Assessing the impact of science, unscientifically

GRADUATE SCHOOL OF NORTH AMERICAN STUDIES

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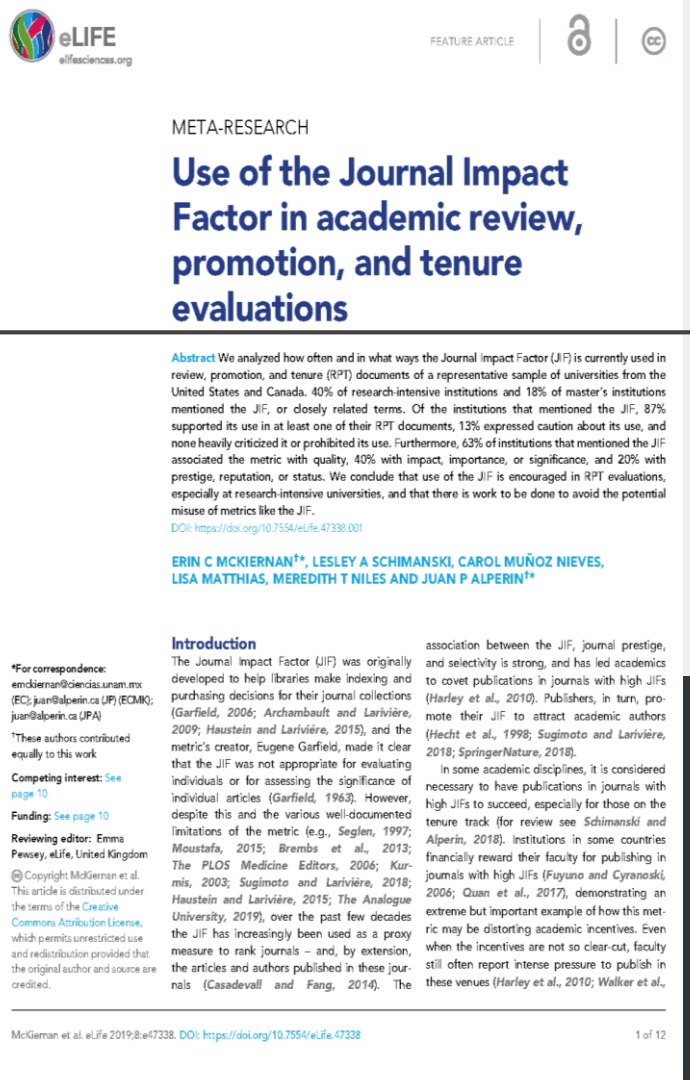
Warum forschen wir?



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FEATURE ARTICLE

META-RESEARCH

Use of the Journal Impact Factor in academic review, promotion, and tenure evaluations

Abstract We analyzed how often and in what ways the Journal Impact Factor (JIF) is currently used in review, promotion, and tenure (RPT) documents of a representative sample of universities from the United States and Canada. 40% of research-intensive institutions and 18% of master's institutions mentioned the JIF, or closely related terms. Of the institutions that mentioned the JIF, 87% supported its use in at least one of their RPT documents, 13% expressed caution about its use, and none heavily criticized it or prohibited its use. Furthermore, 63% of institutions that mentioned the JIF associated the metric with quality, 40% with impact, importance, or significance, and 20% with prestige, reputation, or status. We conclude that use of the JIF is encouraged in RPT evaluations, especially at research-intensive universities, and that there is work to be done to avoid the potential misuse of metrics like the JIF.

DOI: https://doi.org/10.7554/eLife.47338.001

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Competing interest: See page 10

Funding: See page 10

Reviewing editor: Emma Pewsey, eLife, United Kingdom

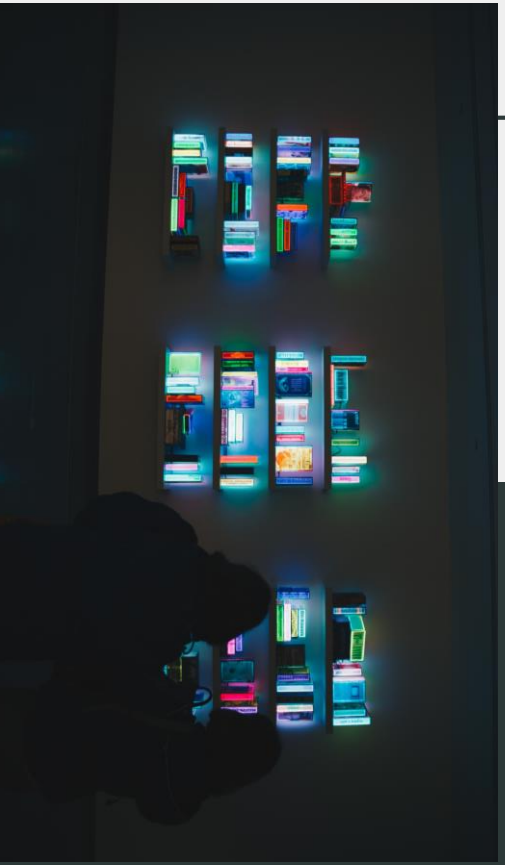
Introduction

The Journal Impact Factor (JIF) was originally developed to help libraries make indexing and purchasing decisions for their journal collections (*Garfield, 2006*; *Archambault and Larivière, 2009*; *Haustein and Larivière, 2015*), and the metric's creator, Eugene Garfield, made it clear that the JIF was not appropriate for evaluating individuals or for assessing the significance of individual articles (*Garfield, 1963*). However, despite this and the various well-documented limitations of the metric (e.g., *Seglen, 1997*; *Moustafa, 2015*; *Brembs et al., 2013*; *The PLOS Medicine Editors, 2006*; *Kurmis, 2003*; *Sugimoto and Larivière, 2018*; *Haustein and Larivière, 2015*; *The Analogue University, 2019*), over the past few decades the JIF has increasingly been used as a proxy measure to rank journals – and, by extension, the articles and authors published in these journals (*Casadevall and Fang, 2014*). The association between the JIF, journal prestige, and selectivity is strong, and has led academics to covet publications in journals with high JIFs (*Harley et al., 2010*). Publishers, in turn, promote their JIF to attract academic authors (*Hecht et al., 1998*; *Sugimoto and Larivière, 2018*; *SpringerNature, 2018*).

In some academic disciplines, it is considered necessary to have publications in journals with high JIFs to succeed, especially for those on the tenure track (for review see *Schimanski and Alperin, 2018*). Institutions in some countries financially reward their faculty for publishing in journals with high JIFs (*Fuyuno and Cyranoski, 2006*; *Quan et al., 2017*), demonstrating an extreme but important example of how this metric may be distorting academic incentives. Even when the incentives are not so clear-cut, faculty still often report intense pressure to publish in these venues (*Harley et al., 2010*; *Walker et al.,*

Wir haben mehr als 800 Leitdokumente von 129 amerikanischen und kanadischen Universitäten analysiert.

Impact Factor in der Praxis



TRADITIONELLE FORSCHUNGSOUTPUTS

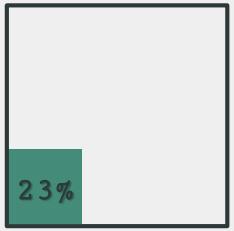
Bücher
Forschungsartikel
Konferenzbeiträge

Journal Impact Factor
Zitatzählungen
Ablehnungsraten

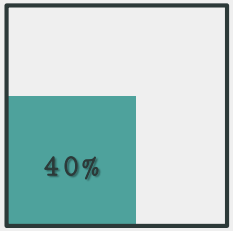
TRADITIONELLE METRIKEN

JIF in den Dokumenten

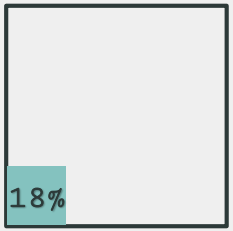
HÄUFIGKEIT



Alle Hochschulen

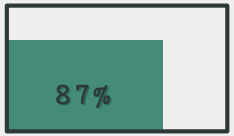


R-Type

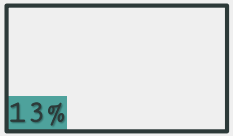


M-Type

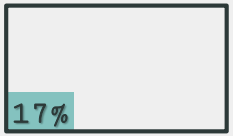
HALTUNG



Unterstützend



Vorsichtig



Neutral

“Of all the criteria listed, the one used most extensively, and generally the most reliable, is the quality and quantity of published work in refereed venues of international stature. Impact factors and/or acceptance rates of refereed venues are useful measures of venue quality. . . .”

—UNIVERSITY OF ALBERTA

Zitate

Zitate häufen sich über längere Zeit an.

Zeit

Zitate können positiv oder negativ sein.

Kontext

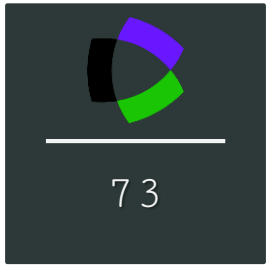
Wie bewerten wir unterschiedliche Dokumentarten?

Art

Zitate sind abhängig von der Datenquelle.

Datenquelle

Datenbanken im Vergleich



The state of OA: a large-scale analysis of the prevalence and impact of Open Access articles

Heather Piwowar[1,*], Jason Priem[1,*], Vincent Larivière[2,3], Juan Pablo Alperin[4,5], Lisa Matthias[6], Bree Norlander[7,8], Ashley Farley[7,8], Jevin West[7] and Stefanie Haustein[3,9]

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[2] École de bibliothéconomie et des sciences de l'information, Université de Montréal, Montréal, QC, Canada
[3] Observatoire des Sciences et des Technologies (OST), Centre Interuniversitaire de Recherche sur la Science et la Technologie (CIRST), Université du Québec à Montréal, Montréal, QC, Canada
[4] Canadian Institute for Studies in Publishing, Simon Fraser University, Vancouver, BC, Canada
[5] Public Knowledge Project, Canada
[6] Scholarly Communications Lab, Simon Fraser University, Vancouver, Canada
[7] Information School, University of Washington, Seattle, USA
[8] FlourishOA, USA
[9] School of Information Studies, University of Ottawa, Ottawa, ON, Canada
[*] These authors contributed equally to this work.

Stand: 22.10.2019

Die Schwächen des Impact Factors

Scientometrics (2016) 106:213–228
DOI 10.1007/s11192-015-1765-5

The journal coverage of Web of Science and Scopus: a comparative analysis

Philippe Mongeon[1] · **Adèle Paul-Hus**[1]

Received: 5 June 2015 / Published online: 19 October 2015

Abstract Bibliometric methods are used in multiple fields for a variety of purposes, namely for research evaluation. Most bibliometric analyses have in common their data sources: Thomson Reuters' Web of Science (WoS) and Elsevier's Scopus. The objective of this research is to describe the journal coverage of those two databases and to assess whether some field, publishing country and language are over or underrepresented. To do this we compared the coverage of active scholarly journals in WoS (13,605 journals) and Scopus (20,346 journals) with Ulrich's extensive periodical directory (63,013 journals). Results indicate that the use of either WoS or Scopus for research evaluation may introduce biases that favor Natural Sciences and Engineering as well as Biomedical Research to the detriment of Social Sciences and Arts and Humanities. Similarly, English-language journals are overrepresented to the detriment of other languages. While both databases share these biases, their coverage differs substantially. As a consequence, the results of bibliometric analyses may vary depending on the database used. These results imply that in the

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Editorial

The Impact Factor Game

It is time to find a better way to assess the scientific literature

The *PLoS Medicine* Editors

We would be lying if we said that our journal's impending first impact factor is not of interest to us. What *PLoS Medicine*'s

Moreover, a journal's impact factor says nothing at all about how well read and discussed the journal is outside the core scientific community or whether it

few of the many ways of "p
impact factor game."
One problem with this g
aside the ethics of it, is that

Published Online: 17 December, 2007 | Supp Info: http://doi.org/10.1083/jcb.200711140

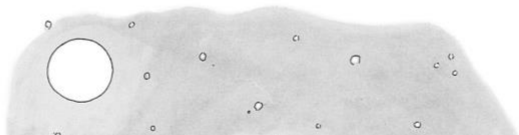
JCB: ED

Show me the data

Mike Rossner,[1] Heather Van Epps,[2] and Emma Hill[3]

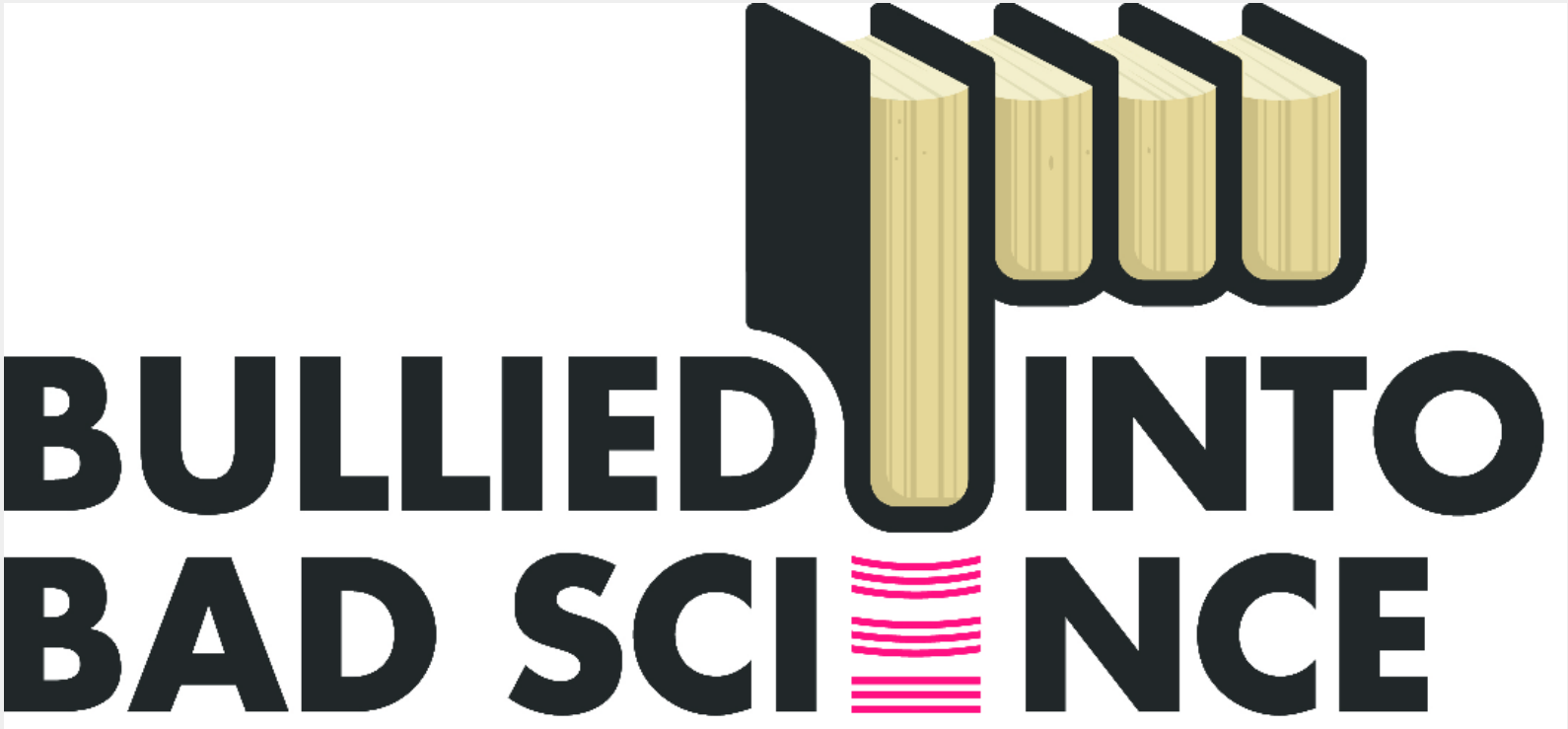
[1]Executive Director, The Rockefeller University Press
[2]Executive Editor, The *Journal of Experimental Medicine*
[3]Executive Editor, The *Journal of Cell Biology*

The integrity of data, and transparency about their acquisition, are vital to science. The impact factor data that are gathered and sold by Thomson Scientific (formerly the Institute of Scientific Information, or ISI) have a strong influence on the scien-



“We also aim at increasing APCs by increasing the value we offer to authors through improving the impact factor and reputation of our existing journals.”

—SPRINGER NATURE IPO


BULLIED INTO
BAD SCIENCE

01

Was sind unsere Werte?

02

Was verstehen wir unter „Impact“?

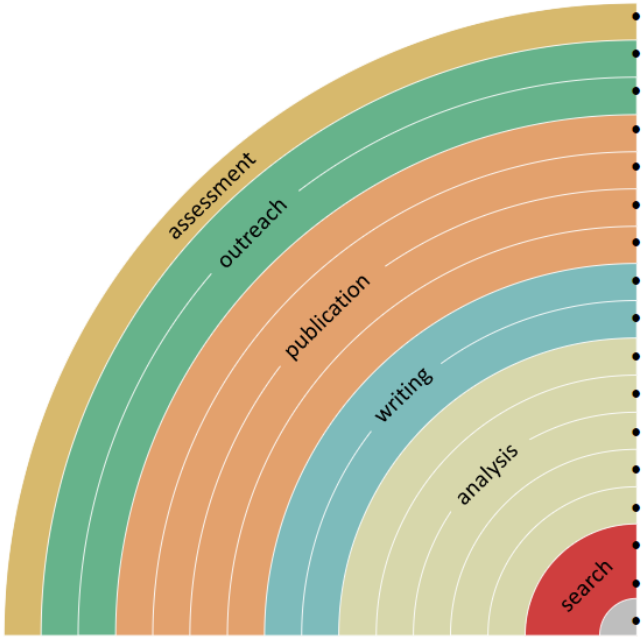
03

Wen begünstigt/benachteiligt das System?

04

Welche Hilfsmittel gibt es?

You can make your workflow more open by …



- adding alternative evaluation, e.g. with altmetrics
- communicating through social media, e.g. Twitter
- sharing posters & presentations, e.g. at FigShare
- using open licenses, e.g. CC0 or CC-BY
- publishing open access, 'green' or 'gold'
- using open peer review, e.g. at journals or PubPeer
- sharing preprints, e.g. at OSF, arXiv or bioRxiv
- using actionable formats, e.g. with Jupyter or CoCalc
- open XML-drafting, e.g. at Overleaf or Authorea
- sharing protocols & workfl., e.g. at Protocols.io
- sharing notebooks, e.g. at OpenNotebookScience
- sharing code, e.g. at GitHub with GNU/MIT license
- sharing data, e.g. at Dryad, Zenodo or Dataverse
- pre-registering, e.g. at OSF or AsPredicted
- commenting openly, e.g. with Hypothes.is
- using shared reference libraries, e.g. with Zotero
- sharing (grant) proposals, e.g. at RIO

DOI: 10.5281/zenodo.1147025

01

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Welche Hilfsmittel gibt es?

Tools

Let's change
what we value
in research.

Sign
DORA

References

Title Slide

- Graduate School for North American Studies: https://www.jfki.fu-berlin.de/graduateschool
- Scholarly Communications Lab: https://www.scholcommlab.ca/

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Bullied into Bad Science

- Bullied into Bad Science: http://bulliedintobadscience.org

Rainbow of Open Science Practices

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Tools

- Curate Science: http://curatescience.org
- Metrics Toolkit: https://www.metrics-toolkit.org
- OSF TOP Resources: https://osf.io/kgnva/wiki/Universities/
- Scite: https://scite.ai
- Sab Francisco Declaration on Research Assessment: https://sfdora.org