Authors publishing repeatedly in predatory journals

An analysis of Scopus articles

Frandsen, Tove Faber

Published in:
Learned Publishing

DOI:
10.1002/leap.1489

Publication date:
2022

Document version:
Final published version

Document license:
CC BY

Citation for published version (APA):

Go to publication entry in University of Southern Denmark's Research Portal

Terms of use
This work is brought to you by the University of Southern Denmark. Unless otherwise specified it has been shared according to the terms for self-archiving. If no other license is stated, these terms apply:

- You may download this work for personal use only.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying this open access version.

If you believe that this document breaches copyright please contact us providing details and we will investigate your claim. Please direct all enquiries to puresupport@bib.sdu.dk
Authors publishing repeatedly in predatory journals: An analysis of Scopus articles

Tove Faber Frandsen

INTRODUCTION

Predatory journals are also known as dark, deceptive, illegitimate, untrustworthy, questionable or bad faith journals (Cukier et al., 2020). Using the fable by Aesop about the fox and the crow, Mudry and Ruben warn authors not to become the crow being outsmarted by the fox (Mudry & Ruben, 2019). The prolific literature regarding terminology and definitions (Mertkan, Onurkan Aliusta, & Suphi, 2021) is not ideal which is also why a definition of these predatory behaviours is called for (Aromataris & Stern, 2020; Callaghan & Nicholson, 2020). Grudniewicz et al. (2019, p. 211) present a consensus definition:

Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices.

A number of recent studies show that knowledge as well as awareness of predatory journals tends to be low across disciplines and academic positions (Ahlyarat et al., 2019; Atiso et al., 2019; Cohen et al., 2019; Kinde, 2021; Maurer et al., 2021; Richtig et al., 2019; Wang et al., 2021). On the other hand, other studies find that faculty are aware and recognize predatory journals as a problem (Owolabi et al., 2020; Swanberg et al., 2020). Studies of the prevalence and characteristics of authors publishing in predatory journals have shown that the authors tend to be inexperienced (Bagues et al., 2019; Xia et al., 2015), however experience alone does not explain the author profile as argued by Mertkan, Aliusta, and Suphi (2021). Authors of publications
in predatory journals are in some cases highly experienced (Gabrielson et al., 2021; Wallace & Perri, 2018). Recent studies have explored further characteristics of authors publishing in predatory journals from specific fields and countries. Examples include French orthopaedic surgeons (Dartus et al., 2020a, 2020b) and Australian board members of predatory journals (Downes, 2020), Nigerian Academics (Tella, 2020).

The reasons for engaging with a predatory publication outlet are numerous (Mills & Inouye, 2021). Recent studies show that contributing factors are monetary payoffs (Hedding, 2019) and the use of predatory publications or editorial board involvement by applicants applying for a faculty position or promotion (Bagues et al., 2019; McQuarrie et al., 2020; Pond et al., 2019). Some scholars even claim that fast tracking promotion by the use of predatory publication outlets is an increasing problem as scholars see the strategy working well for their colleagues (Onobowale et al., 2014). The term zombie professor has been used to characterize a professorship achieved without proper academic merit (Balehegn, 2017). A recent study of publications submitted for promotion applications in a large university in Ghana finds that more than 10% of these are published in journals listed in Cabell’s predatory reports or Cabell’s list of journals under review for Predatory Reports (Frandsen et al., 2022).

Papers published in predatory journals find their way into many academic databases (Demir, 2020). Even though some of the journals are discontinued in the databases, old publications remain visible and the presence in these databases lend them credibility (Cortegiani, Ippolito, et al., 2020; Cortegiani, Manca, et al., 2020). In several countries promotion is tied to publishing in Scopus-indexed journals (Bagues et al., 2019; Demir, 2018) and targeting a low-tier journal in Scopus may be seen as means to fast-track a career. An example of this behaviour is hundreds of Serbian researchers who published their papers in a predatory title listed in Journal Citation Reports (JCR) after their institution introduced publication in JCR-indexed journals as a promotion requirement (Djuric, 2015).

The aim of this study is to explore the publication patterns of authors that publish repeatedly in predatory journals. More specifically, the purpose is to examine authors that publish in predatory journals indexed in Scopus and explore to what extent these authors primarily target predatory publication outlets.

IDENTIFYING PREDATORY JOURNALS

Identifying the predatory publication outlets can be very difficult and existing frameworks struggle as they typically include problematic control criteria (Kraiochvil et al., 2020). A wide variety of degrees, types, and combinations of illegitimate behaviour (Siler, 2020) exists. Grey zones also exist as indicated in the study by Cobey et al. (2019) that finds that many respondents reported receiving peer review reports that they found to be substantive in nature even though it came from a journal that would be defined as predatory by some criteria. Furthermore, there may be overlaps between trustworthy and untrustworthy journals depending on the criteria used (Strinzel el al., 2019). Kraiochvil et al. (2020) argue that a transition from formal criteria to a complex view is necessary.

Many individuals, associations, and companies have curated journal watch lists or journal safelists although a list of this nature always will be incomplete and out-of-date at the time of publication (Koebber et al., 2020). The rapidly evolving nature of these journals implies that it is difficult to maintain these lists (Manca et al., 2019), and there is growing concern with the approach of maintaining watchlists and safelists (Koebber et al., 2020). Matumb et al. (2019) argue that both watchlists and safelists have their limitations and hope that automatic identification may be available in the future. Adnan et al. (2019) presents a methodology and analysis for the design of an automated detection system, however, such systems are yet to be designed and tested. Consequently, watch and safe lists have their limitations, however, they support scholarly authors to make ‘informed publishing decisions’ (Koebber et al., 2020, p. 7).

The list of indexed journals in Directory of Open Access Journals (DOAJ) is an example of a safe list. DOAJ (https://doaj.org/) has existed since 2003 and is an independent database of 16,000+ open access journals. The journals are assessed according to a set of criteria (Olijhoek et al., 2015) and is being used to identify non-predatory journals (Gallo et al., 2022; Maurer et al., 2021). Numerous examples of safe lists are available (Koebber et al., 2020, p. 3).

The first watchlist was compiled by Jeffrey Beall and contained a list of potential, possible or probable predatory scholarly open access journals and publishers. The list was controversial and is no longer being maintained, however it still forms the basis of analyses of predatory journals (e.g., Sureda-Negre et al., 2022). Cabell’s is presently the only list of predatory journals providing details of the predatory criteria and violations at journal level, although methodology and weighing process would benefit from improvements (Dony et al., 2020).

Finally, a watch or safe list can be constructed as the intersection of journals extracted from multiple lists (see Strinzel et al., 2019 for an example of overlap analyses). An example is the Open Access Journal positive list compiled by Berlin Institute of Health that includes journals listed by the Directory of Open Access Journals and Pubmed Central (Berlin Institute of Health, 2022).
METHODS

This study analyses authors of publications in predatory journals and the methods consist of the following steps:

1. Identification of predatory journals
2. Extraction of data
3. Analyses of publications and authors

Following the abovementioned methods, the first step is to identify a set of predatory journals. Due to the complexity of identifying predatory journals, we use the intersection of three different lists (two watch lists and one safe list). More specifically, we start with the 324 predatory journals in Scopus identified by Macháček & Srholec using Beall’s list (Macháček & Srholec, 2019, 2021). The article by Macháček and Srholec (2021) has been retracted after submission of this paper but the reasons for retraction do not involve the identification of the set of journals in Scopus and consequently, does not affect this study. The 324 journals in this list are then compared to Cabell’s list of predatory journals and only the overlapping journals are included for further analyses. Finally, any journals indexed in DOAJ are excluded from this analysis. This results in 41 journals to be used in the analysis.

Next step was to extract data on authors and publications. In this study, we identified the authors of articles that published in the 41 journals identified as predatory and indexed in Scopus. While the share of papers from predatory journals in Scopus is relatively low, the total count nevertheless amounts to thousands of papers (Marina & Sterligov, 2021). Information on all articles and reviews from the 41 journals was extracted, and publications were matched to authors using the Scopus Author Identifier. By assigning a unique number to each author this tool distinguishes between ambiguous author names. Therefore, the matches were based on the unique numbers not on the name of the author. Furthermore, Scopus was used to determine the publication records of all included authors in this study. More specifically, the Scopus Author Identifier was used to extract the number of published articles and reviews by each author. Consequently, every author of an article or review in one of the 41 predatory journals was looked up in Scopus using the Scopus Author Identifier to determine how many articles and reviews they published in total (including the articles and reviews published in 41 predatory journals).

The articles and reviews published in one of these 41 journals were analysed to determine the share of authors publishing repeatedly in these journals. Furthermore, we analysed whether the authors publishing in the predatory journals also published in other journals or if they primarily published in the predatory journals. The analyses of the data were performed in IBM SPSS Statistics, version 26.0.1.0.

RESULTS

From the 41 journals, a total of 243,396 authorships of articles and reviews published from 2004 to 2021 were identified. From these, we found a total of 169,742 unique authors. Delisted titles remain in Scopus and consequently, the majority of the publications were published before the increased delisting in 2017 (74%).

The largest subject area represented in these journals was ‘Engineering’ (53.7%), followed by ‘Mathematics’ (30.5%), ‘Materials Science’ (28.3%), ‘Computer Science’ (27.1%), ‘Social Sciences’ (24.7%) and ‘Energy’ (24.0%). In addition, 13 subject areas were represented (all with less than 20%). It should be noted that journals can be assigned to several subject areas and therefore subject areas sum to more than 100% (Wang & Waltman, 2016).

The first step of the analysis was to explore if authors publishing in the predatory journals publish in these several times. Table 1 provides an overview of the authors publishing in the predatory journals in this study. We can see that 55% of the authors publish only once, 34.5% publish 2–5 times in these journals, 6.3% publish them 6–10 times, and 4.2% publish more than 10 times. Consequently, most authors publish only once in these journals, however, as depicted in Table 1 the number of authors publishing repeatedly in predatory journals is still considerable.

Furthermore, we explored whether authors publishing in predatory journals publish primarily in these journals, plus occasionally in other journals or if they publish in many regular journals as well. Figure 1 provides an overview of the mean number of articles and reviews published by an author and their number of articles and reviews in predatory journals. The figure clearly shows that the mean number of articles and reviews is correlated with the number of articles and reviews in predatory journals.

<table>
<thead>
<tr>
<th>Number of publications in predatory journals</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>133,808</td>
<td>55.0</td>
<td>55.0</td>
</tr>
<tr>
<td>2</td>
<td>43,314</td>
<td>17.8</td>
<td>72.8</td>
</tr>
<tr>
<td>3</td>
<td>21,259</td>
<td>8.7</td>
<td>81.5</td>
</tr>
<tr>
<td>4</td>
<td>11,916</td>
<td>4.9</td>
<td>86.4</td>
</tr>
<tr>
<td>5</td>
<td>7,495</td>
<td>3.1</td>
<td>89.5</td>
</tr>
<tr>
<td>6</td>
<td>5,106</td>
<td>2.1</td>
<td>91.6</td>
</tr>
<tr>
<td>7</td>
<td>3,682</td>
<td>1.5</td>
<td>93.1</td>
</tr>
<tr>
<td>8</td>
<td>3,032</td>
<td>1.2</td>
<td>94.3</td>
</tr>
<tr>
<td>9</td>
<td>2,205</td>
<td>0.9</td>
<td>95.2</td>
</tr>
<tr>
<td>10</td>
<td>1,520</td>
<td>0.6</td>
<td>95.9</td>
</tr>
<tr>
<td>11</td>
<td>1,474</td>
<td>0.6</td>
<td>96.5</td>
</tr>
<tr>
<td>12</td>
<td>1,128</td>
<td>0.5</td>
<td>96.9</td>
</tr>
<tr>
<td>13</td>
<td>858</td>
<td>0.4</td>
<td>97.3</td>
</tr>
<tr>
<td>14</td>
<td>686</td>
<td>0.3</td>
<td>97.6</td>
</tr>
<tr>
<td>15+</td>
<td>5,913</td>
<td>2.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>243,396</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
FIGURE 1  The number of articles and reviews by an author in total and their total number of articles and reviews. The error bars represent the 95% confidence interval.

journals. A higher number of publications in predatory journals is correlated with a higher number of publications in total. The error bars for the estimate of average number of publications are higher in those who have published a great deal than for those with fewer publications, mostly caused by a smaller cohort with large publishing histories.

Figure 1 shows the average number of publications for authors publishing one or several times in predatory journals. We can also see that the mean number of articles and reviews are considerably higher than the number of predatory articles and reviews implying that authors publishing in predatory journals generally publish in other journals. However, the mean is very sensitive to outliers and therefore the median is provided in Table 2. In Table 2, we can see that the median number of total articles and reviews is considerably lower than the mean values. The median number of total articles and reviews is 6 whereas the mean number is 26.59. Using the median value, we still find that the authors of articles and reviews in predatory journals also publish using other publication outlets.

Finally, the correlation between the number of publications in predatory journals and the number of total articles and reviews remains regardless of using the median or mean. Using the median value, the predatory articles and reviews represent 15%–25% of the author's Scopus-indexed articles and reviews. Using mean values, they represent 4%–12% of the author's Scopus-indexed articles and reviews.

**TABLE 2** Number of publications in predatory journals, mean number of articles and reviews, standard deviation and median.

<table>
<thead>
<tr>
<th>Number of publications in predatory journals</th>
<th>Mean number of total articles and reviews</th>
<th>Median number of total articles and reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22.94</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>32.47</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>41.06</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>47.22</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>58.47</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>64.53</td>
<td>32</td>
</tr>
<tr>
<td>7</td>
<td>72.38</td>
<td>34</td>
</tr>
<tr>
<td>8</td>
<td>64.58</td>
<td>36</td>
</tr>
<tr>
<td>9</td>
<td>83.98</td>
<td>44</td>
</tr>
<tr>
<td>10</td>
<td>94.56</td>
<td>44</td>
</tr>
<tr>
<td>11</td>
<td>95.35</td>
<td>45</td>
</tr>
<tr>
<td>12</td>
<td>91.22</td>
<td>47</td>
</tr>
<tr>
<td>13</td>
<td>112.80</td>
<td>64</td>
</tr>
<tr>
<td>14</td>
<td>125.33</td>
<td>66</td>
</tr>
<tr>
<td>15+</td>
<td>132.86</td>
<td>95</td>
</tr>
<tr>
<td>Total</td>
<td>26.59</td>
<td>6</td>
</tr>
</tbody>
</table>

**DISCUSSION AND CONCLUSION**

The results of this study have implications for our understanding of authors publishing in these journals. Previous studies of the prevalence and characteristics of authors publishing in predatory journals have shown that the authors tend to be inexperienced although some authors are highly experienced. The results of this study confirms these findings and add to them by showing that author experience as measured by publications are correlated...
with the number of predatory publications. Authors of articles and reviews in predatory journals publish in more journals than just these. Articles and reviews in predatory journals represent up to 25% of the author’s Scopus-indexed articles and reviews. Further research is needed to analyse the non-predatory publications published by these authors and explore these publication outlets.

The findings in this study also have implications for the ongoing debate on the motives of authors of publications in predatory journals. The motives are important to understand as an important means of guiding the efforts against predatory publishing (Mertkan, Alusta, & Suphi, 2021). This study confirms that many highly experienced authors are involved in the publication of articles and reviews in predatory journals. The authors in this study publishing the most in predatory journals (15 or more articles and reviews) publish a mean of 132.86 articles and journals in total or a median of 95.00 articles and journals. This suggests that indeed very experienced researchers publish in these journals not just once by accident, but many times. Further research is needed to explore the motivation of these highly experienced researchers. One would think that alternative publication outlets were available to them, and predatory journals could be avoided.

It is a recurrent theme of interest and debate in the discussion of publishing through predatory outlets how these publications are affecting the scientific communities. Predatory journals have been accused of threatening the academic integrity as well as research publications (Angadi & Kaur, 2020; Hayden et al., 2021). Publications in predatory journals are characterized by lower study and reporting quality (Hayden et al., 2021). However, the extent of the problem is highly debated. Some countries and subject areas are more affected than others (Marina & Sterligov, 2021) and their visibility varies within fields due to different indexing policies in databases (Marina & Sterligov, 2021; Oermann et al., 2021). Actions should be taken to ensure that predatory journals are restrained. Callaghan and Nicholson (2020, p. 1446) conclude that “[t]he elimination of predatory publishing would be of benefit to all stakeholders who rely on social and natural science for valid and rigorous research that can improve their lives’. Furthermore, Callaghan and Nicholson (2020) argue that to restrain the predatory journals more work is needed within a number of different focus areas. The results of this study imply that also experienced researchers need to be aware of these journals. Consequently, merely informing the inexperienced researchers will not be sufficient.

Before we conclude on the basis of this study, a number of limitations need to be considered.

First of all, predatory journals can be defined using a number of different approaches which may have an impact on the results. This study includes a number of predatory journals identified as the overlapping journals of different watch lists. However, criteria and assessments differ across watch and safe lists and depending on the choice of list the set of journals characterized as predatory may differ. An author in the analyses of this study may choose to publish in the journal simply because the journal is not considered predatory by this researcher. Furthermore, a recent study finds heterogeneity in terms of the key bibliometric indicators among journals and publishers on a set defined as predatory (Moed et al., 2022).

Second, the analysis of authorship of predatory journals in this study is based on Scopus. However, even though Scopus covers many journals this limits the pool of documents considerably. Scopus does not index many local journals and Omobowale et al. (2014) argue that local journals are used to earn promotion in some countries. For some authors, publishing in well-regarded journals is not an option and they would rely on self-publishing or publishing through local journals. Consequently, this study can only make conclusions regarding the use of the predatory journals identified in Scopus, and not the publishing behaviour of these authors in general.

Finally, this study focuses on authors repeatedly publishing in predatory journals. However, it should be noted that authors generally tend to focus on a small number of journals when deciding on a publication outlet for their research and many authors publish regularly in the same journal (Hsieh, 2017; Ni et al., 2013; Nicolaïsen & Frandsen, 2021). Consequently, publishing in the same journal regularly is not necessarily an example of a strategy.

Summing up, this study of authors publishing a small sample of indexed predatory journals finds that the majority publishes just once in these sampled journals and very few publish in them many times. Furthermore, the results show that authors on average publish a lot more than just in these journals. Further research is needed to explore the authors publishing many times in predatory journals and explore their motivations.

REFERENCES


Journal of Scholarly Publishing, 50(2), 83–95. https://doi.org/10.3138/jsp.50.2.01


