http://dergipark.org.tr/trkjnat
Trakya University Journal of Natural Sciences, 24(2): 1-3, 2023
ISSN 2528-9691
DOI: 10.23902/trkjnat.1368563

Editorial

MISLEADING METRICS: PREDATORY TRADE EXPANDS

Zafer KOÇAK

Trakya University Faculty of Medicine, Department of Radiation Oncology, Edirne, TÜRKIYE, Former Editor-in-Chief of Balkan Medical Journal, e-mail: zaferkocak12@gmail.com, ORCID: 0000-0003-1918-7795

Cite this article as:
Koçak Z. 2023. Misleading metrics: predatory trade expands. *Trakya Univ J Nat Sci*, 24(2): 1-3, DOI: 10.23902/trkjnat.1368563

Received: 29 September 2023, Accepted: 12 October 2023, Published: 15 October 2023

Research and scientific papers are measured, compared, and frequently ranked using journal metrics. They may also be referred to as journal rankings, journal relevance, or journal impact. Journal metrics allow academics and researchers to compare scholarly publications. The most prestigious ones are the *Journal Impact Factor* (JIF) based on *Web of Science* data, and *CiteScore* and *SCImago Journal Rank* (SJR) based on Scopus data. As we all know, the availability of these metrics for a journal is associated with its indexing in these bibliographic databases, such as the *Web of Science Core Collection* or *Scopus*, and is a proxy to determining the quality of the journal.

The number of open access journals is growing rapidly. According to a report by the University of Regensburg Library, there were more than 60,000 open access journals worldwide in 2018 (EBZ 2018). While open access has brought many benefits to academic publishing, it has also introduced us to many low-quality (Non-indexed) journals, as well as predatory journals and publishers. Thousands of journals therefore compete for manuscripts from researchers/authors. It is clear how difficult it is for new and low-quality journals to receive manuscripts in this competitive environment. Naturally, authors do not want to submit their research to journals that are not indexed or have no metrics. Recently, in some countries, publishing in predatory journals has even become a barrier to academic promotion (Koçak 2012).

Predatory journals and publishers using the open access model began to be recognized after 2010 (Beall 2012). In September 2021, Simon Linacre announced that *Cabells'* Predatory Reports database had reached a total of 15,000 journals (Linacre 2021). So, thousands of predatory or low-quality journals are not indexed in legitimate indexes such as *Web of Science* and *Scopus* and have no metrics. Predictably, it did not take long for fraudulent companies to step in to meet these needs of journals. How does it work? They share names very similar to official mainstream sites like *International Scientific Institute* or *CiteFactor* and can use the same acronym to match the real legitimate ones. The company charges the journals and assigns them a value as an impact factor, then the journals utilize that value to boost their article submissions and, consequently income. Hundreds of journals willingly or unwillingly fall into the trap of companies that provide misleading metrics and indexing.

In an evidence-based study from Shamseer *et al*, one of the salient features of potential predatory journals is that they claim to be indexed by *Google Scholar* and have *Index Copernicus Value* as a metric (Shamseer *et al.* 2017). Thus, this study has shown us that indexing services and journal citation impact metrics are important factors in distinguishing predatory journals from reputable ones.

What are these misleading metrics and indexes/databases? In 2013, Butler and Jalalian were the first researchers to draw attention to misleading metrics (Butler 2013, Jalalian & Mahboobi 2013). Currently, while the actual number is unknown, it is estimated that the number of misleading metrics could be over 50 (Xia & Smith 2018, Gutierrez *et al.* 2015, Anonymous, 2023). The most noteworthy research on this subject was conducted by Xia and Smith (Xia & Smith 2018). They call these misleading metrics A-JIF (Alternative Journal Impact Factor). First, they identified 57 A-JIFs from three different sources and included 36 of them in their study. They concluded that the criteria used to calculate the values of A-JIFs are misleading and the calculated values are unreliable and not reproducible. They also noted that most of them require prepayment and that the most confirmed country of origin is India. In another study, the authors analyzed the websites of 21 companies providing index services and impact factors (Gutierrez *et al.* 2015). They reported that these companies tend to use metric names very similar to the most well-known scholarly metrics and none of them provided a clear explanation of the method of impact factor calculation. In one study, the authors identified 34 different metrics in their review of 300 predatory journal websites. They report that these are often predatory journals or publishers that hide their address, and all use at least one misleading impact factor (Dadkhah *et al.* 2017).

Table 1. The list of misleading metrics*

Misleading Metric Name/Provider	Abbreviation	URL
AE Global Index	AEIF	http://aeglobalindex.com/
African Quality Centre for Journals	AQCJ	http://aqcj.org/index.html
American Standards for Journals and Research	ASJR	www.journal-metrics.com/index.php
CiteFactor	CiteFactor	www.citefactor.org/
Cosmos Impact Factor	Cosmos	http://cosmosimpactfactor.com/
Digital Identification Database System	DIDS	http://dids.info/welcome/
Digital Online Identifier-Database System	DOIJIF	http://doi-ds.org/doijif/
Directory of Indexing and Impact Factor	DIIF	www.diif.org/
Eurasian Scientific Journal Index	ESJI	http://esjindex.org/index.php
General Impact Factor	GIF1	http://generalimpactfactor.com/index.php
Global Impact Factor	GIF2	http://globalimpactfactor.com/
Global Institute for Scientific Information	GISI	www.jifactor.com/
Impact Factor Services for International Journals	IFSIJ	http://ifsij.com
IndexCopernicus	ICI	https://journals.indexcopernicus.com
Infobase Index	IBI	www.infobaseindex.com/
International Accreditation and Research Council	IARC	www.iarcif.org
International Impact Factor Services	IIFS	http://impactfactorservice.com/home/index
International Innovative Journal Impact Factor	IIJIF	https://iijif.com/indexing/
International Institute of Organized Research	I2OR	www.i2or.com
International Journal Impact Factor	IJIF	www.internationaljournalimpactfactor.com
International Scientific Indexing	ISI1	http://isindexing.com/isi/
International Scientific Institute	ISI2	www.scijournal.org
International Society for Research Activity	ISRA	www.israjif.org/index.html
Jour Informatics	JIR 1	www.jourinfo.com/
Journals Impact Factor	JIFactor	http://jifactor.org
Journal's International Compliance Index	JIC Index	https://jicindex.com
Open Academic Journals Index	OAJI	http://oaji.net
Prerna Society of Technical Education and Research	PRERNA	www.prernasociety.org/default.aspx?articlaID=20
Research Journal Impact Factor	RJIFactor	www.rjifactor.com
Root Indexing	RI	www.rootindexing.com/
Scholar Article Journal Index	SAJI	www.scholarimpact.org/
Science Impact Factor	SIF	http://scienceimpactfactor.com
Scientific Indexing Services	SIS	http://sindexs.org/
Scientific Journal Impact Factor	SJIFactor	http://sjifactor.com/
Systematic Impact Factor	SIFactor	http://sifactor.org
Universal Impact Factor	UIF	http://uifactor.blogspot.com

* Modified from the article by Xia and Smith (Xia & Smith 2018)

Table 2. Characteristics of misleading metrics/companies

- The number of misleading metrics is estimated to be over 50.
- The founders of misleading metrics tend to use metric names very similar to the legitimate scientific metrics.
- Many of the founders of misleading metrics are also publishers of predatory journals.
- The most widely used ones are *Citefactor* and *IndexCopernicus*.
- Many predatory journals and even some legitimate journals use these misleading metrics.
- They usually ask for upfront payment for their services.
- They usually hide their address and contact details.
- The criteria they use to calculate values are misleading and the calculated values are unreliable and not reproducible.
- They often use *Google Scholar* as its database for calculating metrics.

On the other hand, not only predatory journals but also some legitimate ones use these misleading metrics. In a very recent study, the authors analyzed the websites of business journals indexed in *Scopus* for the frequency of use of 42 misleading impact factors (Dadkhah *et al.* 2022). The authors found that 6 out of 355 business journals used misleading metrics on their websites. The most common misleading metrics used by the journals were *Citefactor* and *Index Copernicus*.

In the hope of raising awareness against such deceptive services, two tables are presented in this article. The first one (Table 1) shows the 36 misleading metric names and abbreviations used in the study of Xia & Smith (Xia & Smith 2018) and the second one (Table 2) lists characteristics of misleading metrics and companies. I think it is our most important task to train young researchers to curb the predatory companies' appetite for more work and more money.

Ethics Committee Approval: Since the article does not contain any studies with human or animal subject, its approval to the ethics committee was not required.

Data Sharing Statement: No data.

Conflict of Interest: The author have no conflicts of interest to declare.

Funding: The author declared that this study has received no financial support.

References

1. Anonymous. 2023. Misleading Metrics. https://beallslist.net/misleading-metrics/ (Date accessed: 21.09.2023).
2. Beall, J. 2012. Predatory publishers are corrupting open access. *Nature*, 489: 179. https://doi.org/10.1038/489179a
3. Butler, D. 2013. Sham journals scam authors. *Nature*, 495: 421-422. https://doi.org/10.1038/495421a
4. Dadkhah, M., Borchardt, G., Lagzian, M. & Bianciardi, G. 2017. Academic journals plagued by bogus impact factors. *Publishing Research Quarterly*, 33: 183-187. https://doi.org/10.1007/s12109-017-9509-4
5. Dadkhah, M., Rahimnia, F. & Memon, A.R. 2022. How Frequent is the Use of Misleading Metrics? A Case Study of Business Journals. *The Serials Librarian*, 83: 197-204. https://doi.org/10.1080/0361526X.2022.2145414
6. EZB. (2018). About the EZB. Retrieved from http://rzblx1.uniregensburg.de/ezeit/about.phtml?bibid=AAAAA&colors=7&lang=en (Date accessed: 21.09.2023).
7. Gutierrez, F.R.S., Beall, J. & Forero, D.A. 2015. Spurious alternative impact factors: The scale of the problem from an academic perspective. *BioEssays*, 37: 474-476. https://doi.org/10.1002/bies.201500011
8. Jalalian, M. & Mahboobi, H. 2013. New corruption detected: Bogus impact factors compiled by fake organizations. *Electronic Physician Journal*, 5: 685-686. https://doi.org/10.14661/2013.685-686
9. Koçak, Z. 2022. The Recent Decisions of the Turkish Council of Higher Education on Predatory Journals. *Balkan Medical Journal*, 39: 81-82. https://doi.org/10.4274/balkanmedj.galenos.2022.21022022
10. Linacre, S. 2021. Mountain to climb. https://blog.cabells.com/2021/09/01/mountain-to-climb/ (Date accessed: 21.09.2023).
11. Shamseer, L., Moher, D., Maduekwe, O., Turner, L., Barbour, V., Burch, R., Clark, J., Galipeau, J., Roberts, J. & Shea B.J. 2017. Potential predatory and legitimate biomedical journals: can you tell the difference? A cross-sectional comparison. *BMC Medicine* 15(1): 28. https://doi.org/10.1186/s12916-017-0785-9
12. Xia, J. & Smith, M.P. 2018. Alternative journal impact factors in open access publishing. Learned Publishing, 31: 403-411. https://doi.org/10.1002/leap.1200