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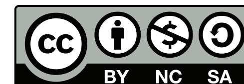

Black & White Response in a Gray Area:
Faculty and Predatory Publishing

*Nicole Webber and Stephanie Wiegand**

> *Another issue… is with classifying a journal as either white or black and nothing else as if a two-sided coin is on a two-dimensional flatland. Two-sided coins also have thickness, suggesting there are likely numerous shades of gray in between the coin's two sides… so there are many exceptions to the 'two sides of the coin' argument that limit the binary judgement of journals or publishers…* [1]

Introduction

It is tempting to say that predatory publishing marks a new era of exploitation and shortcutting in scholarship, but to do so ignores both the complexity of journal publication today as well as the long history of abuses in scholarly production. The issue is compounded by new technology and vulnerabilities in the Open Access publication model. Intention, impact, monetary gain, quality, status, and reputation are all factors that influence how we categorize a publication on a continuum of practices that range from reputable to predatory. Such determinations are often subjective or obscure. Ultimately as scholars "we just know" some practices are unethical, and we categorize journals based largely on the extremes at each end of the spectrum; however, there remains a vast array of activities in the middle of this spectrum that are difficult to assess. In terms of librarianship, this also complicates providing instruction to practicing scholars.

The proliferation of nefarious journal publishers within the last decade lends novelty to the present manifestation of scholarly dishonesty, but it is no simpler to define the phenomenon. In fact, while "predatory journals" and "predatory publishers" are now common, recognizable phrases in many disciplines, some scholars and librarians are hesitant to use the term "predatory" to describe unethical academic venues due to its imprecise nature and permanent consequences.[2] Still, the terminology persists for its brevity, recognition, and lack of a stable alternative (and thus we use these terms in this paper).

Our study focuses on faculty knowledge, experiences, and attitudes regarding fraudulent journal operations. Many definitions presented to researchers contain two primary aspects to describe these intentional perpetrators: 1) the chief motivation to profit monetarily, and 2) the misleading promise of and failure to deliver on indicators of quality, such as peer review.[3] While this definition is simple on its surface, when put into practice it often expands into discussions of poor or unethical practices by journal publishers. It is common to find lists of grievances clarifying acts that signal predatory or unethical practices, which are used to broadly classify journals as either predatory ("blacklists") or reputable ("whitelists").[4] Jeffrey Beall's lists of "potential, possible, or probably predatory" publishers and standalone journals have been the popular method of combatting predatory

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journals. Beall relied on 28 indicators of predatory practices and 26 indicators of poor practices.[5] Now, *Cabell's Blacklist Violations* include 64 considerations when determining the status of a journal.[6] These manifold criteria are indicative of the impossibility of binary journal evaluation, as many journals are neither black nor white, but somewhere in the gray between. The discussion of predatory journals thus expands from overt scams to include scam-like journals or those with lower provision of quality or service. Therefore, "predatory publishing" encompasses a far broader range of publishing practices than those that are completely fraudulent.

The difficulty scholars encounter delineating between reputable and predatory practices, along with their disparate publication practices, prompted the present study to explore what publishing faculty know about the phenomenon and their attitudes toward it. This exploration began with broadly investigating the publishing practices of faculty through interviews, which revealed a benchmark from which to begin conversations with faculty on our campus. With the results from this study, we will develop a survey instrument that more specifically examines faculty interactions with predatory journals.

Literature Review

Faculty Knowledge and Attitudes

Few studies focus on faculty knowledge and attitudes regarding predatory journals and none come from the library and information science literature. Many of these studies are small and impossible to generalize to larger populations. Christopher and Young surveyed graduate students, postdocs, residents, and faculty from veterinary and medical institutions on open access and predatory journals, with 145 participants completing the questionnaire.[7] The authors placed open-access journals in direct opposition to subscription-based journals, and few of the questions directly concerned predatory journals. Only 23% of respondents were aware of the term "predatory journal." Regardless of this awareness, 116 respondents provided definitions in response to what "predatory journal" means to them; only 15% of the definitions fit the researchers' criteria, and 65% listed practices they considered "poor but not predatory." Analysis of the respondent-provided definitions relied on Beall's criteria of predatory and poor practices, which ignore many of the nuances or "grayness" of predatory publishing.

A study by Noga-Styron, Olivero, and Britto of faculty attitudes and perceptions concerning predatory publishing in the field of criminal justice surveyed two different populations.[8] The first group was authors in the United States who published in criminal justice journals that were included on Beall's lists. Researchers sent surveys via email and received 10 responses. Authors were queried about their knowledge of the *Scholarly Open Access List* (Beall's lists), the term "predatory journal," and their awareness that they had published in a journal included on a list of "potential, possible, or probable predatory scholarly open-access publishers." Only one participant reported a lack of awareness that they had published in a journal associated with Beall's lists; four responded that they would publish in the same journal again even with this new knowledge.

The second participant group was 4,700 members of two well-known criminal justice professional organizations who were sent a short five-minute survey. With a response rate of 16% (758 responses), nearly half of respondents were "familiar with the terms 'Scholarly Open Access List' and/or 'Predatory Journal,'" and 56% of respondents reported receiving spam from poor-quality journals–including calls for papers, editors, and reviewers. Notably, 8% of respondents were willing to publish in a predatory journal in the future. The authors of this study concluded the majority of scholars are unaware of Beall's list of predatory publishers, and they call for increased institutional response.

Beshyah, Hajjaji, and Elbarsha recently studied the awareness, attitudes, and practices of physicians in the Middle East and Africa about predatory publishing through an online questionnaire.[9] With 76 individuals responding, they found that one-third of respondents had never heard of predatory publishing and less than 23%

knew of Jeffrey Beall or "The Beall List." Considerably more respondents were able to recognize individual characteristics suggestive of predatory journals (38-60% depending on the characteristic).

Additional studies that focus on broader aspects of publishing include some indicators of predatory publishing knowledge. A survey of faculty at the University of Dhaka showed that 50% of respondents did not know about predatory journals and that 50% were unaware of the "author-pay model"; the authors inferred that the same number were unaware of predatory open access journals.[10] Alrawadieh's study in tourism and hospitality reported that a "significant portion of the respondents (7) suggested that many honest authors may be deceived into publishing in predatory journals" due to lack of awareness.[11] Finally, a study by Watkinson et al. investigating the concepts of trust and authority in scholarly communications found that, due to the "digital transition," "there was [now] a greater emphasis on the need to make up one's own mind, to use one's own judgement about what could be trusted."[12]

Proliferation

A considerable portion of the existing research on predatory publishing has sought to determine the extent of the problem by either measuring the growth of predatory journals or identifying the characteristics of authors who publish in them. There is generally consensus that the number of predatory journals and articles has risen over the years.[13] Shen and Björk's widely-cited study reports that the number of active predatory journals rose from 1,800 in 2010 to 8,000 in 2014, and the articles produced increased from 53,000 to 420,000 in the same time.[14] Complicating results such as these is the fact that nearly all prevailing studies into predatory publishing rely in some way on Beall's lists to identify publications for analysis. Some researchers further refine these lists by cross-checking titles in the *Directory of Open Access Journals* (DOAJ), which itself was determined to include titles from Beall's lists at one time.[15] DOAJ tightened its inclusion criteria and removed a considerable number of titles[16] concurrent with the Shen and Björk study.[17] Although many authors of these types of studies acknowledge the limitations that this produces, it is unsurprising that they confirm one another's results and that the apparent proliferation of predatory journals grew as Beall expanded his lists. Still, Shen and Björk's figures describing proliferation at the article-output level do seem to indicate growth in the industry.

With the fear of predatory practices escalating came also the concern of predatory titles being included in library subscription packages, databases, and indexes. Studies found that this concern has some basis, but suspicious titles are only present in some of these sources at very low rates.[18] For example, Nelson and Huffman reported DOAJ to have a notably higher presence of predatory publishers at 2.25% (at a time when the index was in transition), followed by the ProQuest Central with 41 of 5,693 publishers flagged as predatory (0.72%).[19] Demir, who considered a list of 2,708 "potentially fake journals" (PFJs) in a more recent study of 14 popular indices, discovered a number of PFJs indexed in some of these resources, but did not contextualize the incidence of PFJs to the size of each index in the study.[20]

Authors in Predatory Journals

Studying the authors who produce content for predatory journals further describes proliferation by identifying groups in which predatory publishing is more common. Xia et al., Shen and Björk, and Demir all determined that the majority of authors are from developing countries.[21] Studies by Shen and Björk and Demir both found noteworthy contributions originating from the United States;[22] however, when correcting for relative size of economy and output, Shen and Björk determined that the overall number of United States outputs in predatory journals was negligible.[23]

Xia et al. found that lack of research experience was a significant indicator in determining who publishes in predatory journals. When compared to other author groups, they found that "the majority of authors who publish in predatory journals have no other publications, whereas the second largest group consists of authors with fewer than five journal publications elsewhere…"[24] A study considering 46,000 Italian academic authors also determined that less experienced authors are more likely to publish in predatory journals while being more prolific.[25] A study conducted within the field of tourism and hospitality found that all levels of author experience are represented in predatory publications, though early-career researchers may be responsible for more articles, and the United States ranked first when examining the authors' country of origin.[26] The results of this study suggest that there may be disciplinary differences between authors who publish in predatory journals. Broader studies, such as one by Nicholas et al., confirm that younger researchers make significantly different choices than their older counterparts when determining what they trust when it comes to reading, citing, and publishing scholarship.[27]

While geographic location and lack of experience correlate with, and perhaps provide demand for, predatory publication, there are scholars who suggest that some authors intentionally submit to predatory journals and benefit from doing so.[28] The true motivation of authors who publish in predatory journals is difficult to empirically study, but it does call for further research into what authors know about predatory publishing and their attitudes toward predatory practices and impact.

Commentaries, Editorials, and Viewpoints

Beyond library guides and workshops that assist faculty in recognizing and avoiding predatory journals, librarians are surprisingly quiet on the topic (with, of course, the exception of Beall). This may be due to librarians' general desire to promote the Open Access movement, of which Beall was critical.[29] The preponderance of predatory publishing literature is published outside of the library and information science discipline and often in the form of editorial, commentary, and viewpoint articles. As most faculty read within the literature of their disciplines, this is likely where they are exposed to the ideas of predatory and fraudulent publishing, even though it provides few concrete facts and often cites Beall as the authority.

Beall initiated the discussion of predatory journals,[30] but scholars within other disciplines quickly joined the conversation. This is problematic as opinion-based articles reflect what some individuals believe faculty attitudes and perceptions towards predatory journals *ought to be*, which are influenced by potentially biased and opaque journal appraisal systems. Such communications educate and warn authors of predatory journals within specific disciplines,[31] advise colleagues to practice increased vigilance in journal selection,[32] and provide witness accounts of predatory journal incidents.[33] This literature may serve only to alarm scholars about fraudulent journals without properly contextualizing them within a larger world of changing publications models, thus possibly deterring scholars from legitimate and reputable open access opportunities.

Proposed Solutions

Beall is rightly praised for calling attention to predatory practices; but as a one-man judge and jury, he caused controversy with opaque, inaccurate, and possibly biased decisions.[34] Now defunct, Beall's lists were superseded by *Cabell's Blacklist*, a subscription resource that offers more transparent inclusion decisions but has received mixed reviews.[35] There is persistent controversy surrounding the use of blacklists in journal selection. Alternatively, some scholars suggest whitelists, such as discipline- or commercially-produced lists of reputable journals, are an improved answer to predatory journals,[36] but others accuse whitelists of bias and elitism.[37]

Beyond blacklists and whitelists, the most common tools for avoiding predatory journals are educational resources, such as *Think. Check. Submit.*,[38] the *Journal Evaluation Tool*,[39] and Berger's concise review of predatory characteristics;[40] such tools offer researchers appraisal guidance instead of perfunctory lists. Scholars have suggested other solutions, including increased support for faculty engaged in publishing,[41] a Yelp- or TripAdvisor-like service for journals,[42] denial of "positions, promotions, and funding" to any scholar engaging in predatory publishing,[43] and complex mathematical algorithms for identifying fraudulent journals.[44] Still others advise merely vigilance, because "when opportunistic journals and conferences cease to be profitable, they will disappear."[45] Blacklists persist due to their simplicity in an environment burgeoning with publication options and busy scholars. To inform the most effective solution, it is necessary to determine the extent of the problem and whether scholarly authors need assistance in identifying and evaluating publication venues.

Methodology

This study was the first phase of an exploratory sequential mixed methodological design in the form of qualitative interviews. Results from this phase inform the creation of a survey instrument in the second, quantitative phase. Both phases study the same population, which is faculty at the University of Northern Colorado in positions that require scholarship. At the time the interviews were conducted, the institution was classified as an R2 doctoral university by the *Carnegie Classification of Institutions of Higher Education*.

The interview participants consisted of a convenience sample of faculty representing the five main colleges of the institution. The participants per college were apportioned in accordance to overall number of faculty per college. Furthermore, we included a range of professorial ranks (assistant, associate, and full) in order to represent a variety of experience levels. Nineteen interviews were included in our analysis; inclusion criteria forced the elimination of two additional interviews.

The authors collaborated with the university's Social Research Lab (SRL) to recruit participants and conduct interviews. This service, which makes use of undergraduate and graduate student workers, was employed as a third party to mitigate potential apprehension that faculty may have discussing their knowledge of publishing trends or sharing their personal publication behaviors with members of the library faculty. Beyond college and rank, all identifying information was removed for reporting purposes.

Semi-structured interviews explored the attitudes and knowledge of each faculty member regarding journal publication. Participants were queried about non-predatory aspects of their publication process (such as how they determine journal quality and where to submit scholarship) and predatory-specific aspects (such as the terms, tools, and actions surrounding predatory publishing). Prompts included: how the individual conceptualizes journal quality, how they make decisions in publication and peer evaluation, whether they discuss publication with colleagues, and to what degree they are aware of predatory practices in publishing. Most interviews began with faculty members discussing their area of research and their methods for selecting journals for publication. The level of detail and understanding offered in these initial questions shaped subsequent questions and prompts. In the effort to discover what each faculty member already knew about predatory publishing, interviewers avoided the term "predatory" until mentioned by the interviewee or until the last part of the interview.

Two student interviewers conducted each interview either in person (often in the participant's own office) or by phone. Interviews were designed to be completed in 30 minutes and averaged approximately 27 minutes. Participants were compensated for their involvement in the study with a 10-dollar campus gift card. The SRL recorded the audio for each interview, which was provided to the authors along with text transcriptions.

Thematic Analysis

Knowledge of Predatory Journals

Either by terminology or by characteristics of the phenomenon, the majority of faculty interviewees held a cursory knowledge of predatory practices, although not all were able to identify the terminology or provide a description. A small number of faculty with a high-level of understanding brought the issue into the conversation before the interviewer. When asked about low-quality journals, one of these faculty members responded,

> *It's gotten much more complicated over the last few years because with open access journals and predatory journals, it can be really hard to sort out what, you know, what is the quality of this journal…For example, I probably get, I don't know, at least four or five emails a week inviting me to submit a publication and when you dig a little deeper in those… it's, you know, a journal where you're going to pay two or three thousand dollars for the article to be printed…Nobody's heard of it. It's got a very vague sounding name that might sort of sound academic but might not. And it's not indexed in major databases, so who's going to find it?*

Similarly knowledgeable, another faculty member, who teaches a doctoral course that includes a section on the publishing process, stated,

> *We talk about the fact that a fee doesn't necessarily mean it's predatory, but a big fee does, often. And then lack of a peer review process, you know, anything that's just too rapid or 'hurry, hurry, we need to get this in by this deadline' and then you're kind of automatically published.*

Still, a number of faculty had very little to no knowledge of predatory practices. These faculty sometimes recognized red flags, such as scam emails or hidden fees, but were unaware of the greater issue. Only about one-third of interviewees demonstrated an adequately sophisticated understanding necessary to appropriately address the phenomenon of fraudulent publishers. As a qualitative and preliminary measure, this confirms that there is a need for greater faculty education regarding predatory practices.

However, this conclusion depends on whether faculty view predatory publishing as a threat that necessitates a concerted effort. After describing their knowledge regarding predatory journals (and being given a short definition if they were unsure), interviewees commented on the degree to which they believed predatory journals were a problem. Overall, faculty believed predatory journals could pose a threat should authors not be vigilant, but they did not express concerns for themselves or colleagues within their departments, or for the scholarly record. As this interviewee stated,

> *I think it could potentially be a problem, but I think if you…just take a look at the online journal and look at the quality of the articles… And reading a few pages can give you a clue.*

More concern was expressed for new and young faculty members who may not be well-versed in the scholarly publishing process and thus may be more vulnerable to fraudulent journals at a time when they most need to publish. A faculty member describe it as,

> *[Predatory journals] sort of falsely advertise their level of status. They falsely advertise their level of peer review. Um, they falsely advertise what publishing in their journal is going to do for you. All those kinds of things to sort of try to get, I guess, young, unsuspecting people to publish their thing.*

Few faculty were absolute in their belief that predatory journal practices are a problem within academia. Rather, they would initially state the phenomena was a problem but were unable to give concrete examples of how predatory journals negatively affected scholars or literature.

These conversations led into whether the faculty members themselves had any experiences with predatory publishing, or knew of someone who did. One interviewee who acknowledged publishing in a predatory journal communicated an important point about this type of journal: what is considered predatory today may not have been considered so in the past, nor may it be considered so in the future. In his words,

> *I think what we've seen is some journal publishers have turned a lot of their attention toward volume, maybe over quality. And I have had some publications in journals that would be considered predatory, but at the time I didn't, I didn't have that sense. So things can change I think [as] the market changes.*

Thus, those with such experiences were not especially concerned about predatory publishing and tended justify actions and judgements they made at the time. Whereas, another health sciences faculty member related a story of colleagues in the same field who accidentally published in a journal that was considered predatory at the time of publication. These authors explained the situation to their peers and warned them away from the journal. The interviewee believed the authors suffered no negative effects, but speculated,

> *When [the editors] said they were taking it, they didn't give [the authors] the opportunity to do edits…They tried to pull it back and they couldn't. The journal wouldn't allow them to recuse it or retract it…I mean we all understood that, and they made it very clear…what had happened. So, you know, I don't think it damaged their reputation, but I mean I think that kind of thing could definitely, especially if there are errors in the manuscript that you are unable to correct because they won't allow you to go back.*

Another faculty member, also in the health sciences, worked on a manuscript with a graduate student on a research project and let the student take the lead in the publication. The student submitted the article (unbeknownst to the faculty member), and it was accepted to what the faculty member considered a low-quality or predatory journal. For the faculty member the concern was not his reputation or the possibility of his career suffering from appearing in a poor-quality journal, but rather the wasted effort on research that would not have the reach and benefit for others. As he told it,

> *So we ended up publishing in a journal which is lower class (or lower perceived class) [and] isn't… as well read. And the data gets lost. And you're like, he just lost an opportunity because that was a really cool data that is new…that if we had just slowed down and said let's take six months, I'm pretty sure we could have gotten into a mid- to high-tier [discipline] journal. So it was wasted.*

Overall, of faculty who discussed knowledge of someone publishing in a predatory journal, not one indicated that the authors had experienced negative effects of doing so—to reputation, promotion, tenure, hiring, or other consequence. This part of the conversation was positioned on words such as "possible," "might," and "could" as to the repercussions for authors. Very few participants voiced concern over how predatory publishing might negatively affect the overall quality of research in a field. Any comments to that point were framed as how printing errors, for example, might negatively affect the author, rather than the literature in general. This may be

due to how questions were posed and how conversations tended more toward promotion and reputation.

Part of faculty's lack of knowledge of predatory journals appears to be related to a lack of understanding open access. From data collected in these interviews, it is reasonable to preliminarily conclude that most faculty have little comprehension of open access journals and their varieties (green, gold, platinum, diamond, and hybrid) as opposed to subscription-only journals. At the very basic level, some faculty are not aware that there are different financial models for scholarly journals. Others simply equate all journals requiring fees to vanity presses:

> *But if you're paying a fee to get your stuff published, don't publish there–get out.*
>
> *As long as you pay them, you basically paid for your article to be published, [and] then it doesn't count.*
>
> *I don't really know what a predatory journal is. I think I would rely on the expertise of my peer group here to kind of guide me and say, 'Oh no, stay away from that one–that's…pay to publish.'*

A few interviewees recognized that author fees did not necessarily indicate a predatory journal and that certain types of fees were common their disciplines. However, these concessions were not fully-informed; for example, one individual described hybrid journals from commercial publishers as being legitimate and fully open-access publishers as being predatory. Further, she stated she had not nor would she ever be willing to pay a fee to a commercial hybrid journal for an article to be open access, as she believes articles are already sufficiently accessible. While a couple faculty members did express higher knowledge of open access, this presents as another area deserving of more sophisticated education.

Education and Mentoring

Across the board, interviewees agreed that graduate students should be taught the publishing process and therefore be educated about predatory publishing. The one caveat to this agreement is in programs producing practitioners rather than scholars. As one professor described it,

> *[In our program] we've had maybe 5% go into, you know, additional graduate training.…I've only been here now, I guess, eight years. And, in that time, I know of two students that have gone into Ph.D. programs.*

Other departments in our institution experience numerous practitioners coming back to university for continuing education coursework, advanced certificates, and higher degrees. As these students focused on practice in the past, part of the curriculum and coursework is now targeted on the research process. One interviewee in such a department stated,

> *Most of the students in our program are practitioners, and so we spend the majority of time teaching them about just the research project, how to do a lit review, an IRB [application], [and] ethical research…I wish someone had done that for me, quite frankly.*

Many echoed this attitude and expressed that their own education and experiences motivated them to teach their students about publication. Both interviewees who experienced positive mentoring and those who experienced none concurred that preparing students at all levels about publication practices is beneficial. This notion

further relates to the concern that newer faculty are most vulnerable to predatory practices. One faculty member who did not receive mentoring in publishing practices put it this way:

> *Even, you know, a 20-minute conversation with your advisor that says, 'Don't pay to publish stuff, don't respond to emails' [would have been helpful]. 'Here are the top five journals, here are the ones that really suck, and, you know, here's a copy of the most recent letter that I wrote with my article to the [Journal Title]. Here's how you write an [letter] that says, "Will you accept my publication?"'…I had to learn all that just on the fly.*

Six interviewees described positive mentoring experiences along the following lines:

> *Thinking back to my doctorate program, I had a mentor who was really helpful. I mean, she really did walk me through, 'Here's what you need to look for and here's what you need to do.' I've tried to pass that on to my students.*

> *So I relied on my advisors in that situation and my professors in that setting [when figuring out how to publish] and I thought they did a really good job of kind of explaining to us the lay of the land at the time.*

These experiences were not universal to the education and training of faculty, and thus it cannot be assumed that faculty come into their first academic positions with complete publication skills. Further, for those who did learn some of these skills while completing their degrees, comments suggest this education most often did not include the possibility of fraudulent journals and scams that aim to exploit scholars.

Faculty Cultures and Environments

Once hired into a faculty position, the culture, environment, and collegiality of a faculty member's workplace may inform and influence an author's approach to publishing. In conversations with interviewees about their publishing process, the concepts of socialization, assimilation, and indoctrination arose. In academia, publishing is entwined with promotion, tenure, and reputation. Publishing in the "right" journals may see a professor rewarded, while publishing in the "wrong" journals may require faculty to find a new position. Thus, there is a question of how faculty learn the "right" practices and places to publish. Through these interviews, it emerged that in some academic areas faculty are "just supposed to know the process"—that there is an inaccessible knowledgebase of publishing practices. They described scenarios in which senior faculty assumed junior faculty already knew how to publish and junior faculty were too intimidated to ask, for fear of appearing ill-prepared. The lack of an open environment may leave junior faculty more vulnerable to predatory journals. Two interviewees explained it as,

> *The reason [junior faculty don't ask senior faculty for advice] is that the evaluation structure of an institution is that those [senior faculty] are the ones that make the decisions on whether [junior faculty] stay or not. So why would I go and ask a senior faculty member about something that I don't know? Because then they [think], 'You don't know that? Why would I keep you?'*

> *I think that might actually be true—that because of, sort of, the nature of the field and this weird 'don't ask, don't tell' thing we have about journals…And if you confess to a colleague that you don't know what the top two journals in [this discipline] are, then something bad might happen to you. It'll ruin your career. Yeah. I think that might actually be true, particularly for graduate students and young scholars.*

Other departments are more open to mentoring each other and discussing how to publish. As one faculty characterized it,

> *Our department is very inclusive. All of the senior-level professors who are full or associate, they're very supportive of us young ones trying to work up. They, they want to help us get tenure or they want to give advice…So it's really a good environment for promotion.*

Between these two extremes exist some departments where the subspecialty focus of individual faculty members may mean that such conversations, while perhaps welcome, are nearly impossible. One interviewee portrayed it this way:

> *We don't have a lot of conversations…It's a pretty small department and a pretty wide field so everyone kind of has their things that they're doing.…I, like, point-blank asked one of, you know, the people and their response was, 'Well, my interests are really in x and y and your interests are in a and b. So I can't advise you.'*

Thus, networking outside of one's immediate work environment is an active response some faculty take towards learning publishing practices and reputable journals in which to publish. A faculty member expressed it as,

> *I kind of have to rely on my network of other professors to find out what's a good journal and what's not a good journal.*

Building a structure that offers assistance and support in the publishing process may mean creating connections with a variety of individuals: faculty within one's own department, across campus, on other campuses, and in writing groups, and with publisher representatives, journal editors, and more. Networking was described in interviews as,

> *When you go to conferences, you talk to people. And then there are people who have published in some of these journals and you know who they are (many times), and so just ask them, 'What's a good journal to be published in?'*
>
> *What I've done is rely on my network, I mean I'm an assistant professor, so it's my second semester here. So what I'm doing is like, I rely now on other professors…We have a bunch of other professors from other universities that are in the same [online] space. We have a shared Google doc now of all the journals that are friendly to [our areas of research].*

For new faculty, many of the connections they make with other faculty are possibly with those who are at the same stage in their career. This may be problematic as, in one interviewee's words, it may be a case of *"the blind leading the blind."*

The interviews show a possible correlation between interviewees who hold more than a cursory knowledge of predatory journals and those that indicated they work in a culture that is open and publishing practices are discussed, questions are asked, and advice is given. Further there is a potential correlation between those with more than a cursory knowledge of predatory journals and those whose disciplines encourage or expect collaboration and coauthoring.

Selection Criteria

Consistent amongst all faculty in our study was the desire to publish work in journals that offered the appropriate "fit" for their research—usually in terms of topic and audience. This was often a more important factor in journal selection than those that indicate prestige. Some faculty described the selection process with "writing where you read" as a way of being familiar with the journal's quality, scope, and audience. Interviewees also often alluded to "go-to" journal titles in their field or discipline, and only a few mentioned the need to investigate unknown or start-up journals as part of their process, though this seemed to differ based on the discipline. Arts and humanities faculty felt they had relatively few journals from which to choose and that they were familiar with all journals in their areas. Faculty from the health sciences and STEM programs felt that new journal titles were common, and it was difficult to stay current with all available publication venues.

Beyond fit, many faculty spoke in terms of "tiers" of journals, and several expressed the practice of first aiming ambitiously for higher ranked journals before moving on to second and third choices if a manuscript was rejected. While these tiers were often acknowledged, faculty were split on whether journal rankings and Impact Factor (IF) were important considerations in selecting a journal for publication. While never the sole determining factor, some faculty reported relying on IF heavily, others considered it, and at least five strongly rejected journal ranking of any kind.

Even more consistent amongst participants was the significance of a journal's peer review status, which is similar to the findings of Watkinson et al.[46] Participants consistently expressed that the peer review process is essential to the journal publication process and would not consider submitting manuscripts to journals that were not peer reviewed. When discussing the importance of the review process, faculty mentioned that all manuscripts need some level of revisions and that the review process improved their research:

> *You need quality review, and you know, all of us, although our work is wonderful when we submit it, uh it needs, it needs revision, it needs attention, it needs another angle or several. So, um, my expectation is that nobody's work is, is appropriate right off the shelf. Let's put it that way. Um, it needs some review.*

However, several faculty acknowledged that review processes had to be balanced with time, as the most prestigious journals have longer and more rigorous processes that delay publication.

Despite this unanimity, faculty who had encountered problems with the peer review process were not rare. Multiple individuals admitted that the review process is subjective and that rigor varies even amongst the accepted titles in the field. One associate professor explained,

> *Knowing how the peer review process works, um, also makes me somewhat suspicious of the kinds of a journal rankings. You know, because I mean you know, you write an article and you send it out and it gets reviewed by two people, and how it gets reviewed totally depends on the two people that review it.…Friends of mine have sent an article out and it gets peer reviewed and one person absolutely thinks it's the most marvelous thing ever, and the other person thinks it's total crap. And if there is such a thing as, like, a general standard, how does that happen?*

Another interviewee experienced reviewer comments that were unprofessional and not constructive, and yet another had both first-hand experience and anecdotal confirmation of issues with the peer review process of a well-known journal in his field, stating,

> *It sounds like they're, they're just not really up on their, on their editorial standards right now. So, I will be avoiding them until I see some name changes in certain positions.*

Echoing this notion of variability were two faculty members who contributed stories that indicate the status or rigor of a journal can change over time. This raises the concern that even the most prestigious journals can experience significant quality fluctuations, and that blanket quality assertions about journals can be misguided within all tiers.

Furthermore, faculty views of peer review transformed slightly when they discussed it from a reader's perspective. Faculty stated that one could find very poor research in highly-ranked journals and that great research could be found in lower-tiered titles. At the same time, there were interviewees that relied on libraries' collections to determine quality to some extent, in that "*if you're getting it from a university's library, it's probably…good information*." Still, while some relied very heavily on a journal's claim of peer review, others judge each article for themselves rather than relying on the journal's process.

> *I pretty much do my own [evaluation of journals], which is why I don't really believe in…rankings… I've seen some crap in the [the top journal in the field] and I've seen some really good things in tiny, tiny little journals…I don't actually put very much stock and in evaluating a particular journal, I think it's about the publication that's in the journal…Knowing how the peer review process works also makes me somewhat suspicious of journal rankings.*

One interviewee who was particularly in tune with the double standards of peer review asserted, "*You should always be a critical consumer of an article*."

Tenure and Promotion

Peer review is not the only issue in which inconsistent standards surfaced. Our interviews indicated that many faculty struggle between producing adequate research for job security and producing quality research for the benefit of the discipline and society. This surfaced in several interviews as having a strategy for publication practices and/or career trajectory and in others as "playing the game."

For instance, many experienced faculty admitted that they made decisions differently depending on the stage of their career at the time. They suggested that newer faculty who are working toward promotion or tenure will prioritize faster publications, and thus open themselves to reduced standards in quality. An interviewee recalled a time when he was planning to apply for a new position and submitted a manuscript to a new start-up journal, stating,

> *So I did my due diligence and it was a little bit of a risk because I think I'm in their—if I'm not in their inaugural issue, I am in their second…and there was a chance then that it could get accepted in, like, four months…It was a chance to have something actually accepted by the time I sent my materials out.*

While this faculty member was aware of the risks he was taking at the time, there was accord amongst interviewees in the sentiment that, in the beginning of one's career, there is often more emphasis on the quantity of publications rather than the quality.

These sentiments related directly to tenure and promotion processes, and having a strategy in scholarship was a common thread for successful advancement. Faculty from all ranks expressed that non-tenured faculty consider how a publication might affect their career more than tenured faculty as the following suggests,

> *I think if I were earlier in my career, I would think about what I was doing differently, which is getting a publication…A publication in a startup journal is better than no publication at all when you're in your first couple years of working or when you're still in graduate school and those kinds of things.*

Notwithstanding, more faculty expressed that it would be better to allow one's publication count to be lower than to publish in predatory journals. This was punctuated with the notion that researchers want their work to be as accessible and impactful as possible because of how much time and energy goes into it. To publish in predatory journals is wasted effort.

Thus, although faculty expressed some level of concern over predatory publishing and whether researchers have predatory journals listed on their CVs, they were not inclined to penalize their peers for this in evaluations. Yearly evaluation practices do vary from one department to another on our campus, but faculty admitted that, although the criteria for evaluation require consideration of the publication venue, they do not weigh this factor as heavily as many others. More important to most faculty is that the evaluee has established an identifiable research agenda and has the appropriate number or types of publications. Peer review status was again discussed in these instances, but some faculty even indicated that, due to the small size of their departments, they often trusted their peers' publication venue choices because their specialties rendered them unfamiliar with the journals of their peers. Other departments seemed to have stricter expectations that evaluees be able to defend the journals in which they published, but this was never the reigning factor in evaluating peers' scholarship. In fact, we found that the pressure to publish (or the "publish or perish" syndrome) was not as intense at our institution, as verbalized by interviewees who had had experience at R1 institutions.

Conclusion

The interviews described in this paper were an exploratory portion of a larger study. Our conclusions from this qualitative phase provided preliminary data to inform the creation of a survey instrument that will gather quantitative insights into the knowledge, habits, and attitudes of faculty publication practices with emphasis on predatory journals.

A significant objective in our study was to explore how librarians might best support faculty and educate them about the phenomenon of predatory journals by gaining a greater understanding of their publication habits and knowledge. Absent from most interviews was the mention of librarians as a resource to help navigate journal selection and the publication process. Only two interviewees, who had high awareness of predatory publishing already, affirmed that a librarian could assist them if they had questions about the quality of a journal. For the most part, faculty do not associate the library with publication assistance, but they do desire more support in identifying fraudulent and low-quality journals.

Faculty with low awareness of predatory publishing suggested the benefit of blacklist-type tools without the knowledge that these or other tools exist. Such resources might provide intuitive and facile solutions for busy faculty; however, care must be taken to properly inform faculty of the limitations of these tools, the other resources available to navigate the changing journal landscape, and the nuances of predatory and low-quality journal venues. In order to achieve this, the results of our study indicated there are several factors to be studied more closely, including how a researcher's discipline, rank, and institution affect their knowledge and attitudes toward fraudulent publication operations. As in many areas of liaison librarianship, the appropriate approach to predatory publication awareness will likely differ based on these aspects.

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