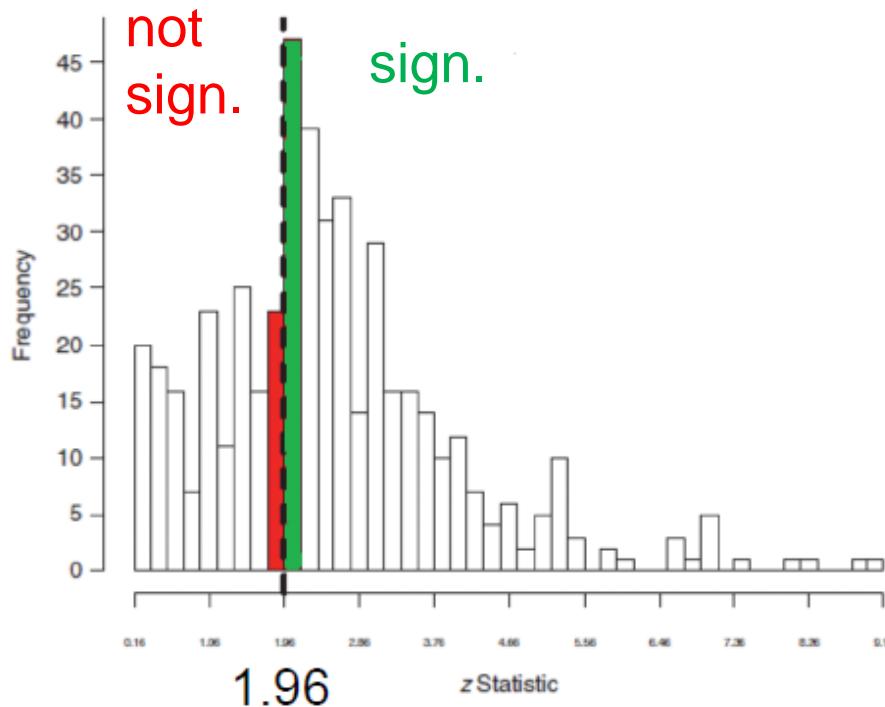
The Illusion of „Credible Sociology“



Evidence for QRP in Sociology

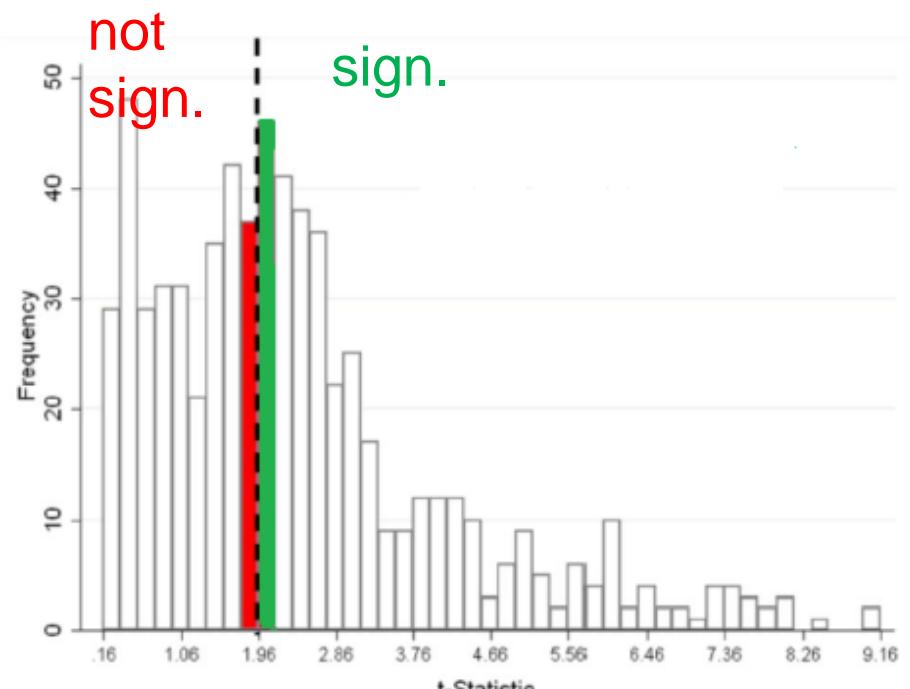
- Fishing for significant findings?

US journals of sociology,
46 articles



Gerber/Malhotra 2008

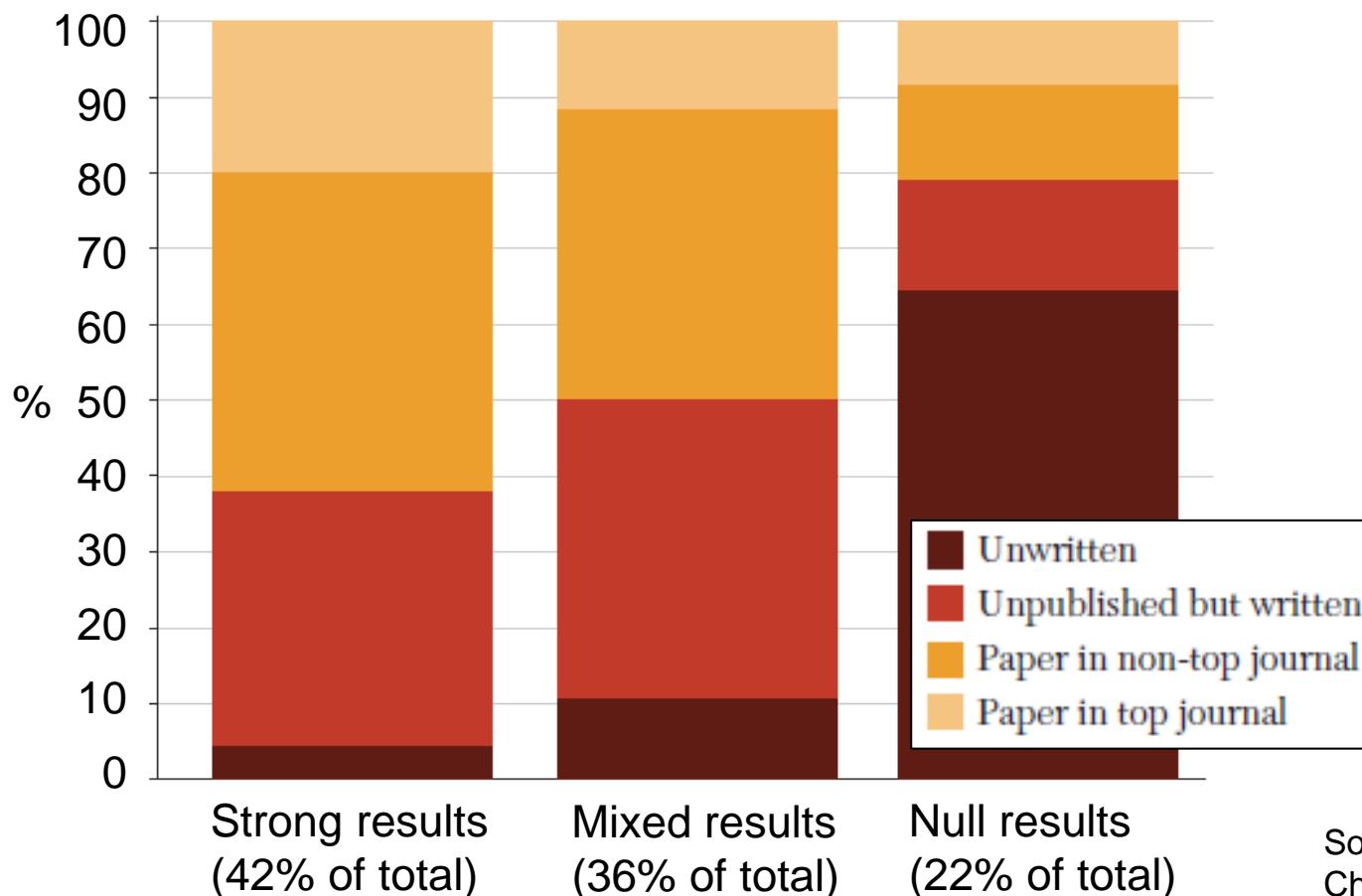
German journals of sociology,
50 articles



Auspurg/Hinz 2011

Evidence for QRP in Sociology

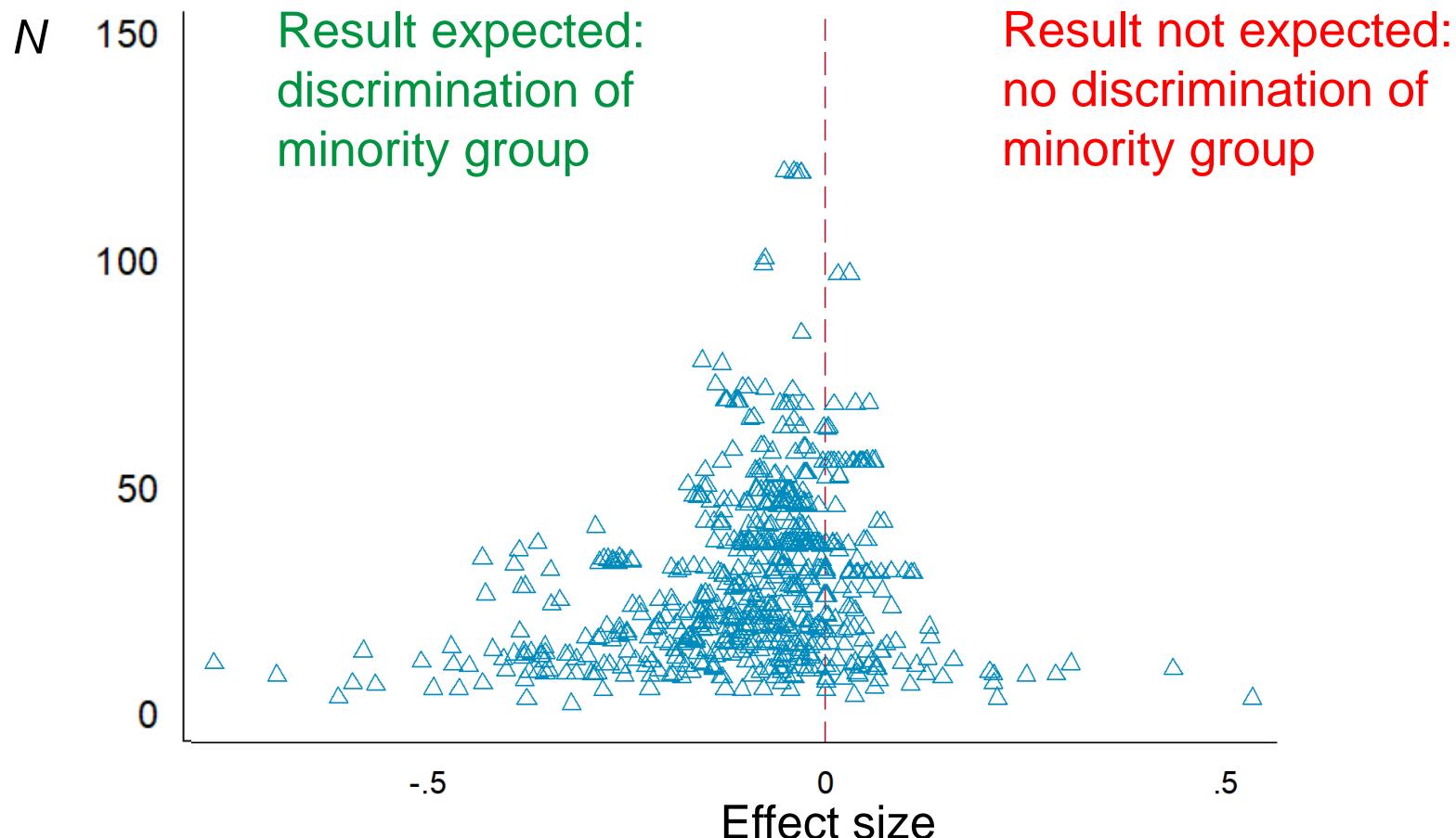
- Null results rarely see the light of day?
Publication outcomes of TESS funded experiments
(Franco et al. 2004; Mervis 2014)



Source: Mervis 2014;
Christensen/Miguel 2018

Evidence for QRP in Sociology

- Overstating “successful” & „alarming“ findings?
Field experiments of ethnic discrimination in housing markets
(Auspurg et al. 2018)



Errors in Sociology

- Statistics on the retracted SSCI-papers w/ subject „sociology“
(Retraction Watch, Nov. 2018; $N = 11$)
- Number of retractions overall 11
 - Plagiarism / duplication: 5
 - Problems w/ data quality: 1
 - Errors: 5
 - Miscoding of missing values 2
 - Coding swichteroo 2
 - Other coding error 1
- Who detected the error?
 - Data producer / survey institute: 1
 - Other researchers when trying to replicate: 4

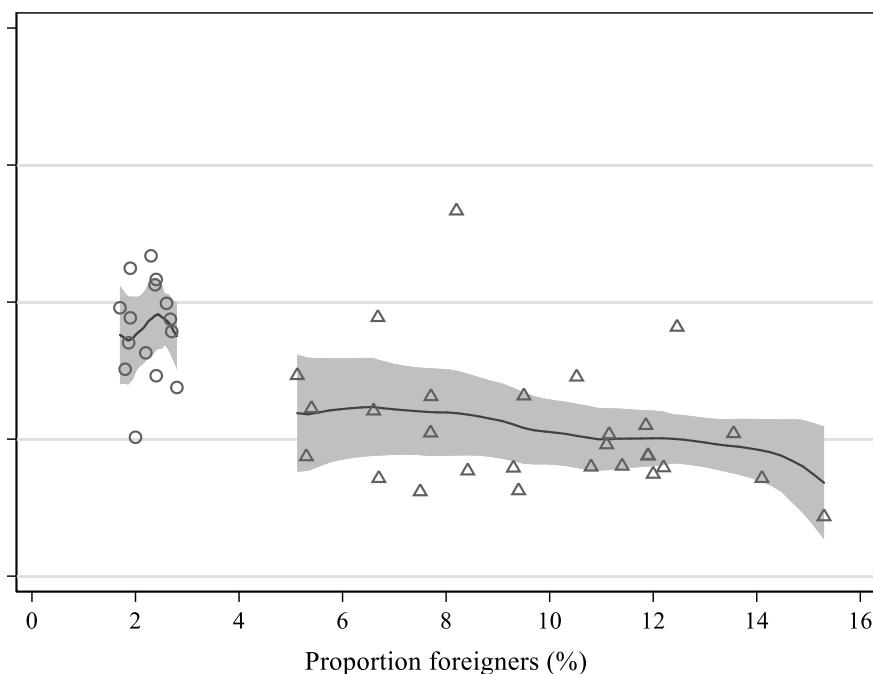
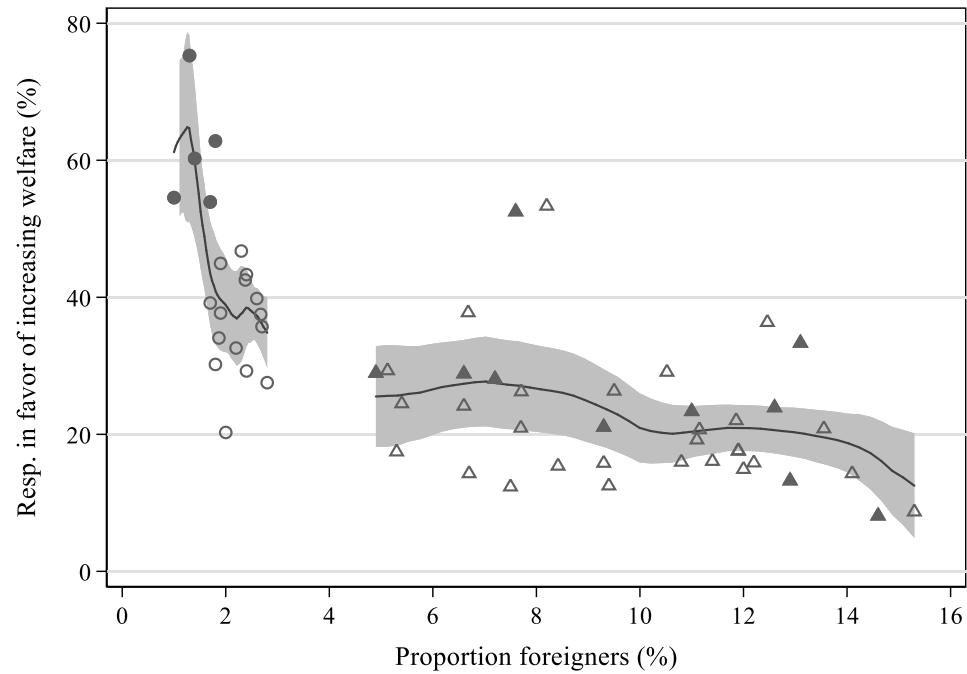
Errors in Sociology: Miscoding Missing Values

- Jasso (1985) ASR: coital frequency increases with wife's age
 - Kahn/Udry (1986): 4 observations had value 88; Jasso treated these as valid values; treating these as missing, the effect of wife's age becomes non-significant
- Herring (2009) ASR: diversity increases firm revenue
 - Stojmenovska/Bol/Leopold (2017): 206 firms had values 88,888,888,888; Herring treated these as valid values; treating these as missing, the effect of diversity becomes non-significant
- Munsch (2015) ASR: marital infidelity is at 10 %
 - Munsch (2018): 246 missings were miscoded as „infidelity“ (Stata .-problem); with correct coding marital infidelity is at 6 %

Misspecification in Sociology

Schmidt-Catran, A. and D. Spies. 2016.
"Immigration and Welfare Support in
Germany." ASR 81: 242-61.

Auspurg, K., J. Brüderl and Th. Wöhler.
2018. "Does Immigration Reduce the
Support for Welfare Spending?"
ASR, forthcoming.



We Need a Cultural Revolution in Sociology

- Social dilemma: „new finding“ dominates „replication“
 - Self-correction alone will not do the job (Stroebe et al. 2012)
 - We need institutional change (Diekmann 2011)
- From horizontal to vertical growth of knowledge
(Grunow/Schneider/Wagner/Wagner. 2018. Editorial. IREE, Vol. 2.)
 - Horizontal growth: research should be innovative
 - “Knowledge is emerging as a flat and unstructured mass of all kinds of ideas that do not sufficiently relate to each other”
 - Within most research fields results are highly contradictory
 - If we continue: social science research will become incredible
 - Vertical growth: research should build upon previous findings
 - Try to replicate previous results and then add innovation
- Not: S..., colleague X has researched A, so I should research B
But: Fine, let's see, whether X's result is reproducible

How to Achieve the Cultural Revolution

1. Making replication possible
 - FAIR Data: **F**indable, **A**ccessible, **I**nteroperable, **R**e-usable
 - Open Materials, Open Code
2. The first step of each new research project should be the replication of at least one main finding of the research field
 - Building truly cumulative research
3. The results of all replications should be published
 - Also if the replication is successful
 - In a specialized replication journal that also provides a database on the replications done
4. Original work should be cited along with its replications
 - Incentive revolution: replicators would get the credit that counts in science (Coffman et al., “A Proposal to Promote Replications”. AER 2017)

A Culture of Replication Everywhere! Why Not Also In Sociology?



China creates its very own Venice, complete ...



Did you Know there is a Venice in Las Vegas? | Thi...



Doha: Im neuen Reich der Scheichs - R...



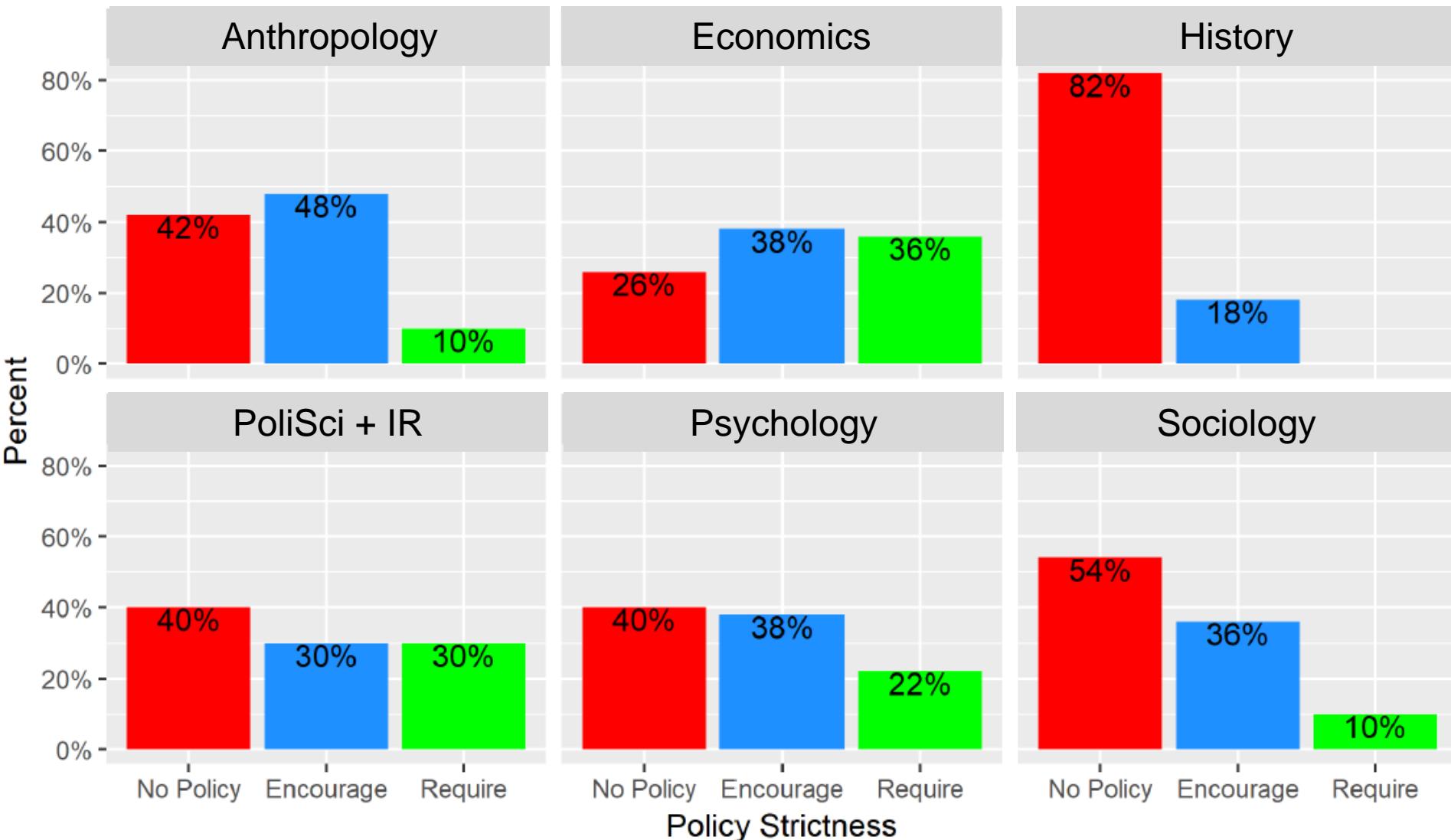
Aus...g

Resources

- LMU Open Science Center:
<https://www.osc.uni-muenchen.de/index.html>
- Open Science Framework: <https://osf.io/>
- European Open Science Cloud:
<https://ec.europa.eu/research/openscience/index.cfm?pg=home#>
- When reviewing a paper: Keep an eye on QRP and ask for open data and open material: <https://opennessinitiative.org/>

Appendix: Strictness of Data Policies

- Data policies in the 50 most highly-ranked journals
(Crosas et al. 2018)



Strictness of Data Policies & Data Access

- Web-analyses of 335 articles in sociology, 2012-2014
(5 high, 5 low impact SSCI-journals; Zeng-Möltgen et al. 2018) :
 - Stated availability of data: 58.2% ($N = 195$)
 - Stated and proved availability: 21.5% ($N = 72$)
- (Proved) data availability significantly higher in journals w/ data policy (even when controlling for impact factor etc.; Zeng-Möltgen/Lepthien 2014)

Strictness of Data Policies & Data Access

- Requests for raw data of articles published in ZfS, before & after implementation of a data policy (“Verpflichtungserklärung”) (replication seminar in Mannheim 2008; Brüderl 2013):

	Before Data Policy	After Data Policy
N requests	37 (100%)	46 (100%)
Fully willing to cooperate	4 (11%)	19 (41%)
Partly willing to cooperate	6 (16%)	5 (11%)
Failure to cooperate^c	27 (73%)	22 (48%)

^c Includes authors who would not release the data, the data were lost or destroyed, were proprietary, etc.

Appendix

- Firebaugh, G. (2007): Major concerns against implementing a data-sharing *requirement* in ASR:

- The freeloading problem: Why should I go to the effort to obtain grants and collect my own data if I am then required to share my data with others?
- The “I-might-be-scooped” problem: Not only will there be freeloaders, but they might become famous at my expense by publishing key results before I am able to.
- The question of qualitative research: Should qualitative research be held to the same standards? If so, how? If not, why not?
- Too much work: The extra work for authors and editors would be onerous.

Sound familiar?

Source: Firebaugh, G. (2007): „Replication Data Sets and Favored-Hypothesis Bias”. SMR 36(2): 200-209.

Empfehlungen der ASR Herausgeber I

1. Kein “Sternchenquetschen”: $p \leq 0,1$ nur in Ausnahmefällen
 - In Deutschland sehr verbreitet (43 % der Effekte)
 - Auch keine einseitigen Tests
 - Oder ganz auf Signifikanztests verzichten?
2. Keine „klassische“ Mediationsanalyse
 - Zweistufige Regression: verliert Effekt seine Signifikanz?
 - Stattdessen Test, ob sich Koeffizient verändert (Sobel-Test)
 - Oder gar „kontrafaktische Mediationsanalyse“ (VanderWeele)?
3. Keine Produktterme in nicht-linearen Regressionen
 - „The case is closed“: Produktterme sagen nichts über Interaktion aus
 - „We recommend that future authors use the appropriate technique depending on the particular application.“

Empfehlungen der ASR Herausgeber II

4. Keine „multivariate“ Regression

- Sondern „multiple“ bzw. „multivariable“ Regression

5. Keine „handgestrickten“ Skalen

- Nur validierte Skalen sollten verwendet werden
- Nicht ad-hoc einzelne Items herauspicken

6. Keine unübersichtliche Methodenbeschreibung

- Methodenbeschreibung: Daten, Variablen, Modelle
- Offenes Material: „data collection procedures, sample size, missing data, decisions about who is included or excluded from the sample, what types of models are estimated and why, response rate of a survey, selection effects, measurement of the variables, and so forth.“

Und schließlich: Venedig Empfehlungen

- Wider die Unleserlichkeit
 - Keine Regressionstabellen, sondern Koeffizientenplots
- Wider die Hypothesen-Soziologie
 - Zur Überprüfung jeder Hypothese benötigt man ein speziell zugeschnittenes Design/Regression
 - Umgekehrt: aus einer Regression kann man nur Erkenntnisse bzgl. einer Hypothese gewinnen
- Wider die Variablen-Soziologie
 - Man muss jede Kontrollvariable rechtfertigen
 - Nur „confounder“, keine „Mediatoren“
- Open Science Standards