

Communicating Critique

Dr. Ian Hussey

Digitalisation of Psychology

What is a good critique?



You must fight the
perception that you
are this guy

ACKCHYUALLY

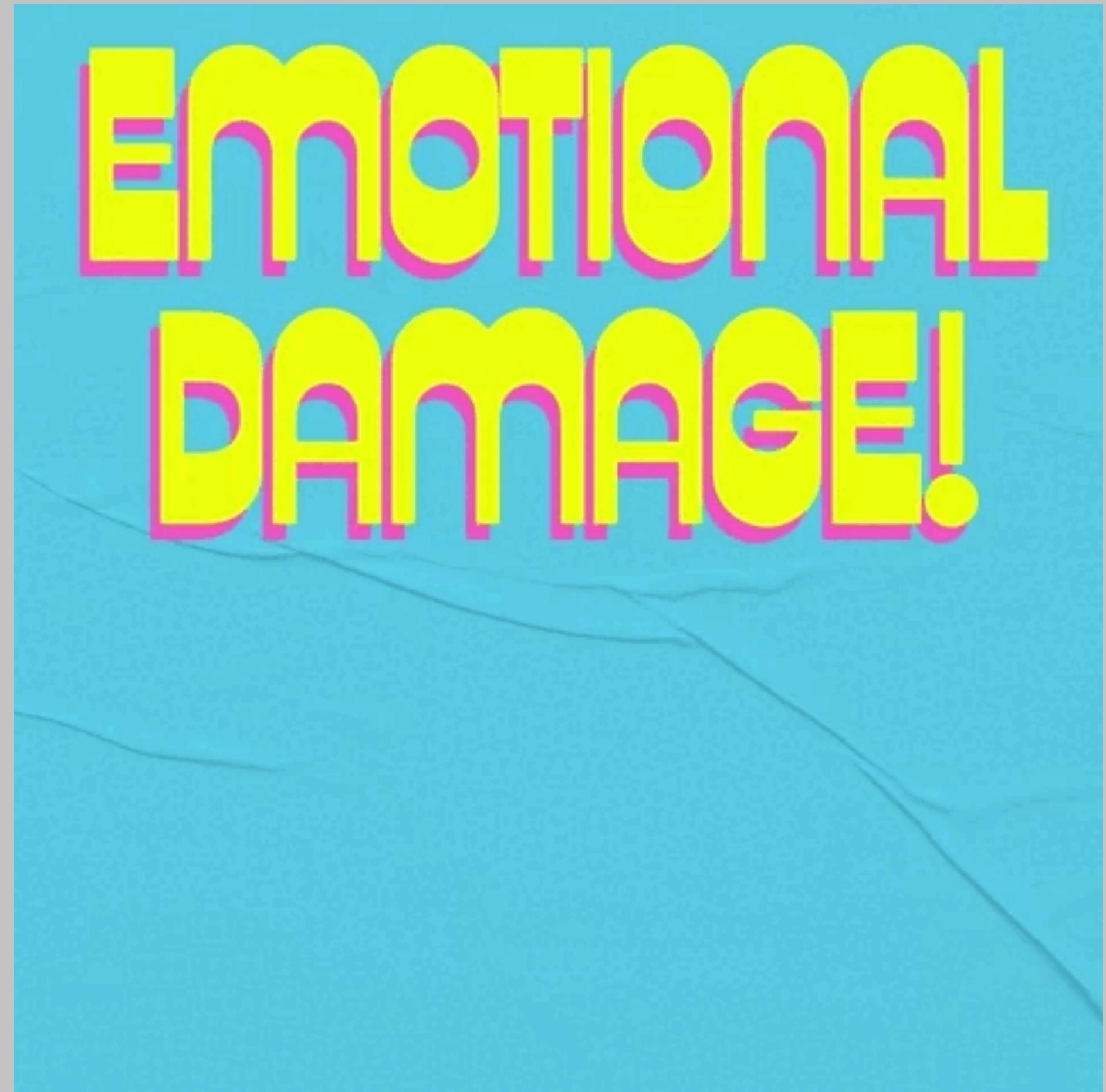
Consider fraud as a general possibility,

But do not use the word **fraud**.

Talk about ‘inconsistencies’.

You will be held to a higher bar.

You better not make an error yourself.



“Methodological
terrorists”

“Shameless little bullies”

“Data parasites”

“Second stringers”

Lacking “research flair”

Mind your own business

etc.

Where to voice critique?

Depends on the nature of the critique and your goal

Nature

- Scientific critique
- Error
- Concern about fraud

Ideas?

Goals

- Change to future research
- More/less/different research
- Correction / Retraction

Where to voice critique?

- Discuss concerns with peers
- Cite and discuss the issue in articles you write
- Alternatively, don't cite in the articles you write
- Tweet/blog about it
- Write a commentary article
- Contact the authors
 - Ask for data / code
- Write a blog about it
- PubPeer comment
- Discuss with sleuths
- Contact the journal's editor
- Contact the journal's publisher's Research Integrity team
- Contact the authors' institution's Research Integrity Office

Pros | Cons ?

Where to voice critique?

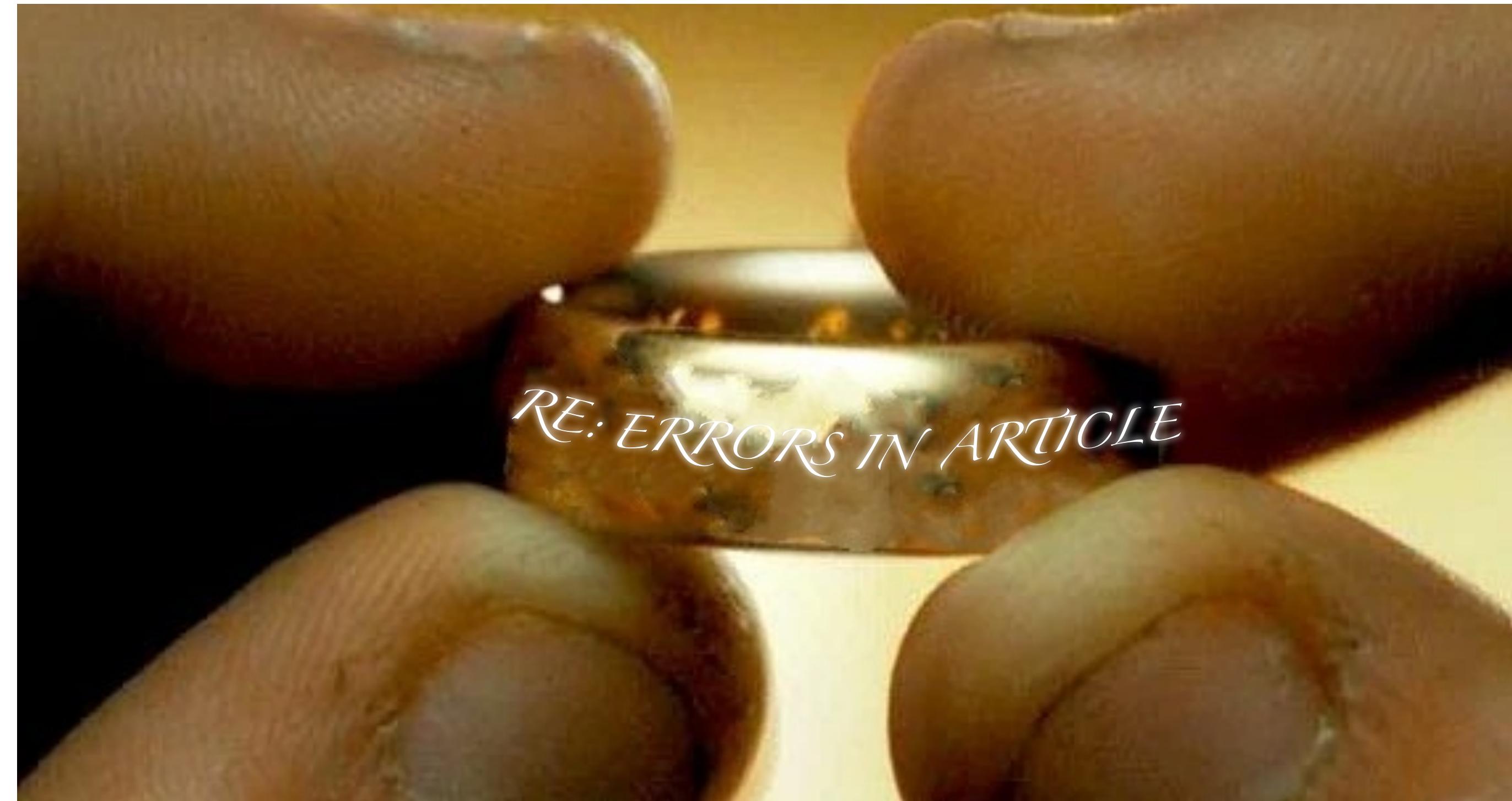
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- Contact the authors' institution's Research Integrity Office 🌶 🌶 🌶



Emailing authors

Remember

- No-one wants to get an email about problems with your published work.
- Be kind to the human behind the screen.
- You create change by being **consistently annoying** for systems that are resistant to change, not with *The One Email To Change It All*



Emailing authors

Benefits

Ideas?

Emailing authors

Benefits

- You look collegial by initially keeping things private
- You might be wrong / there could be good reason
- If necessary, you can later point to their non-responsiveness

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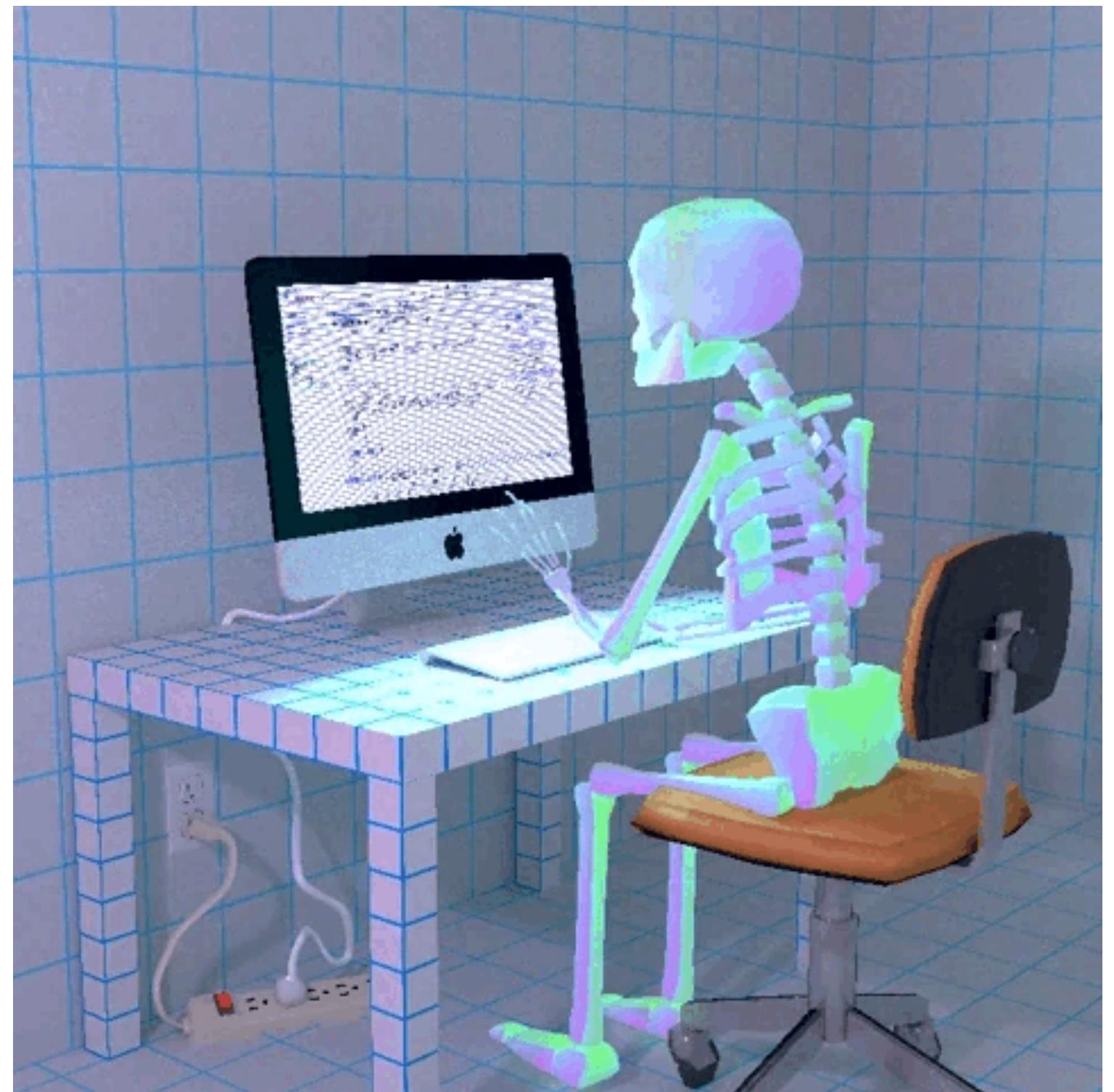
Risks

- Keep things private rewards inaction
- They can delay things indefinitely

Emailing authors

Good emails

Ideas?



Emailing authors

Good emails

- Address with 'Prof.' title if unsure or you don't know them
- Do not demand anything or accuse anyone of anything
 - What is the least generous interpretation of your draft?
- Are relatively short
 - Extra information in attachments
- Appeal to shared scientific values
 - Verification, accuracy, science-as-self-correcting



To: authors
Cc:
Bcc:
Subject: Apparent inconsistencies in your article Authors et al. (2020)
From: Ian Hussey – ian.hussey@unibe.ch
Signature: Signature #1

Dear Prof. {author},

I'm contacting you because, in the course of my work on scientific error detection (e.g., <https://error.reviews>, although this work is not associated with that project) I have found what appear to be {inconsistencies / errors} in {author et al., year}.

Apologies for the bad news - I know this is not the email that anyone looks forward to receiving. I hope that we can all lean on our values and be willing to be error-aware and error-accepting here, in the service of building cumulative science and accurately informing clinical practice.

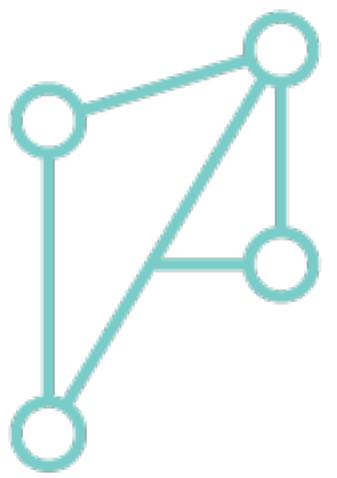
...

Dear Prof. {author},

In the process of conducting a study on citation accuracy after reading Cobb et al. (2023, 10.1037/amp0001138), I found what appear to be the following apparent errors in {authors et al., year}. These two apparent errors appear to undermine {authors et al., year} conclusion that {claim}.

In order to prioritise the speedy dissemination of potential errors to the scientific community and have a transparent public discourse (see link below), I have posted these points to PubPeer where you can respond if you choose.

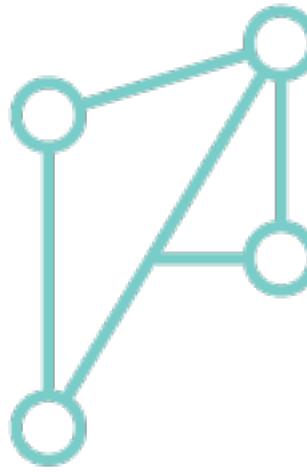
1



PUBPEER

The online journal club

- Named or anonymous comments
- Any article with a DOI
- Moderated: they will delete comments that risk legal exposure
- You supply authors' emails so they are notified



Good comments

- Factually state issues or inconsistencies you have observed in the article
 - + provide evidence for them
- Do not infer intent
- Speak about the article rather than the authors
 - Even subtly: “page 4 of the article states” rather than “the authors state on page 4”
- Do not demand anything
- Ask the authors to clarify

Results from this article were used in Zhao et al.'s (2023) meta-analysis of ACT for depression (doi: 10.1186/s12991-023-00462-1). For some background: I previously attempted to assess the computational reproducibility / accuracy of Zhao et al.'s effect size extractions. Your study, Zemestani & Mozaffari (2020) was the most extreme effect size reported in Zhao et al.'s first forest plot (see their Figure 4 on page 6), and so I selected it as the first effect to attempt to reproduce. That reproduction attempt raised its own questions regarding the results reported in this article. I have only examined the results reported for (a) the demographics variables and (b) the BDI-II so far, but not the other outcome measures. I decided to report my findings here before I explore further.

Demographic variables

GRIM & GRIMMER

The means and SDs reported for each group's age in the article's Table 1 appear to be GRIM and GRIMMER inconsistent (calculated using the Jung's {scrutiny} R package). That is, these means/SDs don't seem to be mathematically possible given these sample sizes, even when different rounding methods are taken into account. See extracted numbers below. Note that using the post-dropout sample size in the intervention group (23) also returns a GRIM and GRIMMER inconsistent result.

variable	condition	n	mean	sd	GRIM_consistent	GRIMMER_consistent
age	intervention	30.00	23.72	4.18	FALSE	FALSE
age	control	30.00	25.18	4.23	FALSE	FALSE

- Could the authors comment on these reported means and SDs, i.e., with regard to the GRIM and GRIMMER inconsistencies?

Hedge's g effect sizes

While the article does not report Hedge's g standardized effect-sizes, these are easy possible to recalculate from the means and SDs reported in Table 2 (i.e., difference in means divided by the pooled standard deviations, with Hedges' correction for small sample sizes). I calculated Hedges' g effect sizes between the intervention and control groups at the "8 weeks" and "16 weeks" timepoints:

- 8 weeks: Hedges' g = -2.62
- 16 weeks: Hedges' g = -2.20

The very small SDs discussed in the previous section produce (i.e., moreso than the difference in means) these exceptionally large effect sizes for an RCT on psychotherapy for depression (i.e., the most extreme value observed in Zhao et al.'s meta-analysis of ACT for depression, see their Figure 4 on page 6). Using a more probable value of $SD = 9.6$ (see above) produces a Hedges' g = -1.22, although this is still very large of course. These values for the effect sizes are similar to, but not exactly the same as, the effect sizes that Zhao et al. calculated from your article and included in their meta-analysis (see [pubpeer comment here](#) for discussion of Zhao et al.'s computational reproducibility).

Note that the reported values do not seem to be explained by incorrectly reporting the Standard Errors as SDs, as recalculated SEs are very different from the reported values.

- Could the authors comment on their observed (recalculated) Hedges' g effect sizes, i.e., with regard to their size?

Use the Pubpeer Plugin!

A screenshot of a Google search results page. The search query is "Acceptance and commitment therapy for the treatment of depression in persons with physical disability: a randomized controlled trial". The top result is from Sage Journals, linking to a study by M Zemestani from 2020. The study evaluated the effectiveness of ACT for depressive symptoms in physically disabled persons.

"Acceptance and commitment therapy for the treatment of depression in persons with physical disability: a randomized controlled trial" has comments on PubPeer

10.1177/0269215520923135

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Sage Journals
https://journals.sagepub.com › doi › full

Acceptance and commitment therapy for the treatment of ...
by M Zemestani · 2020 · Cited by 32 — The primary aim of this study was to evaluate the effectiveness of ACT for the treatment of depressive symptoms in physically disabled persons.

Proposed changes

Course name

Course description

- Set expectations: Signal that its for nerds

English as a barrier to learning?

Proposed changes

Course name and description:

Problems in science and what to do about it.

Tools to assess and critique science

Put the example of the German masters student who critiqued the Econ paper in the description, drop the 20 years ago stuff

Make the course names discernible

Spark interest

Tangible critical skills

Not a nerd class

Liked name

Novelty of course - not done elsewhere

Course ordering listed in description

Say what meta science is.

A course about how science production works and doesn't.

Give some positive examples in class of things done well?

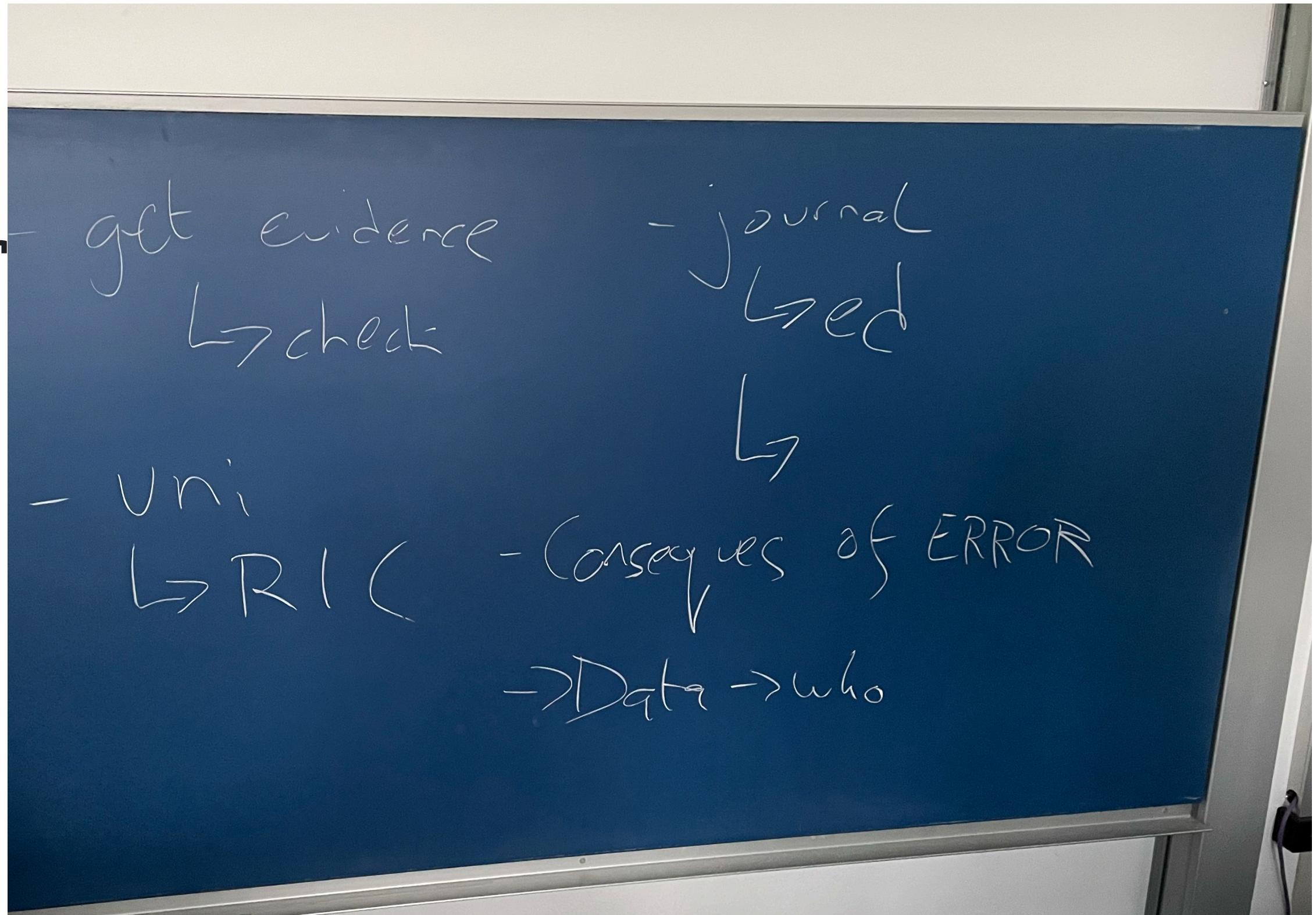
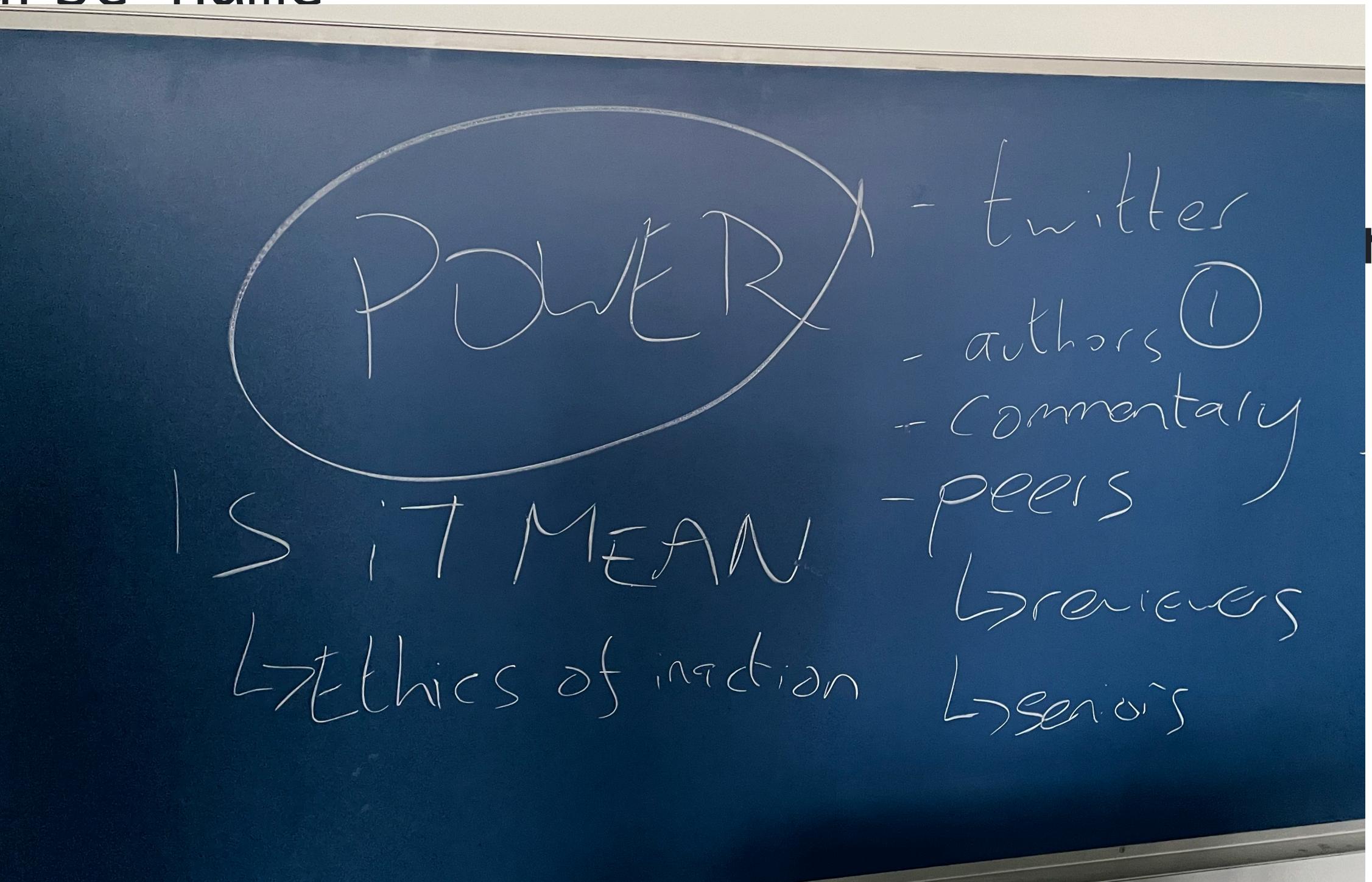
Liked tone and irreverence

Proposed changes

Course name

Cou
- S

Eng



Questions?