



Opening Presentation: Improving Sociological Research Practice

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Seminar “Analytical Sociology”
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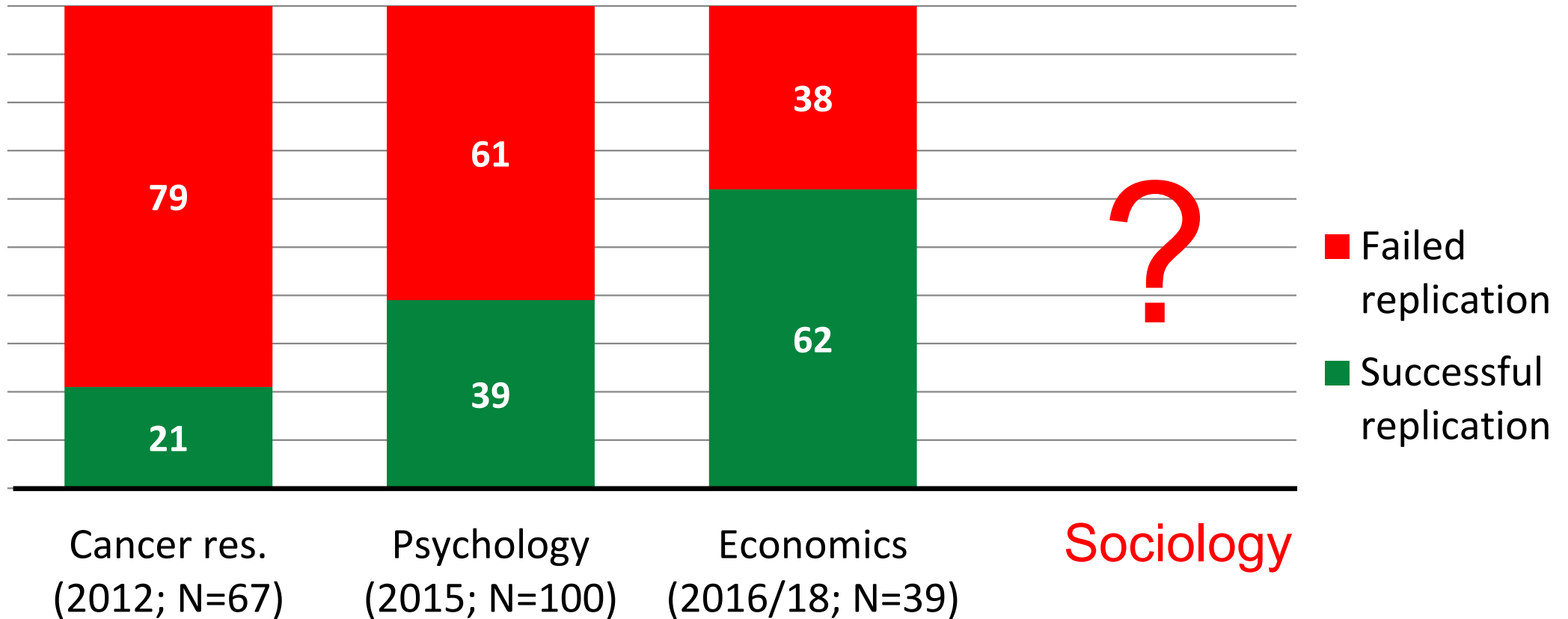
Agenda

1. Is Sociological Research Credible?
2. Example: COVID-19 Research
3. We Need More Replications

Terminology: Variants of Replication

	Same specification	New specification
Same data	Reproduction	Reanalysis Observational data
New data	(Direct) Replication Experimental data	Extension

The Credibility Crisis



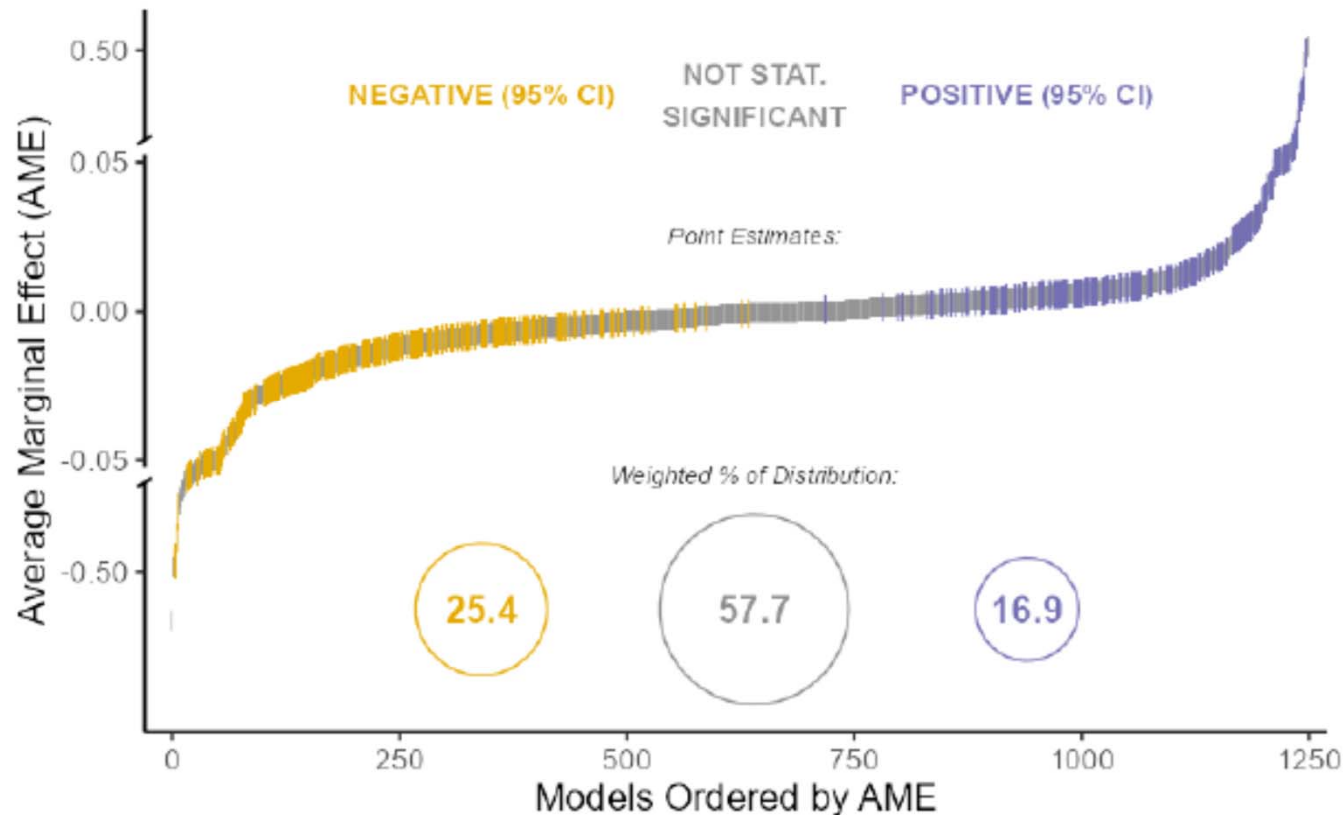
Data: Begley & Ellis (2012); Open Science Collaboration (2015); Camerer et al. (2016, 2018)

Credibility of Sociological Research?

- Conjecture
 - A high proportion of sociological results – based on observational data – would not stand the test of a serious reanalysis
 - Errors in data preparation
 - Often highly complex code is needed
 - No mechanisms of error detection: co-authors/reviewers do not check the code
 - Model mis-specification
 - Theory often does not exactly prescribe the optimal specification
 - P-hacking in the “garden of forking paths” (Gelman/Loken 2013)
 - No correction mechanism: in most articles model specification is not laid out transparently

Evidence on the Credibility of Sociological Res.

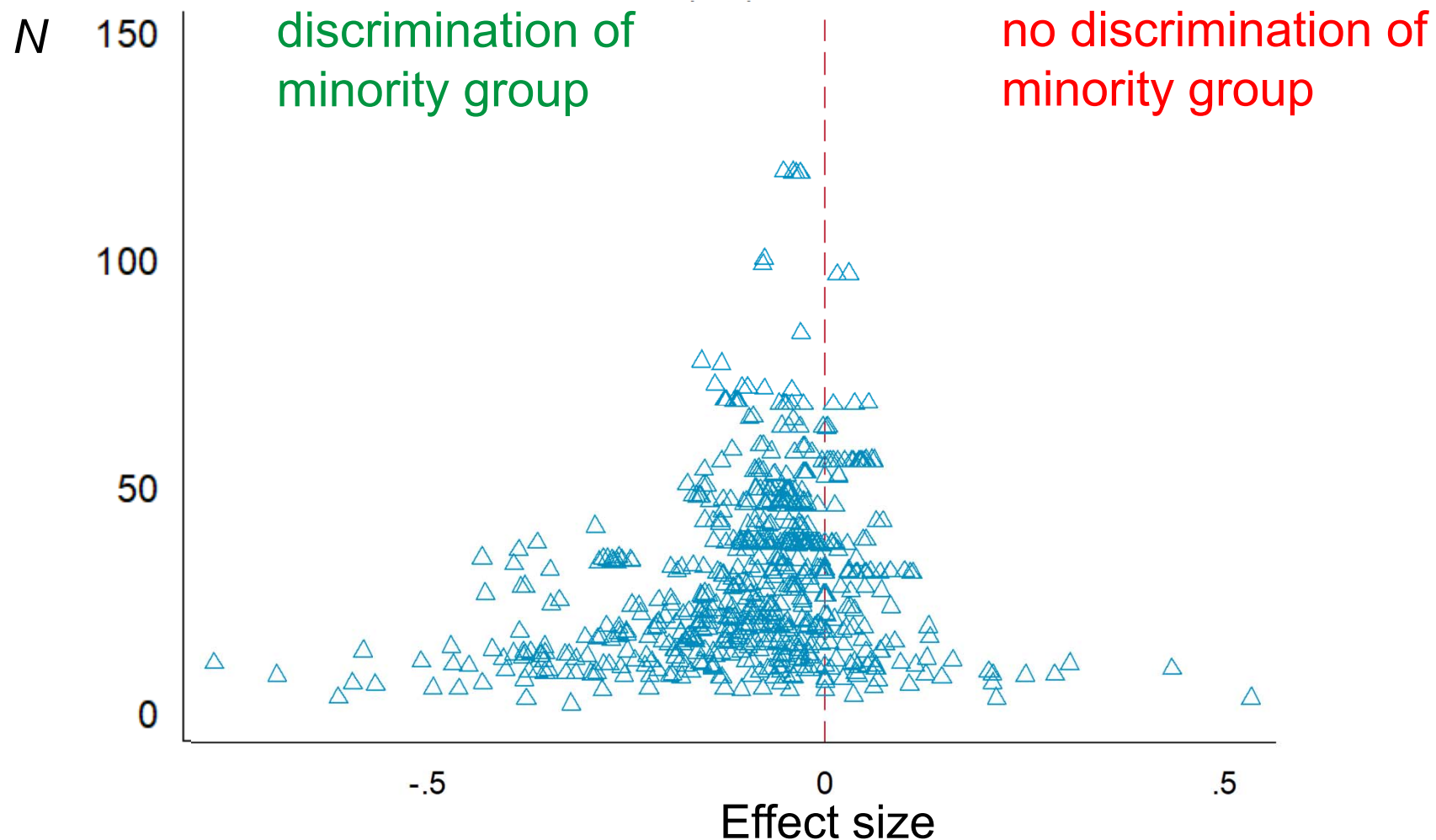
- Large-scale reproduction audit SCORE (SCORE collaboration 2021)
 - No results available yet
- “One dataset-many analysts” approach (Breznau et al. 2021)



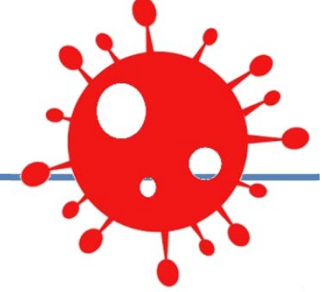
RQ: Does immigration reduce the support for social policies.
73 teams, 1253 results

Evidence for Inconsistent Results

- Field experiments of ethnic discrimination in housing markets (Auspurg et al. 2018)



A Recent Example: COVID-19 Research



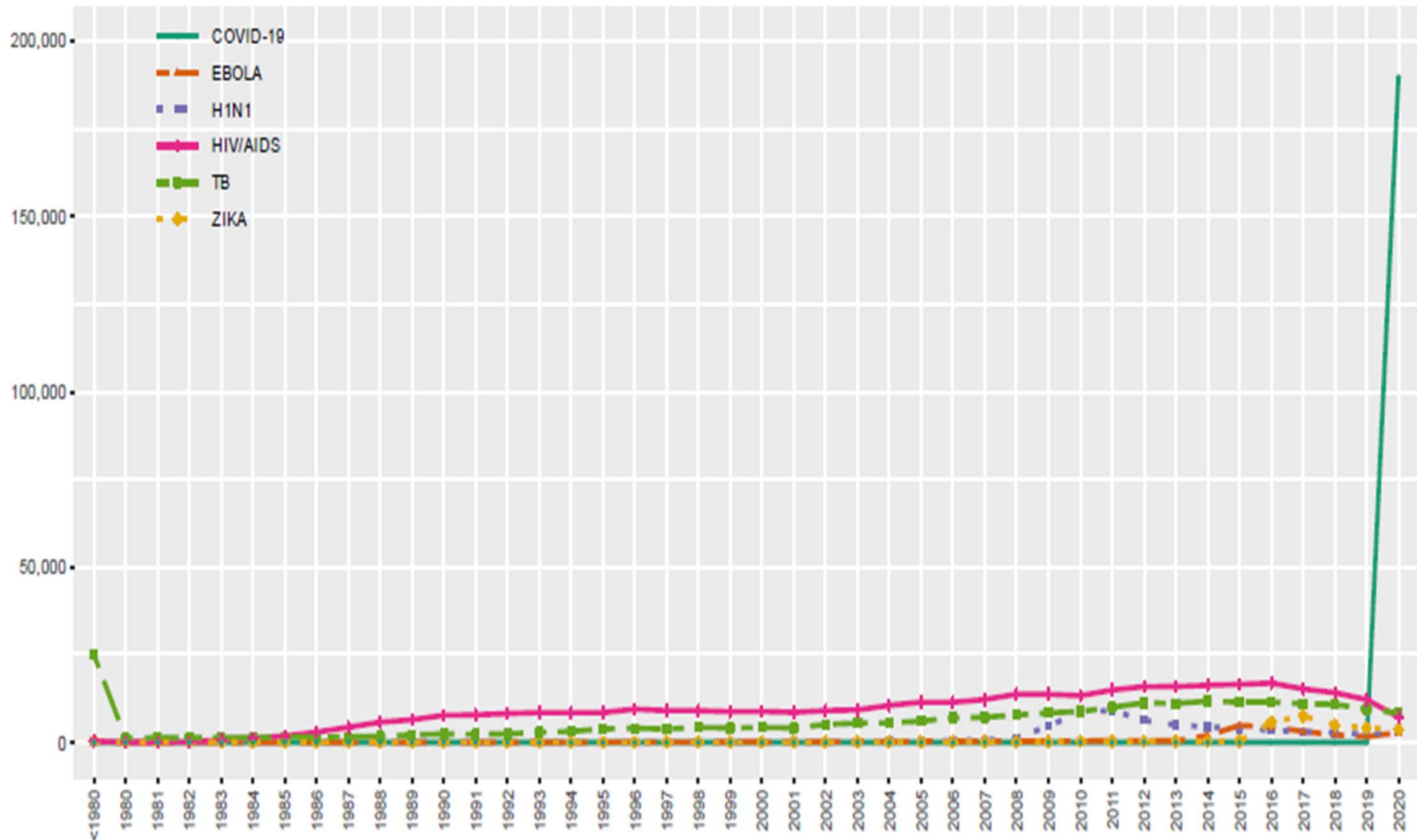
- Steep increase in COVID-19 papers
- Standard procedures of scientific quality control abandoned
- Many errors and retractions. And probably a much larger bulk of undetected flaws.
- This will contribute to a massive credibility crisis!



Source: Sara Gironi Carnevale; Jeffrey Brainard in a Science Comment 2020: **Scientists are drowning in COVID-19 papers**. Can new tools keep them afloat?

Nearly Every Researcher Had His/Her „Corona-Moment“

Annual "new cases" of authors publishing on disease



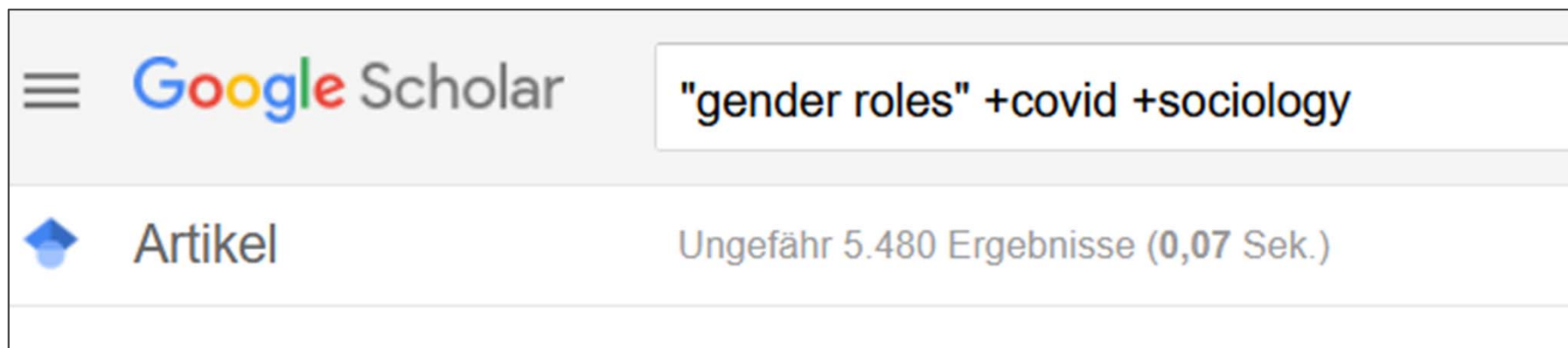
Also Sociologists Worked Hard Exploring Corona Effects

- E.g. effects on gender roles and care work:
Who increased unpaid household/care work (in Germany)?



MÄNNERSACHE KINDERBETREUUNG?

1000s of papers working on these questions:



And the answer?

Some Findings: Who Increased Housework?

Women/mothers!

- Using data from two novel datasets collected in Germany and Italy during the pandemic, this article shows that changes to ... unpaid activities during the crisis have been gendered, **affecting women more negatively than men.**" (Kulic et al. 2020, European Societies)
- While **women** were already doing most of the world's unpaid care work prior to the onset of the COVID-19 pandemic, emerging research suggests that the crisis and its subsequent shutdown response have **resulted in a dramatic increase in this burden.** (Power 2020; Sustainability: Science, Practice and Policy)
- The pessimistic view posits that lockdowns have also negatively affected women's jobs and that **mothers had to shoulder the additional care responsibilities.** Overall, our exploratory analyses provide more evidence supporting the latter view (Hipp/Bünning 2020, European Societies)
- A key finding is that there is a significant **increase in the number of couples where the mother is left completely or almost completely alone with the care work.** We see only small increases in the prevalence of fathers doing more than mothers or in splitting these tasks 50:50. (Jessen et al. 2021, IZA Discussion paper)
- ...

Men/fathers!

- ... We find that **men with low and medium levels of education spent more time with their children** than they did before the onset of the crisis. (Kreyenfeld/Zinn 2021; Demographic Research)
- However, only the working hours of women recover and return to their pre-crisis level in summer 2020. Most surprisingly, having children has an **accelerating effect on recovery for mothers but not for fathers.** At the end of the observation period, fathers do not recover as fully as mothers do. (Knize et al. 2021; Journal of Family Research)
- Our results suggest a slight **shift toward a more egalitarian division** in June that, however, faded out in subsequent months. ... (Boll et al. 2021, CESifo WP)
- ...

Both to a similar extent/no change!

- We **observe no fundamental changes** in established aggregate-level patterns of couples' division of labor... Regarding changes within couples, there is an almost equal split between those in which the female partner's share in housework and childcare increased and those in which it decreased (Hank/Steinbach 2021, Journal of Family Research)
- ...

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- While women were already doing more of the world's unpaid care work prior to the COVID-19 pandemic, emerging research suggests that the crisis and its subsequent shutdown response have resulted in a significant increase in this burden. (Power 2020; Sustainability: Science, Practice and Policy)
- The pessimistic view posits that lockdowns have also negatively affected women's jobs and that mothers had to shoulder the additional care responsibilities. Overall, research tends to provide more evidence for this view (Hipp/Bünning 2020, ESO)
- A key finding is that the increase in the number of hours a mother is left completely alone with the care work. We see only small increases in the prevalence of fathers doing more than mothers or in splitting these tasks 50:50. (Jessen et al. 2021, IZA Discussion paper)
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Reanalyses instead of collecting more new data might better help to find more valid answers

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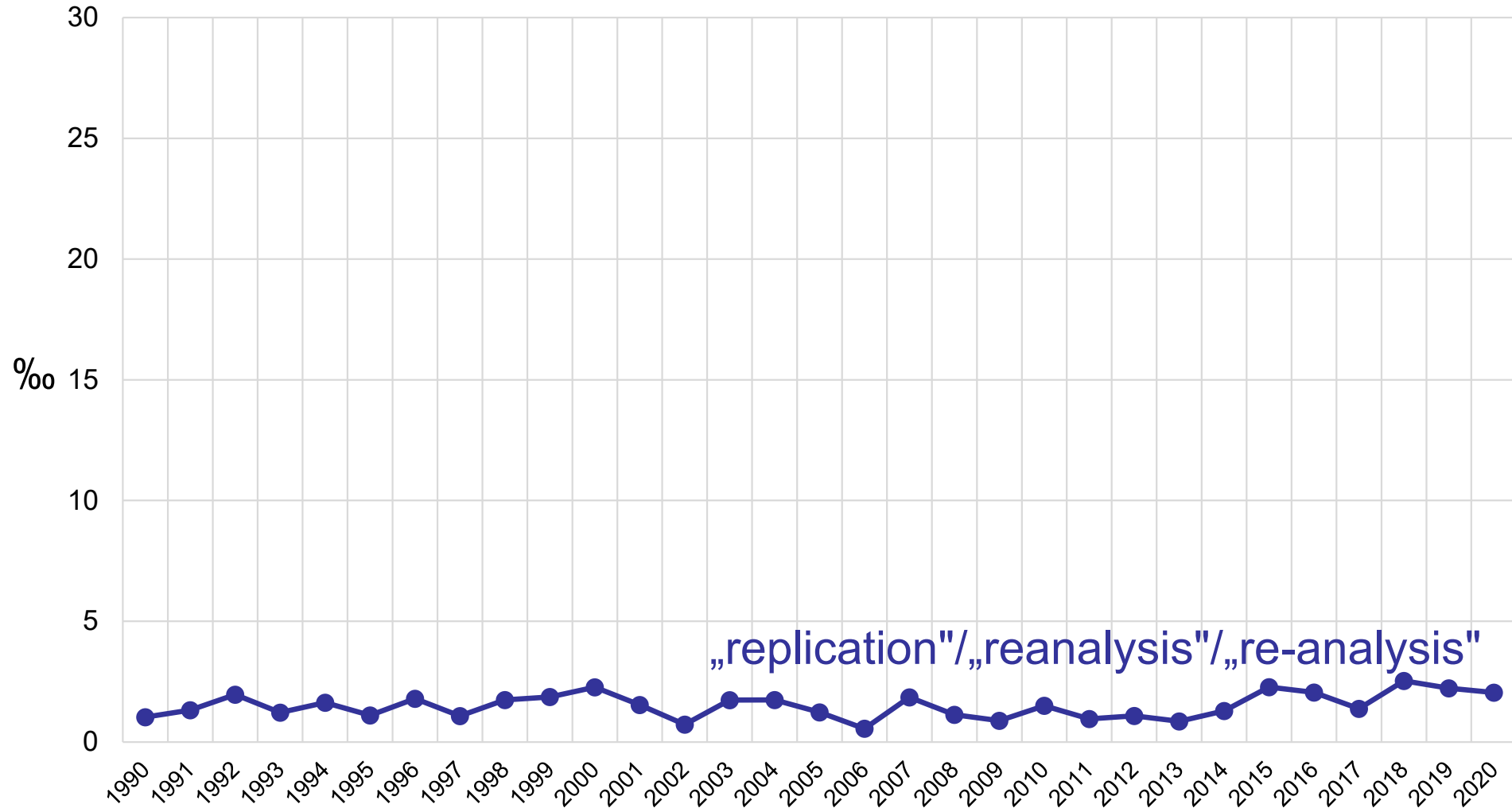
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We Need More Reanalyses!

- Amassing more and more research that is not scrutinized intensely will produce a massive credibility crisis
 - The public will realize that social research proves everything
- Therefore, we do not need more and more new research
- We need „**Reanalysis, Reanalysis**” (c.f. King 1995)

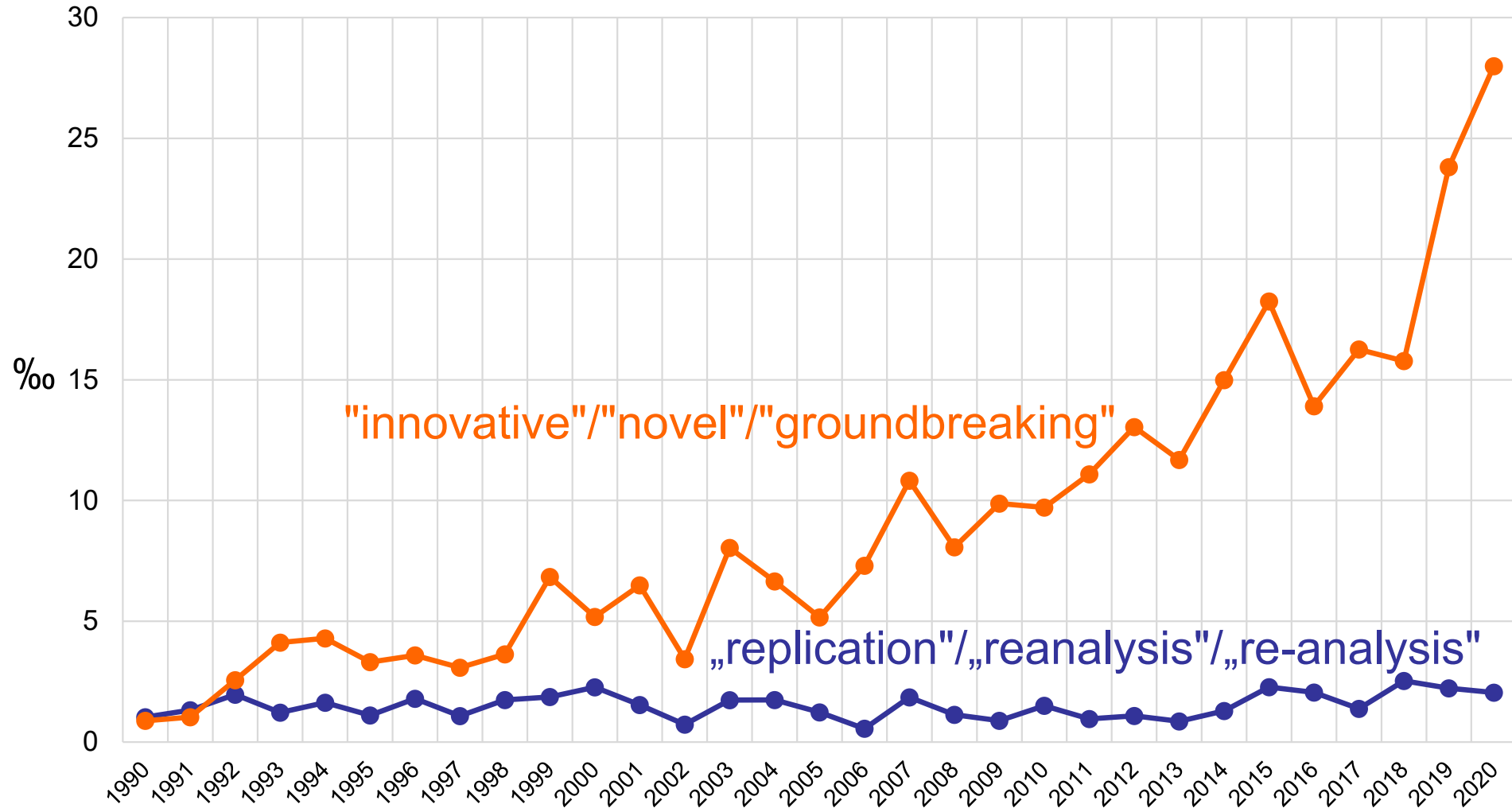
Trend-Analysis 1990-2020

Articles per 1.000 Sociology-articles including the respective terms in the title, keywords, or abstract (Web of Science, April 2021)



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A Way Towards a More Credible Sociology

- Sociologists
 - Systematically review previous research
 - Cite also replications
 - Start each new project with a replication/reanalysis
 - First paper in a dissertation
 - Be transparent and open
 - Reporting standards (Checklist for Quant. Soc. Sc. Articles, AS 2020)
 - Justify model specification
 - Define the research question, theorize the causal structure, add (serious) robustness/sensitivity checks (Example: Auspurg/Brüderl 2021)
- Journal editors
 - Request the above items from authors
 - Check code for reproducibility
 - Publish replications



Thank you!

(For doing research that already exists)

Openly available resources:

**How to Increase Reproducibility and Credibility
of Sociological Research**

**Katrin Auspurg and Josef Brüderl (both LMU Munich)
Version 2, July 2021**

→ <https://osf.io/tavc5/>



- Checklist for quantitative social science articles
- Guidelines for the reuse of research data



- Toolbox for open science practices