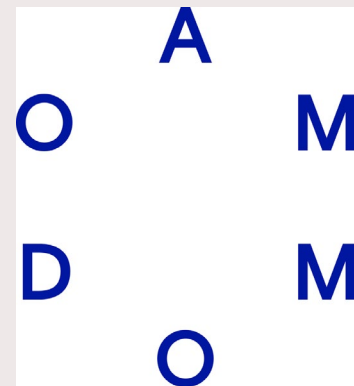


An automated tool to improve scientific manuscripts

Daniel Lakens



AMMODO SCIENCE AWARD
2023 FOR SOCIAL SCIENCES



I have spent a decade writing papers on how people should improve their research practices.

Amazingly, there are people who have not read all my papers.

In Human Factors research
there are the ISO-9001
standards of quality
management systems.

Organizations should

- establish quality objectives,
- plan to achieve these objectives by considering the resources required
- for example support staff, infrastructure
- an adequate social, psychological, and physical environment.

A crucial factor highlighted in ISO 9001:2015 is ensuring that people involved in the work that is evaluated in quality management system are competent, which means they have received the appropriate amount of education, training, or experience.

In science, this is unlikely to happen anytime soon. There is no quality management, nor time for education.

What else can we do from a Human Factors perspective?

We can rely on automation.

An example is CRAN check – an automated tool that checks common mistakes when people make CRAN packages.

There are a number of tools that perform automated checks on scientific manuscripts.

Zotero will automatically check if you cite a retracted article.

High replicability of newly discovered social-behavioural findings is achievable

Info

This work has been retracted.

Retracted on 9/24/2024

Concerns/Issues About Data

Any question, controversy or dispute over the validity of the data

Concerns/Issues About Results

Any question, controversy or dispute over the validity of the results

Investigation by Third Party

An evaluation of allegations by a person, company or institution not the Authors, Journal, Publisher or ORI

Objections by Author(s)

A complaint by any of the original authors or refusal to agree actions taken by the Journal or Publisher

Unreliable Results

The accuracy or validity of the results is questionable

[Retraction Notice](#)

Data from [Retraction Watch](#)

And of course, there is
Statcheck!

The logo for Statcheck, featuring the word "statcheck" in a lowercase, orange, sans-serif font. The letter "e" is replaced by a stylized graphic consisting of three horizontal bars with curved ends, and two yellow curved arrows forming a circle around the graphic.

statcheck

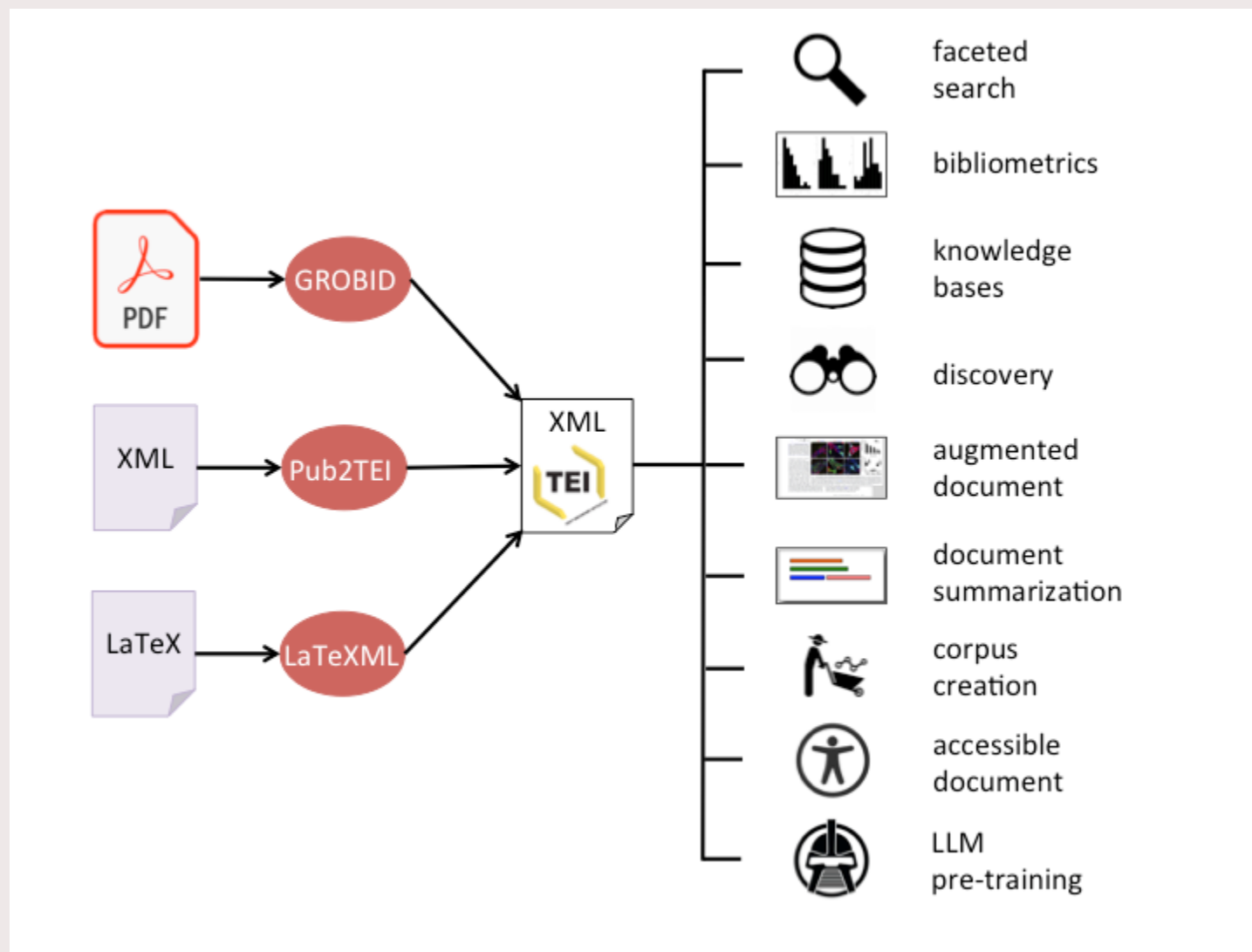
With Lisa DeBruine,
Cristian Mesquida,
and René Bekkers we
are building a
module based tool to
automate checks for
anything we can.



It's an R based package.
Anyone can add modules
(checks for different fields).
On-stop shop.

Can be used by people before they submit, or peer reviewers. But you can upload PDF's in batches – also a tool for metascience.

Read in PDF using GROBID





Load Files

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Load Batch Demo

Quit & Return

Change language

English

Most of the phrases have not been translated; this is just a proof of concept.

This app is under development; all materials created should be carefully checked.

Load from XML

Browse...

fynes-clinton-addis-2023-thinking-beyond-covid-19-how-has-the-pandemic-impacted-future-time-horizons.xml

Upload complete

1 paper loaded

Paper Info

Paper Name

fynes-clinton-addis-2023-thinking-beyond-covid-19-how-has-the-pandemic-impacted-future-time-horizons.xml

The COVID-19 pandemic has seen much of the world's population endure multiple lockdowns in relative social isolation along with the unpredictable threat of the coronavirus. Impacts on mental health have been profound (Holmes with findings that emotional well-being improves with age because decreasing future time horizons led to prioritization of socioemotional well-being (socioemotional selectivity theory [SST]; Lang & Carstensen, 2002). The possibility that depression contributes to time horizons in a way that promotes negative well-being is rarely considered in the SST literature. Given numerous anecdotal and scientific reports of distorted time perception during the pandemic (Martinelli et al., 2021;Ogden, 2020Ogden, , 2021)), the current study addressed this important question in an international sample of adults from two phases of the adult life span, early in the COVID-19 pandemic (May 2020). Temporal horizons are ubiquitous in human experience; our integration of past and future influences our present-moment behavior (Lewin, 1942). Although the experience of psychological time is a fairly stable individual difference (Zimbardo & Boyd, 1999), it also changes dynamically with situational and psychological factors, such as time constraints (Gable & Poole, 2012). It is likely that disruption to short-term time constraints contributed to the perceived slowing of time experienced during the first COVID-19 lockdowns, along with older age, depression, and social dissatisfaction

Check if OSF links are open:

PaperCheck

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Change language

Check Status of OSF Links

Run Module Download Table

 Check Status of OSF Links

We detected closed OSF links

Showing 1 to 1 of 1 entries

Previous 1 Next

| text | section | header | div | p | s | id | status |
|---|---------|---------|-----|---|---|---|--------|
| https://osf.io/2f8yn | results | Results | 12 | 1 | 3 | ziano-koc-2023-prototypes-of-people-with-depression.xml | closed |

Through the OSF API we can check many things, such as:

- Is there a readme?
- Does R code contain fixed paths?
- Is there a codebook?
- Are there datafiles, is so, what data is inside?
- Etc.

Marginal significance: Use of interpretations that are just wrong.

Marginal Significance

You described effects as marginally/borderline/close to significant. It is better to write 'did not reach the threshold alpha for significance'.

Showing 1 to 10 of 14 entries

Previous **1** 2 Next

| text | section | header | div | p | s | id |
|---|---------|--------------|-----|---|---|---|
| Consequently, we found that although the absolute value of the bias was smaller for the feedback group (0.165) than for the no-feedback group (0.194), the difference was only marginally significant ($z = -1.85$, $p = .065$). | results | Experiment 1 | 9 | 8 | 6 | haddara-rahnev-2022-the-impact-of-feedback-on-perceptual-decision-making-and-metacognition-reduction-in-bias-but-no.xml |
| The interactions between unpacking the male gender category and participant gender, unpacking both the male and female gender categories, and the three-way interaction were not significant ($F_s < 2.1$, $p_s > .30$); the interaction between unpacking the female gender category and participant gender was only marginally significant, $F(1, 778) = 3.65$, $p = .06$, $\eta^2 = .005$. | results | Results | 21 | 1 | 4 | halevy-et-al-2021-where-the-blame-lies-unpacking-groups-into-their-constituent-subgroups-shifts-judgments-of-blame-in.xml |
| The water-priming conditions had a marginally significant effect on frugality, $F(2, 206) = 2.30$, $p = .102$, $f = 0.02$. | results | Results | 17 | 3 | 1 | harati-talhelm-2023-cultures-in-water-scarce-environments-are-more-long-term-oriented.xml |

Reporting guidelines, such as
precisely reporting p-values.



Load Files

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Change language

English

Most of the phrases have not been translated; this is just a

Imprecise P-Values

Run Module

Download Table

Imprecise P-Values

You may have reported some imprecise p-values

Showing 1 to 10 of 102 entries

Previous

1

2

3

4

5

...

11

Next

| text | section | header | div | p | s | id |
|----------|------------|--|-----|---|----|---|
| p < .002 | results | Results | 9 | 1 | 2 | grossmann-et-al-2021-training-for-wisdom-the-distanced-self-reflection-diary-method.xml |
| p < .05 | discussion | [div-27] | 27 | 1 | 10 | hafri-et-al-2022-perceived-distance-alters-memory-for-scene-boundaries.xml |
| p < .01 | discussion | [div-27] | 27 | 1 | 10 | hafri-et-al-2022-perceived-distance-alters-memory-for-scene-boundaries.xml |
| p < .01 | results | Sample biomarker classifications and characteristics | 11 | 1 | 5 | harrington-et-al-2021-undetected-neurodegenerative-disease-biases-estimates-of-cognitive-change-in-older-adults.xml |

We can build in existing tools:

PaperCheck

- Load Files
- Report
- Modules
- Search Text
- ChatGPT


Load Demo File

Load Batch Demo

Quit & Return

RetractionWatch

Run Module Download Table

 RetractionWatch

You cited no papers in the Retraction Watch database

Showing 0 to 0 of 0 entries

Previous Next

| bib_id | doi | ref | id |
|----------------------------|-----|-----|----|
| No data available in table | | | |

Find as predicted links, grab the information from each section, and present it to reviewers alongside the paper.

Current project: Extracting open science statements (sharing data, code, preregistrations), and ethics statements.

Current project: Identifying causal sentences, warning people for incorrect or vague causal sentences.

Tessa van Abkoude



We also created machine learning classifiers for statistical interpretations of non-significant results.

ChatGPT is surprisingly good at retrieving information from papers. E.g., sample sizes.

The idea is not to detect everything perfectly. If we can not detect something that exists, authors might need to present it more clearly.

The idea is not to detect everything perfectly. If we can not detect something that exists, authors might need to present it more clearly.

We are of course happy to work with you if you want to use Papercheck for meta-science, or to create modules!

Thanks!



<https://osf.io/ejqqa2/>