

Perverse Incentives in Science

(And a tiny bit about what to do about them)

Stuart Ritchie

Social, Genetic and Developmental Psychiatry Centre

King's College London

stuart.j.ritchie@kcl.ac.uk

@StuartJRitchie

Daily Telegraph plans to link journalists' pay with article popularity

Guardian has seen email revealing plan, which is said to have dismayed staff who fear it will warp priorities

NEWS WEBSITE OF THE YEAR
The Telegraph

SIGN UP: COOKBOOK NEWSLETTER
A daily feast of recipes from our new cooking site

SIGN UP: MONEY NEWSLETTER
The week's most important personal finance news, analysis and expert advice

EXP
Won
full T

Coronavirus News Politics Sport Business Money Opinion Tech Life Style Travel Culture

Q

Subscribe now
Save over 85%

Subscribe now and save over 85%

Stay expertly informed on every step of the road to lifting restrictions

Start your free trial

SARAH EVERARD

• **Live** Politics latest
Priti Patel announces 'full independent review' into police action at vigil - watch live

* Home Secretary: 'Case has rightly ignited anger - an anger I share'



OPINION

TIM STANLEY

Meghan's fake interview l effects

The Sussexes' claims have undermined monarchy and done lasting damage Commonwealth

▲ The Daily's Telegraph's editor said: 'It seems only right that those who attract and retain the most subscribers should be the most handsomely paid.' Photograph: Daily Telegraph

The **Daily Telegraph** wants to link some elements of journalists' pay to the popularity of their articles, an email seen by the Guardian reveals, in a plan

Guardian

Perverse incentives are everywhere

- Clickbait in journalism
- Short-termism in politics
- Cheating in education
- The [endless cycle of unproductive rage](#) on social media



Perverse incentives in academia

- **Academics come to value:**

- *Publication count*
- *Citations (and the h-index)*
- *Grant money*
- *“Impact”*
- *Excitement/Flashiness/Novelty*
- *“A good story”*
- *Attention/fame/plaudits*
- *Avoiding awkward social interactions*

- **But not necessarily:**

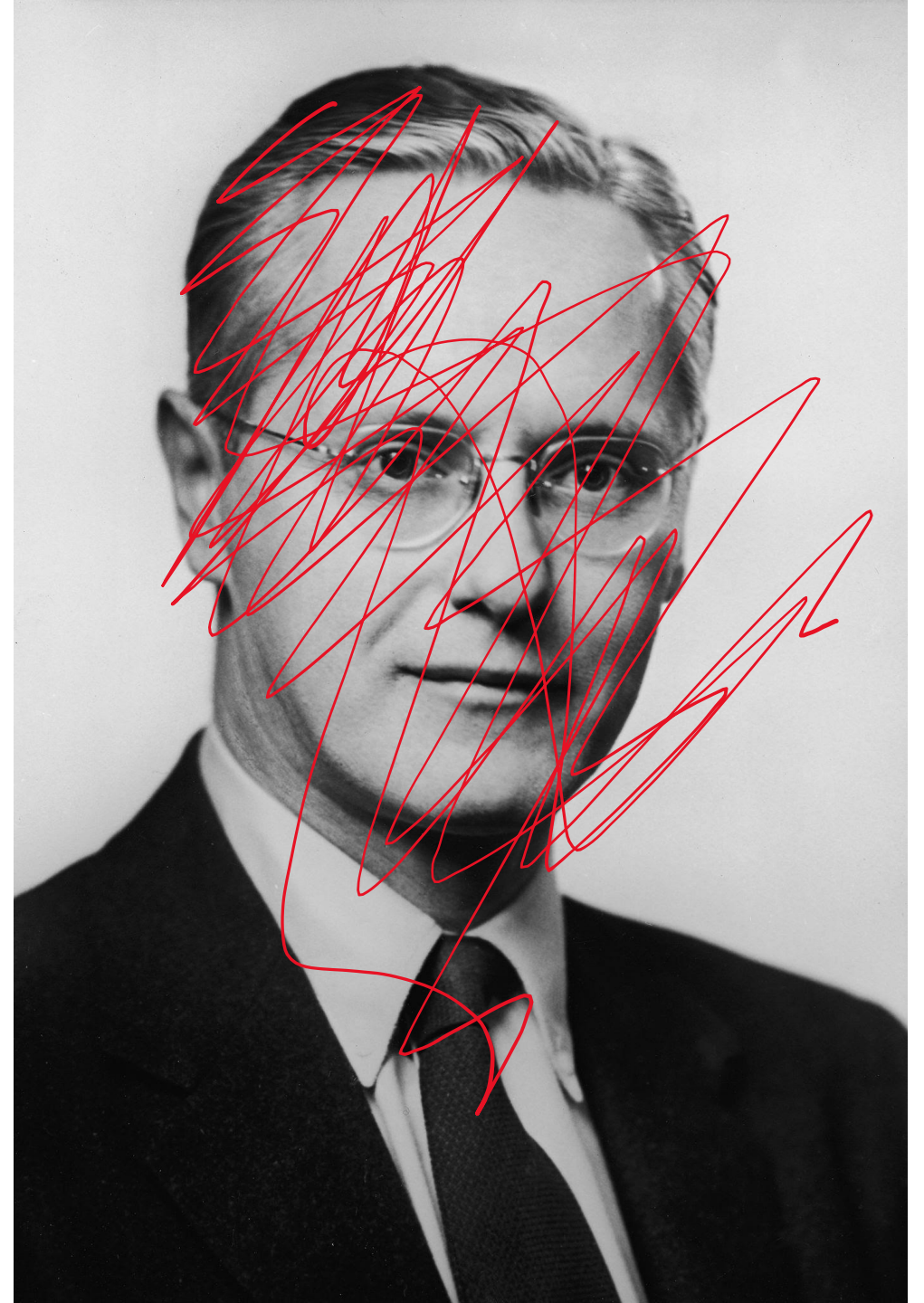
- *Quality*
- *Rigour*
- *Reproducibility*
- *Replicability*
- *Openness*
- *Transparency*

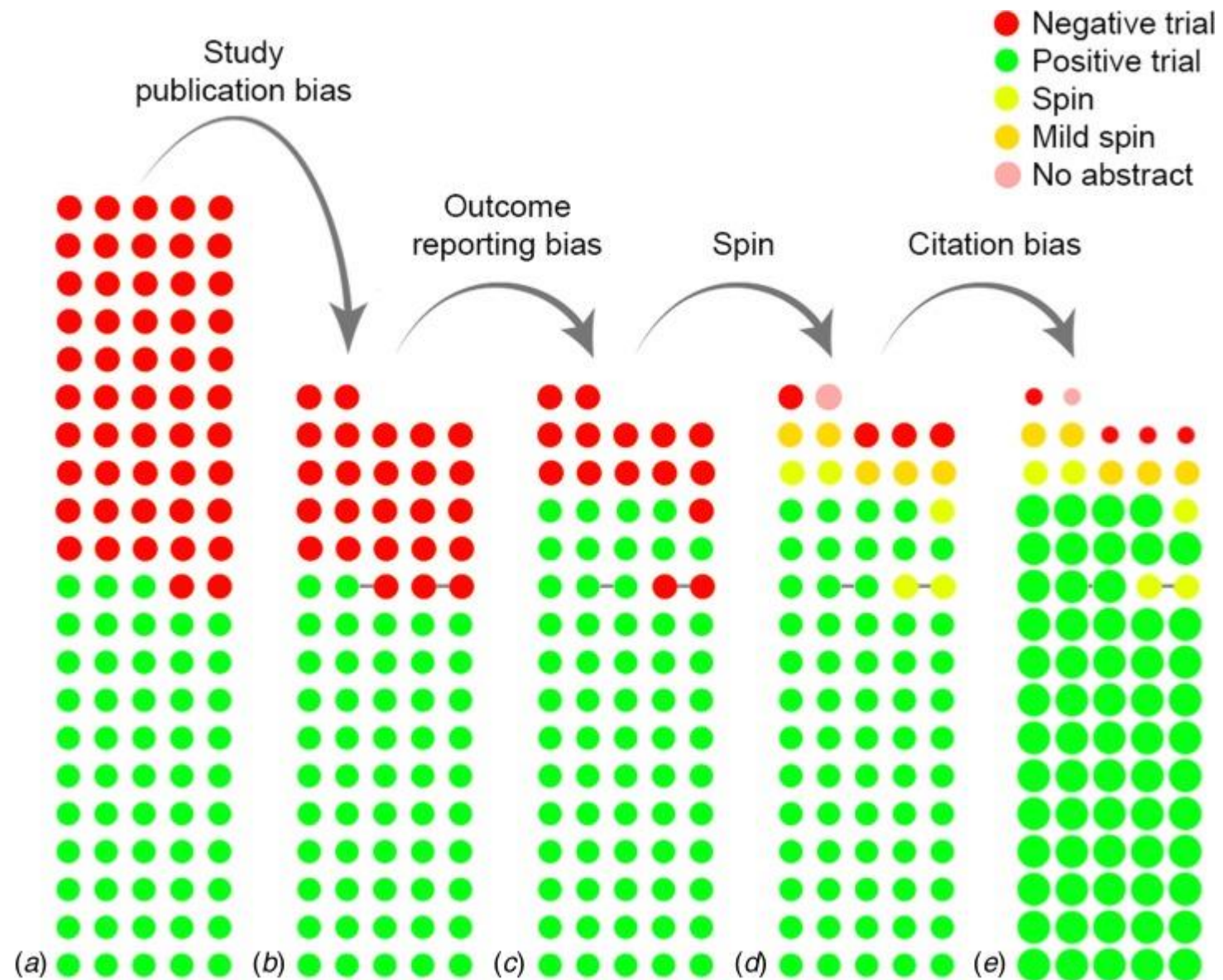
- "I suspect that unconscious or dimly perceived finagling, doctoring, and massaging are rampant, endemic, and unavoidable *in a profession that awards status and power for clean and unambiguous discovery.*"
 - Stephen Jay Gould (1978), [*Science*](#), 200, p.504 [my italics]



Mertonian Norms

1. ~~Universalism~~
2. ~~Disinterestedness~~
3. ~~Communalism~~
4. ~~Organised scepticism~~





Disproportionate self-citation

The work that will have the highest impact and receive the most citations is work that can appeal to all three of these elements—that is, work that engenders what I have called consummate or complete love (Sternberg, 1986b). Very few endeavors will produce that kind of effect. To produce such work, a scientist needs to be not only analytically intelligent (Sternberg, 1985b, 1986a, 1997c; Sternberg & Grigorenko, 2002), but also, and more importantly, highly creative (Sternberg, 2016a; Sternberg & Davidson, 1982; Sternberg & Lubart, 1995.) A scientist needs to be socially as well as practically smart—to have a sense of how to produce work that can reach people and possibly change their minds (Kihlstrom & Cantor, 2011; Sternberg, 1997b; Sternberg & Hedlund, 2002; Sternberg & Smith, 1985; Wagner, 2011). It is perhaps ironic, therefore, that graduate schools place so much emphasis on choosing students for analytical skills, because these are probably not the ones that, alone, will propel students to do research that is highly cited (Sternberg & Sternberg, 2017). The tests may identify the best consumers of information but not necessarily the best producers of it (Spear-Swerling & Sternberg, 1994; Sternberg, 1986a). Scientists who reach the top levels of creative work (what has been called “Big C”—Kaufman & Beghetto, 2009) inevitably complement analytical skills with creative and practical ones—analytical skills are

probably necessary but far from sufficient for high levels of scientific success (Sternberg, 2016a, 2016b, 2016c). Most of all, perhaps, the scientist needs luck—that his or her work is timed just right to reach the needs and wants of his or her audience (Gaughan, 2010; Merton & Barber, 2004). And if one has the timing right, an echo chamber can result, whereby a few people citing work can lead to others citing it and then to still others citing it. Creativity always involves a match that continues over some period of time between the work of the individual, the state of the domain of work, and the field of people pursuing work in that domain (Csikszentmihalyi, 1988, 2013; Gardner, 2011).

(Self-)plagiarism

‘Self-plagiarism occurs when you fail adequately to cite your own work... *In extreme cases, someone might attempt to publish exactly the same paper twice* without noting that the paper has been previously published.’

-Robert Sternberg (2017)
The Psychologist's Companion
[my italics]

Retraction notice for "WICS: A new model for school psychology" by Robert J. Sternberg

First Published June 5, 2018 | Retraction | [Check for updates](#)

[Download PDF](#) [Article information](#) [Altmetric](#) [S](#) [i](#)

[Original Article](#)

At the request of the Journal Editor and SAGE Publishing, the following article has been retracted: Sternberg, R.J. (2010) WICS: A new model for school psychology. *School Psychology International*. 31(6): 599–616 DOI: 10.1177/0143034310386534

Although the content in the aforementioned article is scientifically valid, the article has substantial unreferenced overlap with the following works by the same author:

Sternberg, R.J. (2010) WICS: A new model for cognitive education. *Journal of Cognitive Education and Psychology*. 9(1): 36–47 DOI 10.1891/1945-8959.9.1.36

Sternberg, R.J. (2002) Individual differences in cognitive development. In Goswami, U. (Ed.), *Blackwell Handbook of Childhood Cognitive Development*, 1 (pp. 600–620) DOI: 10.1002/9780470996652.ch27

Therefore, this article is retracted for reasons of redundant publication.

Salami-slicing

Am J Transl Res. 2017 May 15;9(5):2473-2491. eCollection 2017.

A novel relationship for schizophrenia, bipolar and major depressive disorder Part 5: a hint from chromosome 5 high density association screen.

Chen X¹, Long F¹, Cai B², Chen X², Chen G¹.

 **Author information**

Curr Mol Med. 2016;16(9):840-854. doi: 10.2174/1566524016666161128115135.

A Novel Relationship for Schizophrenia, Bipolar and Major Depressive Disorder Part 6: A Hint from Chromosome 6 High Density Association Screen.

Chen X, Long F, Cai B, Chen XH, Chen G¹.

 **Author information**

Behav Brain Res. 2015 Oct 15;293:241-51. doi: 10.1016/j.bbr.2015.06.043. Epub 2015 Jul 17.

A novel relationship for schizophrenia, bipolar and major depressive disorder Part 7: A hint from chromosome 7 high density association screen.

Chen X¹, Long F¹, Cai B², Chen X², Chen G³.

 **Author information**

Predatory journals

You don't often get email from jncn@acquaintpublications.online. [Learn why this is important](#)

CALL FOR ARTICLES

SPECIAL ISSUE - AUGUST 2021

Journal of Neurosurgery and Clinical Neurology [JNCN]

Journal of Medical Case Reports and Case series [JMCRCs]- [2692-9880]

Journal of Community Medicine and Public Health Reports [JCMPHR]- [ISSN: 2692-9899] IF: 0.01

Dear Dr. Ritchie Stuart J,

Greetings!

Acquaint is a raised area of choice for an international community of research scholars to share their work to the global scientific community without any restrictions. We maintain a superior level of integrity and scientific relationship with authors, researchers, and academicians. We encourage authors from every corner of the globe to submit their articles.

Our journals offer a critical stage to the universal logical community to talk and share data whereas publicizing research discoveries globally. Our journals include a wide extend of subjects in tremendous areas that permit the researchers to publish through the open access model. We welcome all academicians, researchers to submit their work for publication. We welcome all academicians, analysts to submit their work for publication in our journals.

Given your achievements in your past article entitled “**Polygenic predictors of age-related decline in cognitive ability**”, we are particularly welcoming you to submit your upcoming papers/articles to our journals which can upgrade the quality and validity, all sorts of articles are acknowledged.

To visit our journals: [click here](#)

Submit your article via email: info@acquaintjournals.info

Journals online submission portal link: <https://acquaintpublications.org/manuscript>

Last Date for article Submission: **31 JULY 2021**

Predatory... book writers?

Dear Dr.Stuart J Ritchie ,

I am Lavon Perry , an Editorial assistant from Index of Sciences Ltd. contacting you with the reference from our editorial department. Basing on your outstanding contribution to the scientific community, we would like to write a book for you.

Researchers like you are adding so much value to the scientific community, yet you are not getting enough exposure. No matter how many papers you publish in famous journals, you will be still unknown to common people. To solve this problem, we came up with this unique solution.

With our book writing service, we will write your research contributions in common man's language. We will also include all your published papers into this book in a way that a common man can understand it. And then, we will publish your book with our publishing group. Before publication, we will send the draft to you for scientific accuracy, once you approve our draft, we then proceed for publication. You will get all the rights of your book, and all the sales generated from your book will be credited to you.

Your book will then be listed on famous websites like Amazon, eBay, Good Reads, and many other popular book websites. As a result, you will get good credit and people will recognize your hard work and your scientific contributions.

Last but not least, after the publication of your book, it will be published in Google News, Yahoo, and other major news channels. What more can you ask for?

All we need is your book writing contract, and you will get all the rights for your book.

I will be waiting to hear from you.

Best Regards,
Lavon Perry .

AND EVEN FORMING "CITATION RINGS",
WHERE THEY MAKE SECRET DEALS TO
CITE ONE ANOTHER'S PAPERS,
WHETHER THEY'RE RELEVANT
OR NOT.?

HEY THERE MAC.
HOW WOULD YOU LIKE
TO SCORE A LITTLE...
ACADEMIC ESTEEM.?



Break neophilia

Or, more specifically, break the link between novelty and publication decisions



Reward things we like

We implicitly reward bad behaviours, so let's explicitly reward good ones

- Hiring and promotion decisions
- Open Science Awards
- A way to reward fraud-checkers and data sleuths?

Use social motivations

Including shame, even if it doesn't sound very nice

- It's bad to make basic statistical errors
- It's bad to not to be open/transparent
- It's bad to write a dumbed-down pop-science book
- It's bad for 40% of your citations to be to your own work
- Etc.
- Scientists often react terribly to criticism - maybe they wouldn't if criticism was the norm
- New ways of apportioning credit for scientific research

Harness selfishness

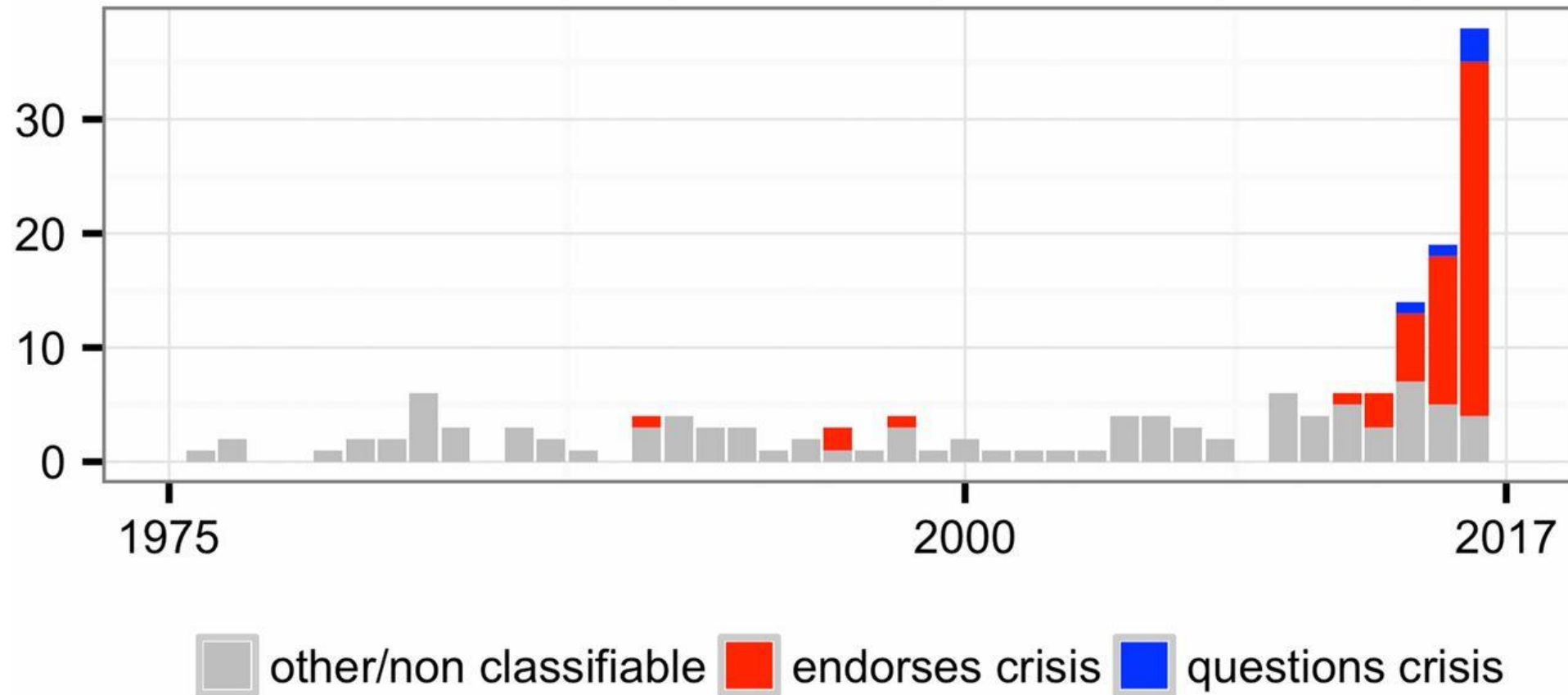
Careerism is unavoidable, but we can show people that more rigorous science can help and not hinder

- “5 selfish reasons to work reproducibly”
 1. Reproducibility **helps to avoid disaster**
 2. Reproducibility **makes it easier to write papers**
 3. Reproducibility **helps reviewers see it your way**
 4. Reproducibility **enables continuity of your work**
 5. Reproducibility **helps to build your reputation**

Spread the word

Have this conversation at all levels of academia – lack of awareness is a huge part of the problem

Frequency of Crisis Narrative in Web of Science Records



Perverse incentives are *everywhere*

nature > world view > article

WORLD VIEW | 06 July 2021

Beware performative reproducibility



Well-meant changes to improve science could become empty gestures unless underlying values change.

Stuart Buck 



Thanks

stuart.j.ritchie@kcl.ac.uk
@StuartJRitchie