Applying Librarian-Created Evaluation Tools to Determine Quality and Credibility of Open Access Library Science Journals

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abstract: This article explores the application of journal quality and credibility evaluation tools to library science publications. The researchers investigate quality and credibility attributes of forty-eight peer-reviewed library science journals with open access components using two evaluative tools developed and published by librarians. The results identify common positive and negative attributes of library science journals, compare the results of the two evaluation tools, and discuss their ease of use and limitations. Overall, the results show that while library science journals do not fall prey to the same concerning characteristics that librarians use to caution other researchers, there are several areas in which publishers can improve the quality and credibility of their journals.

Introduction

The landscape of open access publishing is constantly evolving and changing. Open access publishing (as it applies to academic works) exists as an alternate business model to traditional publishing, wherein publishing costs are paid by authors, societies, libraries, or other stakeholders to remove paywall barriers for readers.[1] The growth of open access journals has exploded over the last two decades. For context, the *Directory of Open Access Journals* lists over 19,000 open access journals indexed on its website in early 2023.[2] This trend will continue as the UK Research and Innovation policy of open access came into effect last year and US President Biden's administration issued a mandate for all federally funded research to be made freely available after publication

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by 2025.[3] Unfortunately, this same framework has allowed the proliferation of journals and other publication venues that may not always have high-quality editorial processes. It can be especially difficult for early-career researchers to determine the overall quality and credibility of unfamiliar publishers and journals. Key stakeholders, including publishers and librarians, have sought to develop tools and frameworks to evaluate open access journals, resulting in increased awareness of common indicators of quality and credibility. Many of these indicators also serve to help identify unscrupulous "predatory publishers," which are well documented in the contemporary era of open access and digital scholarship.[4] Only in recent years have libraries become self-reflective as to their own roles in the history of predatory journal publishing and the creation of binary evaluation practices, both as educators and as academics facing significant pressures to publish within academia.[5]

Librarians should do more than create criteria to determine the credibility of open access publication venues in other disciplines. They should also apply those same criteria to journals within their field to give both credibility to the frameworks created and lend authority to the quality of scholarship from librarian authors. This study approaches this duality by utilizing librarian-created open access journal evaluation tools to examine library science publications for quality and credibility. Rather than differentiate predatory journals from high-quality outlets at the title level, the priority of this study is to explore the application of librarian-created quality and credibility evaluation tools to library science publications. The aims of this study are twofold:

1) identify what positive and negative quality and credibility attributes open access library science journals exhibit; and
2) test the ease of applying librarian-developed evaluation tools to open access library science journals.

The results of this study identify common positive and negative quality and credibility attributes of journals in the field with the outcome of highlighting key areas of growth for both librarians and publishers to improve library science publications. In order to keep the focus on the attributes and tools themselves, we will report results in the aggregate and will not discuss the results from specific journal titles.

Literature Review

Publication Selection Attributes

The literature discusses diverse attributes that affect where library science authors decide to publish. While librarians are vocal advocates of open access publishing, Michelle Dalton found that "traditional factors such as topical fit and perceived quality still outweigh open access in authors' journal selection criteria."[6] The top attributes are often indicators of journal quality and credibility, such as readership/audience, fit with research topic and

method, reputation / performance, quality / prestige, peer reviewed / refereed, external recognition, ranking, and visibility.[7] Jongwook Lee, Kiduk Yang, and Dong-Geun Oh argue that peer review is the most important attribute, followed by readership, prestige, infrastructure, and performance.[8] They further encourage journals to increase submissions by adopting open access models that will leverage the importance of readership.

The literature further shows that a librarian's position type and library type can affect which journals are chosen for publication.[9] Janet Clapton found that academic librarians tend to publish more in peer-reviewed journals.[10] Those with faculty status publish more in influential journals than authors from other groups, such as academic librarians with no faculty status, LIS professors, public librarians, professionals outside academic libraries or LIS programs, students, retirees, and so on. Between practitioner librarians and academic researchers, Dalton found that there is no significant difference in preferences for open access publishing.[11]

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Regardless of position type, most of these studies saw that peer review, quality, readership, topical fit, and journal performance are consistently top attributes that influence where to publish in LIS journals. It is because of this need to assess the quality and credibility of journals that library science literature is abundant with discussions of rankings and evaluation tools. Librarians are at the forefront of providing guidance on quality and credibility so that both librarian scholars and the authors librarians advise can determine whether a journal has the desired attributes.

Quality and Credibility Assessments

Determining which library science journals are influential, credible, or high quality has motivated librarians to rank their own journals for decades. Literature going back to the early 1960s contains reviews and rankings of library periodicals to aid in creating a collection that informs decision-making practices within libraries.[12] Around the same time, librarians were concerned with having documentation of this documentation and sought to create journal lists as a way of further organizing information about information.[13] In the 1970s, the documentation pursuit expanded to demonstrate patterns of information flow.[14] A decade later, the use of a ranked journal list provided guidance to librarians publishing for tenure and / or promotion.[15] The literature then grew to evaluate, critique, and question the accuracy of journal lists, though there are still studies being conducted that provide ranked lists of journals.[16]

Ranking methods themselves have generally been divided into two major categories—surveys / questionnaires of librarians who rank the journals and bibliometric factor rankings. A number of studies have sought to compare the two methods with similar

results. Bibliometric methods have shown some overlap with core listings created from questionnaires.[17] While the overlap exists, more research is needed to fully determine the influence of bibliometric factors on questionnaire responses.[18] Rankings by librarians can provide unique perspectives on smaller journals that may contradict impact factors and other bibliometric rankings.[19] If comparison studies have demonstrated anything, however, it is that all journal ranking methods are subject to bias.[20] It is therefore beneficial to take both methods into account when determining the quality or rank of a journal to obtain a more balanced perspective and sense of importance.

With the growth of open access came another motivation to create lists, this time of poor-quality journals. Academic librarian Jeffrey Beall coined the term "predatory publishing" (which refers to open access journals that publish under unscrupulous practices, often related to low standards in peer review, editorial boards, and other business practices) and published his definitive list of such entities from 2010 until 2017.[21] The abrupt discontinuance of Beall's List in 2017 left a vacuum that several other tools rose to fill. Some, like Cabell's List, were more prescriptive and attempted to list good and bad journals or publishers.[22] These lists struggled to keep up with the growing number of predatory journals and publishers, often leading to confusing duplication of results and contradictory evidence of journals appearing on separate lists of credible journals and lists of predatory journals.[23] Of particular note are ethical concerns associated with these lists, including the potential for selection bias of the organizing body and the perpetuation of racist language through the vocabulary of blacklists and whitelists to differentiate between unsavory and credible journals.[24]

In response to these concerns, libraries shifted away from binary evaluation lists and began to utilize their information literacy and critical evaluation expertise in the development of evaluative tools, rubrics, and question-based prompts. These next-generation tools guided researchers to perform their own evaluations of potentially predatory publication avenues.[25] The increase in popularity of descriptive frameworks shifted to teaching readers what to look for in a good- or bad-quality journal, such as Think, Check, Submit and its counterpart Think, Check, Attend for academic conferences.[26] Librarian-developed tools, such as the Be iNFORMEd Checklist, the Open Access Journal Quality Indicators list, and the Journal Evaluation Rubric, have led the way in providing evaluative frameworks for assessing open access journals.[27] While predatory publishing remains a relatively minor phenomena in publishing, librarians have been at the forefront of efforts to curb the problem and educate academic audiences throughout the open access movement.[28] Librarians, publishers, and other academic organizations developed tools to define, identify, and otherwise evaluate questionable journals in response to researcher concerns about the impact of these practices on scholarly publishing.[29]

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Given the dual role of academic librarians as researchers who seek to publish in academic journals and instructors who teach other researchers about scholarly communication, it is advantageous to adopt librarian-developed tools and apply them to library science journals. This approach can not only inform librarian-researchers in their own selection of publication venues, but can also reveal strengths or weaknesses of these tools for librarian-instructors.

Methods

This quantitative study applied two existing librarian-created evaluation tools to forty-eight library science journals to determine their quality and credibility.

Sampling Method

An initial sample of open access library science journals was created based on three lists from previously identified key articles.[30] This compiled list was supplemented by searching Ulrich's Global Serials Directory using additional criteria. This combined method of generating a sample journal list was developed in order to mitigate bias in the journal selection process. The criteria for inclusion on the final list specified that:

1. The serial must be a journal
2. The status must be active
3. The content must be peer-reviewed
4. The language must be English
5. The publisher must be based in the US, UK, or Canada
6. The format must have an online distribution option
7. The journal must be indexed or abstracted
8. The journal must have an open access component (any part of the journal is open access, not limited to fully open access titles)
9. The focus must be library science and not information science
10. It must not be a state/province journal

Publications from the US, Canada, and UK were included because they are the top three countries publishing in the field. Journals from these countries are most often in English. This is a limitation of the sample scope but was further required for the English-speaking authors to assess the publications. The scope focused on library science journals because their content pertains more to librarianship than information science journals. Journals with any open access component, such as entirely open access journals and hybrid journals, were included as these may have different business models and economic incentives. The rationale behind this choice is that, no matter the economic incentives, journal quality must be consistently and equitably evaluated in order to promote high publishing standards across the discipline; additionally, researchers outside of LIS may not be aware of the difference in types of open access journals before evaluating them. The expectation of the quality of all

The expectation of the quality of all final published articles remains the same, whether published in a fully open access or hybrid open access journal.

final published articles remains the same, whether published in a fully open access or hybrid open access journal. In total, there were forty-eight peer-reviewed library science journals with open access components that met all additional criteria (see Appendix A).

Rubrics

After comparing existing journal evaluation tools, two were selected for this study based on their relevance and usability. They are relevant because they align with the current practice of using descriptive frameworks that empower authors to critically evaluate a journal's quality and credibility, rather than provide a binary decision of good or bad. These tools are usable in that they provide guidance on application and a set list of criteria and measurements for determining quality or credibility.

The first tool was the *Open Access Journal Quality Indicators*, a list of thirteen positive and nine negative indicators of journal quality created by Sarah Beaubien and Max Eckard.[31] These indicators are applied by examining the journal and publisher websites, such as whether articles had DOIs or there were clear rights for use and re-use of articles. For clarity, any mention of "indicators" from here forward refers specifically to the measurements from Beaubien and Eckard (see Table 1). All indicators were put into a Google Form that only the research team had access to with options to select yes, no, or unknown. There was an additional field for comments at the end. Each member of the research team, consisting of all six co-authors, who are professional librarians holding MLS degrees that equipped them with source evaluation expertise, was assigned a portion of the list of journals to evaluate using these indicators. These were assigned so that each journal was evaluated by three people to check for consistency, and no two evaluators had the same list of journals to evaluate.

The second evaluation tool selected was the *Journal Evaluation Rubric* created by Nataly Blas, Shilpa Rele, and Marie R. Kennedy.[32] For clarity, the title of this instrument may be shortened to rubric and "criteria" refers specifically to the rubric's measurements (see Table 1). This tool contains a rubric and a scoring sheet with sections for the journal and the publisher. Each of the sixteen criteria is graded Good (three points), Fair (two points), or Poor (one point) based on specific criteria descriptions. For example, in the Journal Name criteria, journals received three points for a name that could not be confused with another journal, two points for a name that was similar but able to be distinguished from another journal, and one point for having the same name as another journal. Each criteria required a score and no option was provided to mark a criteria as unknown. Adding up the points that range from one to three for each of the sixteen criteria resulted in a numeric score from sixteen to forty-eight for a given journal. A final score of sixteen to twenty-six corresponds to an overall rating of Poor, twenty-seven to thirty-seven is Fair, and thirty-eight to forty-eight is Good. As with the *Open Access Journal Quality Indicators*, the research team turned this rubric into a Google Form to aid in evaluating the forty-eight journals, with the specifics for each criteria left off for simplicity. As before, each journal was evaluated by three people and no two people had the same list of journals to evaluate.

Table 1.
Study terminology

Terminology	Use in this study
Evaluation Tools	Collective term for both instruments used in this study
Attributes	General term referring to any specific criterion that could be used to evaluate journal quality, regardless of evaluation instrument used
Indicators	Shortened term for Beaubian and Eckerd's *Open Access Journal Quality Indicators*
"Indicators of quality"	The individual criteria used in Beaubian and Eckerd's *Open Access Journal Quality Indicators*
Rubric	Shortened term for Blas, Rele, and Kennedy's *Journal Evaluation Rubric*
"Criteria for credibility"	The individual criteria used in Blas, Rele, and Kennedy's *Journal Evaluation Rubric*

Results

Beaubien and Eckard's *Open Access Journal Quality Indicators* checklist contains thirteen possible positive indicators and nine possible negative indicators to be present or not for each journal. The journals in this sample had a mean of 10.7 positive indicators present with a standard deviation of 1.13. There was a mean of 0.50 negative indicators present with a standard deviation of 0.79 among the journals. The distribution of positive indicators can be seen in Figure 1, and the distribution of negative indicators can be seen in Figure 2.

There was some inconsistency in scoring across the three raters. Out of the total 1,056 indicators rated, there was unanimous agreement on the rating for 863 indicators (81.7%). Two of three raters were found in agreement on 187 indicators (17.7%), and all three raters disagreed on six indicators (0.6%). To resolve these disagreements, the majority rating was chosen for those with two of the three raters in agreement and the six indicators with complete disagreement were further reviewed and an unanimously agreed-upon rating was chosen.

The presence of individual positive indicators in the journals ranged from 100% to 39.6%, as can be seen in Table 2. Journals tended to do well (95% presence or above) with having articles within the scope of the journal, having an ISSN, clearly indicating rights of use / reuse, having a primary audience of researchers / practitioners, and being included in subject databases / indexes. Some of the lower ratings (less than 60% presence) were seen with a journal's registration with *Ulrichsweb,* being affiliated with an established scholarly society or academic institution, being a member of the Open Access Scholarly Publishers Association, and being listed in the Directory of Open Access Journals.
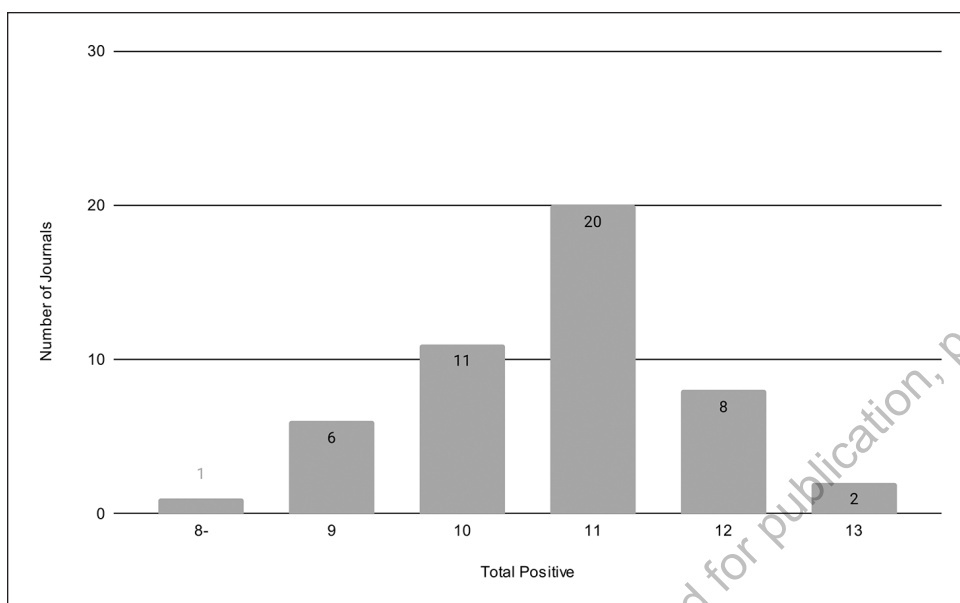
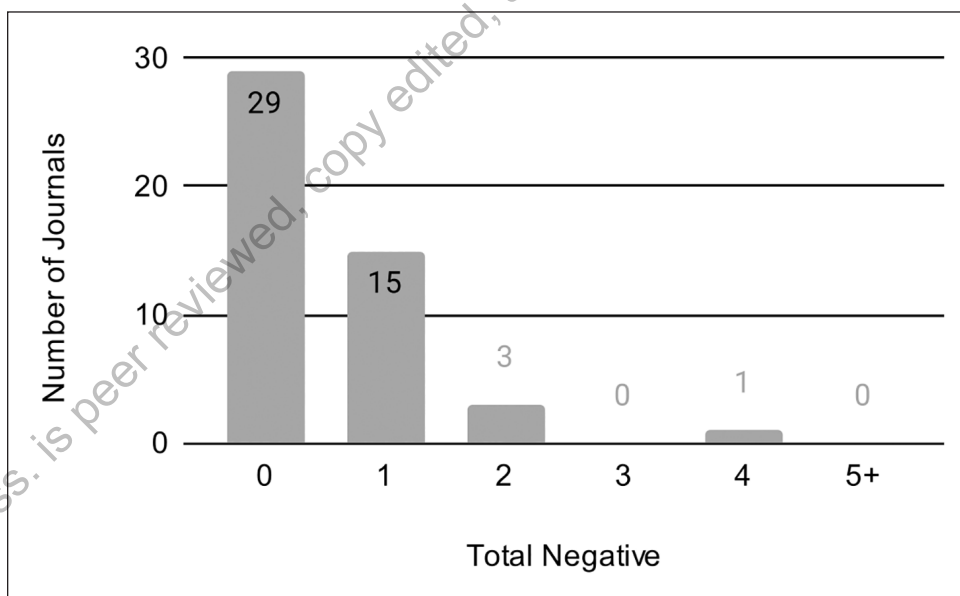Figure 1. Distribution of positive indicators on sample journals.

Figure 2. Distribution of negative indicators on sample journals.

Table 2.

Positive *Open Access Journal Quality Indicators* in library science journals

	Present (%)	Not Present (%)
Articles are within the scope of the journal and meet the standards of the discipline	48 (100)	0 (0)
Journal has an ISSN	48 (100)	0 (0)
Journal clearly indicates right for use and re-use of content at article level	47 (97.9)	1 (2.1)
Journal's primary audience is researchers/practitioners	47 (97.9)	1 (2.1)
Journal is included in subject databases and/or indexes	46 (95.8)	2 (4.2)
Editor, editorial board are recognized experts in the field	45 (93.7)	3 (6.3)
Scope of the journal is well defined and clearly stated	42 (87.5)	6 (12.5)
Articles have DOIs	41 (85.4)	7 (14.6)
Any fees or charges for publishing in the journal are easily found on the journal website and clearly explained	36 (75.0)	12 (25.0)
Journal is registered in Ulrichsweb	28 (58.3)	20 (41.7)
Journal is affiliated with or sponsored by an established scholarly society or academic institution	26 (54.2)	22 (45.8)
Publisher is a member of Open Access Scholarly Publishers Association	20 (41.7)	28 (58.3)
Journal is listed in Directory of Open Access Journal	19 (39.6)	29 (60.4)

The presence of individual negative indicators in the journals ranged from 0% to 22.9%, as can be seen in Table 3. All negative indicators had less than a 50% presence in the library science journals sampled in this study, suggesting that journals are doing generally well in these areas. The area that could use the most improvement (present in 22.9% of journals) was the information about the publisher being absent on the journal website. Journals did best (0% presence) with unobtrusive marketing and a lack of repeat lead authors within an individual issue.

Table 3.

Negative *Open Access Journal Quality Indicators* in library science journals

	Present (%)	Not Present (%)
Publisher "About" information is absent on the journal website	11 (22.9)	37 (77.1)
Journal scope statement is absent or extremely vague	4 (8.3)	44 (91.7)
No information is provided about the publisher, or the information provided does not clearly indicate a relationship to a mission to disseminate research content	4 (8.3)	44 (91.7)
Journal website is difficult to locate or identify	2 (4.2)	46 (95.8)
Publisher has a negative reputation	2 (4.2)	46 (95.8)
"Instructions to authors" information is not available	1 (2.1)	47 (97.9)
Information on peer review and copyright is absent or unclear on the journal website	1 (2.1)	47 (97.9)
Publisher direct marketing (i.e., spamming) or other advertising is obtrusive	0 (0.0)	48 (100)
Repeat lead authors in the same issue	0 (0.0)	48 (100)

Applying the Open Access Journal Quality Indicators

After all evaluators had completed the ratings for their assigned journals, the *Open Access Journal Quality Indicators* comments field revealed some unexpected difficulties implementing this list of positive and negative indicators. While most indicators were easy to determine in a yes/no manner based on the journal or publisher website, others were more difficult to interpret unless the researcher was fairly experienced and well embedded in this field of scholarly research. Examples of this problematic scenario include categories for "editor/editorial board are recognized experts in the field," and "publisher has a negative reputation (e.g., documented examples in the Chronicle of Higher Ed, list-servs, etc.)." This led to some evaluators answering "Unknown" for these indicators, and the authors agreed this might be especially difficult to determine if used by early-career researchers. Another difficulty in using these indicators was a difference in interpretation between evaluators of the negative indicator of "publisher direct marketing (i.e., spamming) or other advertising is obtrusive." Some reviewers considered this to be unknowable, since one could not ascertain publishers' marketing practices based solely on their websites, although some platforms included obtrusive

features like large banner ads and popups, which would be a negative indicator for several prominent academic publishers. One may not consider a yes or no response to be informative for the category "editor/editorial board are recognized experts in the field" when half of the board are experts and the other half are not.

Because the *Open Access Journal Quality Indicators* consisted of yes or no responses, assigning three evaluators to each category meant that the final response was based on the majority response. While it is beneficial to provide a definitive answer in this way since it leaves little room for uncertainty, it does mask the variations in responses amongst the evaluators. For example, if two evaluators felt that the scope of a journal was well-defined, but one evaluator provided an emphatic negative response, the final evaluation would still show a simple yes rating with no evidence of disagreement. For that reason, the structure of this rubric did not provide opportunity to elucidate upon any of the responses in an informative manner.

As evidence of this point, there were a total of 1,056 ratings included for the *Open Access Journal Quality Indicators*, and on 187 occasions there was at least one point of disagreement between the reviewers, and all three raters disagreed six times. This high-lights a limitation of implementing this list of indicators: Although it may seem simple enough to use a binary checklist, many indicators (both positive and negative) can be interpreted in multiple ways.

Perhaps the most complicated factor surrounding the *Open Access Journal Quality Indicators* is that for thirteen categories, a yes response is positive, whereas for the remaining nine categories a no response is considered favorable. As an example, one question asked if the journal has an ISSN, so a positive response would clearly be favorable to the publisher, but another category asked if the journal scope statement is absent or extremely vague, so a no response is the favorable entry for the publisher. The divide created by some categories using a positive indicator favorably and others using a negative indicator favorably can cause confusion and an inability to average responses across the entire tool.

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The final observation to note regarding the *Open Access Journal Quality Indicators* is that there is no method for weighting any of the responses. A yes for one indicator car-ries equal emphasis to the same rating for a different indicator. While that may not be problematic for some indicators, negative responses for other indicators could tarnish the journal to a larger extent. For example, it may not be considered imperative that a journal be sponsored by a scholarly society or an academic institution, but if there are several articles in each issue with the same lead author, that would be a major red flag that may not be sufficiently emphasized by the associated rating for the respective indicator.

Overall, the *Open Access Journal Quality Indicators* tool is easy to understand and implement, and a single evaluator can apply it to library science journals as needed. Because a yes or no response must be applied even though a more nuanced response is

sometimes better, one could consider that to be a deficiency or a moderate drawback. Ultimately, this tool can be used to identify broad or glaring issues with a journal, but other tools could be more effective or informative. This is why the researchers applied and evaluated a second tool.

Blas, Rele, and Kennedy's Journal Evaluation Rubric

The *Journal Evaluation Rubric* allows for journals to receive scores ranging from sixteen to forty-eight. Scores within the sampled journals ranged from thirty-four to forty-eight. The mean score of the journals evaluated in this study was 42.8 with a standard deviation of 2.7. The rubric provided definitions for rating final scores as Poor (sixteen to twenty-six), Fair (twenty-seven to thirty-seven) and Good (thirty-eight to forty-eight). Based upon these definitions, zero journals fell into the Poor category, three fell into the Fair category, and forty-five fell into the Good category. The groupings of journal scores on the rubric can be seen in Figure 3.

Although the rubric provided descriptions of scoring criteria, there was still some inconsistency in scoring across the three raters. Out of the total 768 criteria rated, there was unanimous agreement on the rating for 540 criteria (70.3%). Two of three raters were found in agreement on 205 criteria (26.7%), and all three raters disagreed on twenty-three criteria (3%). Again, the raters resolved these disagreements by choosing the majority score for those with two of the three raters in agreement, and the twenty-three criteria with complete disagreement were further reviewed and a unanimously agreed upon score was chosen.

Individual criteria on the rubric were ranked one (Poor), two (Fair), or three (Good). The mean ranking of an individual criteria was 2.67, with a standard deviation of 0.34. Mean scores of the individual criteria on the rubric can be seen in Table 4. Rankings were generally Poor (below two) for the rubric criteria of conflicts of interest and revenue sources. The rubric looked to see if journals had a conflict of interest policy and outlined how violations would be handled. For most journals, this information was missing or very minimal, such as saying conflicts of interest must be disclosed without providing language about follow-ups or violations. The rubric checked if journals clearly disclosed their business model, including any revenue sources like author fees, institutional/organizational support, etc. For most journals, this information was absent, though some indicated support by institutions.

Four rubric criteria approached a mean rating of Good with scores of 2.90 or above: web search for the journal, journal archive, number of articles published, and web search for the publisher. Generally speaking, these criteria relate to the ability to find the journal and its articles on the Web, implying that library science journals and publishers can be tracked down online with relative ease. Additionally, access to previously published articles is present for most through an archive, and there is a sufficient quantity of articles that have been released by the journal to establish it as a publishing body. Library science journals in the sample were middling (rated between 2.0 and 2.89) on the remaining ten criteria on the rubric, suggesting areas that need to be evaluated on a journal-by-journal basis, though with room for improvement across the board.
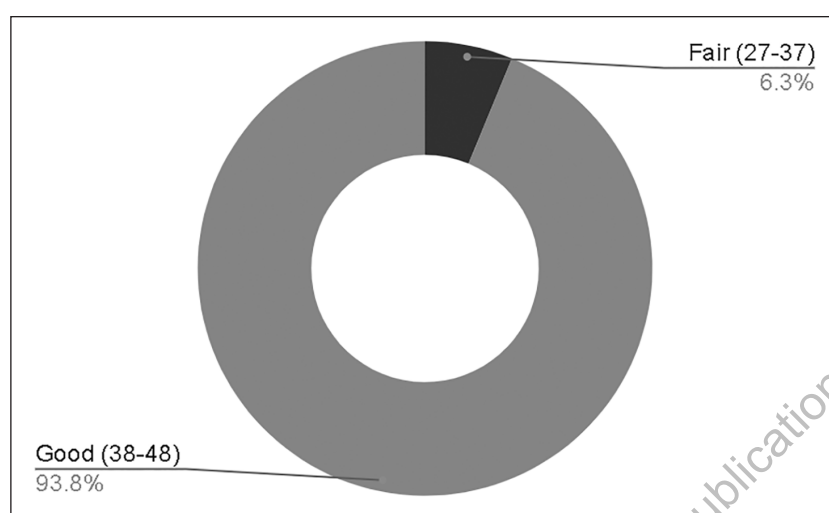
Figure 3. Groupings of journal scores on the journal evaluation rubric.

Table 4.
Mean score and standard deviation of criteria for credibility on the *Journal Evaluation Rubric*

	Mean Score	Standard Deviation
Number of articles published	2.99	0.05
Web search for the journal	2.94	0.24
Journal archive	2.93	0.21
Web search for the publisher	2.90	0.22
Copyright information	2.86	0.34
Editorial board	2.85	0.44
Review process	2.85	0.38
Journal index	2.80	0.45
Journal name	2.79	0.32
Journal website	2.77	0.37
Publisher information	2.77	0.25
Access to journal articles	2.65	0.39
Publishing schedule	2.52	0.56
Author fees	2.39	0.72
Conflicts of interest	1.91	0.67
Revenue sources	1.86	0.48

Applying the *Journal Evaluation Rubric*

Because maintaining objectivity was an important goal in this study, it was advantageous to apply a second journal evaluation rubric to rate the quality and credibility of the journals selected. The results helped determine if any titles consistently performed well or produced poor ratings for both evaluation tools. One difficulty in comparing the results is that the tools do not provide uniform categories or rating scales. Conversely, possessing dissimilar structures provides greater opportunity to identify inherent strengths and weaknesses within each evaluation tool.

One notable benefit of the *Journal Evaluation Rubric* is that the criteria were rated on a scale. Although the scale only ranged from one to three, this allowed evaluators to identify levels of credibility rather than a pass or fail response as was the case with the *Open Access Journal Quality Indicators*. Another advantage of the second tool is that all criteria used the same scale which resulted in greater ease in interpreting the final data. It was not necessary to explain when yes was positive for some criteria and no was positive for others, as was the case with the *Open Access Journal Quality Indicators*.

Although evaluators generally preferred using the *Journal Evaluation Rubric* since it came with specific rules for distinguishing between Good, Fair, and Poor for each criterion, there was still some ambiguity. For example, many evaluators noted that the rubric was difficult for smaller publishers; larger publishers tended to have overarching policies and subpages dedicated to things like conflicts of interest, copyright policies, and disclosure of revenue sources. The rubric was also difficult to use for some hybrid journals; for example, when assessing a journal for access to its articles, a score of two indicated that it provides full text access to some published articles, which seems to penalize the hybrid model itself rather than a journal's credibility. Considering these difficulties, the inter-rater reliability for the use of the *Journal Evaluation Rubric* (70.3% unanimous agreement) was lower than for the *Open Access Journal Quality Indicators* (81.7% unanimous agreement), despite the perceived ease-of-use from the evaluators.

Comparison of Evaluation Tool Results

Each evaluation tool utilizes a different rating technique to measure journal quality or credibility. The *Journal Evaluation Rubric* contains sixteen credibility criteria that are rated on a scale of one to three. Each of the sixteen ratings are totaled, then the total is converted to an overall rating of Good, Fair, or Poor. The *Open Access Journal Quality Indicators* checklist utilizes twenty-two total quality indicators that are measured as either present or not present. In comparing the criteria and indicators used by the two evaluation tools, eight measure similar attributes that can be mapped together and summarized as follows: publisher reputation and scam alerts; website searching; peer review process; copyright, licensing, and rights for use; indexing; editorial board; publisher information; and fees (see Table 5).

In comparing the performance of journals across these eight shared attributes, a high percentage of journals performed positively by ranking as either Good or having twelve to thirteen positive indicators present and no negative indicators present (see Figure 4). Journals performed positively in publisher reputation and scam alerts (95.83% and 87.92%), website searching (95.83% and 95.83%), and the peer review process (97.92%

Table 5.
Mapping of attributes from *Open Access Journal Quality Indicators* and *Journal Evaluation Rubric* criteria

Open Access Journal Quality Indicators	Journal Evaluation Rubric Credibility Criteria	Mapped Attributes
Publisher has a negative reputation (e.g., documented examples in *Chronicle of Higher Education*, listservs, etc.)	Web search for the publisher?: The publisher is within the top 5 entries on the first page of search results and there are no scam alert postings	Publisher reputation and scam alerts
Journal website is difficult to locate or identify	Web Search for the Journal: The journal is within the top 5 entries on the first page of search results and there are no scam alert postings	Web searching
Information on peer review and copyright is absent or unclear on the journal website	Review process: The journal states whether it's peer reviewed/edited and has a review policy listed	Peer review process
Journal clearly indicates rights for use and re-use of content at article level (e.g., Creative Commons CC BY license)	Copyright Information: The journal clearly describes its copyright and licensing information on the journal's website and licensing terms are indicated on the published article	Copyright, licensing, and rights for use
Journal is included in subject databases and/or indexes	Journal Index: The journal is indexed in more than one subject database (examples: ERIC, Google Scholar, Web of Science, PsycINFO)	Indexing
Editor, editorial board are recognized experts in the field	Editorial Board: The editorial board is listed with their full names and institutional affiliations	Editorial board
Publisher "About" information is absent on the journal's website	Publisher Information: Information about the ownership/management of the journal and contact info about the publisher is clearly identified	Publisher information
Any fees or charges for publishing in the journal are easily found on the journal website and clearly explained	Author Fees: The journal clearly states the amount of money an author will pay to have each article published	Fees

and 89.58%). Journals performed slightly lower in transparency about fees (75% and 58.33%) and publisher information (77.10% and 91.67%), though these percentages are still relatively high.

The *Open Access Journal Quality Indicators* checklist indicates that forty-four of the forty-eight journals analyzed presented zero to one negative indicators (see Figure 2) and nine to thirteen positive indicators (see Figure 1). Twenty-two of the forty-four journals presented no negative indicators and eleven to thirteen positive indicators (see Figures 1 and 2). The *Journal Evaluation Rubric* indicates that forty-five of the forty-eight journals analyzed fell into the Good category (see Figure 3). Five of the forty-five Good journals presented top ratings of forty-seven to forty-eight. There are ten total journals that performed highest in quality and credibility in one of the two tools. These are unique with no repeated titles. One journal was evaluated as lower quality on both tools, presenting four negative indicators and scoring a Fair, with six additional journals rating at the lower end of one of the two tools.

Comparing the two tools identifies the most frequent positive and negative shared attributes in library science journals. The five highest-occurring positive attributes are that the journal's articles are within scope and meet discipline standards, the journal has an ISSN, the journal has published more than ten articles, the journal is within the top five entries on search results with no scam alerts, and the primary audience is researchers/practitioners. The five highest-occurring negative attributes across the two tools are that library science journals are not registered in *Ulrichsweb*, they are not affiliated with or sponsored by an established scholarly society or academic institution, they do not state their business model, they do not state a conflict-of-interest policy, and the publisher is not a member of the Open Access Scholarly Publishers Association (see Table 6).

No two evaluation tools will gauge the quantitative and qualitative aspects of a library science journal in the same way. While the journals exhibited high credibility and quality attributes across both tools, the top-rated journal titles were not the same and only one of the five lowest rated journal titles rated low on both tools. Furthermore, different evaluators implementing the same tool could potentially provide disparate responses when applying a numeric rating or a positive versus negative entry.

> **No two evaluation tools will gauge the quantitative and qualitative aspects of a library science journal in the same way.**

A cursory glance at the results of the two journal evaluation studies does not tell the whole story, although one could accurately conclude that library science journals perform relatively well in most attributes. The discrepancies behind the final rating calculations are a more telling characteristic of the tools and perhaps the evaluators. Because the research team consisted of six evaluators, evaluations could be distributed between them and generate consensus with the ratings, or at least select the majority response. For a more practical application outside of this research study, if a single individual were to evaluate a journal or set of journals using either evaluation tool, the balance experienced with multiple evaluators would be absent and the objectivity would be diminished.

Regardless of individual tool preference or ease of use, researchers should question fundamental aspects of each available tool. For example, are the tools asking the right

Percent of Journals with Positive Performance in Mapped Attributes

■ Open Access Journal Quality Indicators (12-13 Positive, 0 Negative)
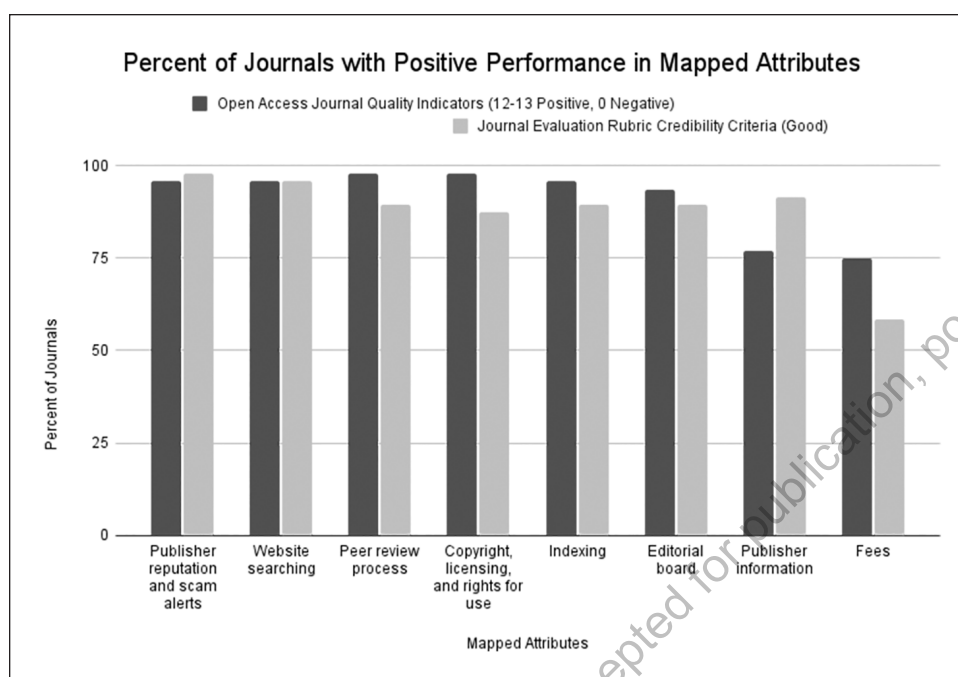□ Journal Evaluation Rubric Credibility Criteria (Good)

Figure 4. A high percentage of journals performed positively, ranking as Good, or having a majority of positive indicators present.

questions and how should the goals of the tool change over time, especially as open access resources expand and transform? Although library science journals performed well, if the wrong questions are posed or critical areas of evaluation are untouched, the quality and credibility of the evaluation tool itself may not be the biggest concern. Updates to existing tools are imperative, or new evaluation tools should be designed to account for the rapidly developing environment in which the research landscape now resides.

> **Regardless of individual tool preference or ease of use, researchers should question fundamental aspects of each available tool.**

Limitations

Limitations for this study include methodological considerations such as human error during data input. Other limitations include the potential for reviewer bias in the application of the evaluation tools to journal websites, particularly for attributes that involve reviewer opinion rather than simple identification of attributes. Another limitation is that the researchers involved in this study all have professional and educational backgrounds based in the United States, and only English language publications from the United States, United Kingdom, and Canada were selected. These practical limitations introduce a geographic bias in the results as they pertain to the global world of publishing.

Table 6.
Highest occurring positive and negative attributes across the two rubrics

Positive	Negative
Articles are within scope of the journal and meet the standards of the discipline	Journal is not registered in *Ulrichsweb*
The journal has an ISSN	Journal is not affiliated with or sponsored by an established scholarly society or academic institution
The journal has published more than 10 articles	The journal does not state its business model
The journal is within the top 5 entries on the first page of search results and there are no scam alert postings	The journal does not state a conflicts of interest policy
The primary audience is researchers/practitioners	Publisher is not a member of Open Access Scholarly Publishers Association
The journal clearly indicates right for use and re-use of content at article level	Journal is not listed in Directory of Open Access Journals
The website contains an archive of its past issues with links to full text articles	Publisher "About" information is absent on the journal website
The publisher is within the top 5 entries on the first page of search results and there are no scam alert postings	
Journal is included in subject databases and/or indexes	
Publisher direct marketing (i.e., spamming) or other advertising is not obtrusive	
No repeat lead authors in the same issue	

Conclusion

This comparative analysis of results from applying the *Open Access Journal Quality Indicators* and the *Journal Evaluation Rubric* to library science journals shows that evaluation tools contain variations that impact both the end-result decision on a journal's quality or credibility as well as the experience of applying the tools. The results of this study demonstrate that there is no one definitive tool to determine journal quality, credibility, or predatory status, even when tested within the discipline of creation. Further, considering the use of evaluation measures by novice researchers to determine a journal's quality or credibility, librarians need to focus on ease of use and clarity of the criteria in the decision-making tools they create. This includes considerations of how journal attributes are scored and assessed via journal websites.

The intentions of this study were not to expose a list of poor-quality library science journals or their faults. Rather, this study sought to demonstrate the application of quality and credibility tools to library science journals and identify areas in which journals and publishers can improve documentation of the attributes of their quality and credibility. As highlighted in this research, the overall findings of this study demonstrate that obfuscation in journal evaluation is not a phenomenon affecting a single type of publishing model; indicators of good and poor quality consistently impact all evaluated journals, no matter if the journal is published entirely open access or hybrid. Despite the high degree of inter-rater reliability, utilizing these tools as an evaluation team rather than as a single author exposed vulnerabilities in how each tool's attributes were interpreted and applied. Updating how open access publication practices are documented in library science journals for better consistency, in addition to rigorous testing of evaluation tools, will better uphold and support librarians' efforts to instruct and counteract the spread of actual predatory publishing practices. This includes disseminating evaluation tools like those used in this study.

Overall, this study shows that the evaluated library science journals with open access components overwhelmingly exhibit positive quality and credibility attributes in ways that supplement the field's advocacy in the open access movement. The literature states that librarians seek traditional factors like topical fit and perceived quality in selecting a journal for publication, and this study reinforces that librarians can integrate open access considerations into their selection process by applying librarian-created evaluation tools to their own discipline.[33] Librarians as authors and as advocates for both journal evaluation and open access publishing can utilize this study in the continued development of frameworks for use in journal selection and as the field moves toward more holistic evaluation models rather than binary lists of good and bad publications. The study authors hope that these results can contribute to a more complex, multivariate understanding of journal evaluation, particularly when assessing journals in a rapidly changing open access publishing landscape.

Acknowledgement

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Appendix A

List of Journals Evaluated

1. *ASIST Proceedings* (Proceedings of the Association for Information Science and Technology)
2. *Canadian Journal of Information and Library Science*
3. *Collection Management*
4. *College & Research Libraries*
5. *College & Undergraduate Libraries*
6. *Communications in Information Literacy*
7. *Electronic Journal of Knowledge Management*
8. *Evidence Based Library and Information Practice*
9. *Health Information and Libraries Journal*
10. *In the Library with the Lead Pipe*
11. *Information Technology & Libraries*
12. *Insights: the UKSG Journal*
13. *International Information and Library Review*
14. *International Journal of Digital Curation*
15. *International Journal of Librarianship*
16. *Issues in Science and Technology Librarianship*
17. *Journal of the Association for Information Science and Technology*
18. *Journal of Academic Librarianship*
19. *Journal of Agricultural & Food Information*

20. *Journal of Business & Finance Librarianship*
21. *Journal of the Canadian Health Libraries Association*
22. *Journal of Education for Library and Information Science*
23. *Journal of eScience Librarianship*
24. *Journal of Information Literacy*
25. *Journal of Librarianship and Information Science*
26. *Journal of Librarianship and Scholarly Communication*
27. *Journal of the Medical Library Association*
28. *Law Library Journal*
29. *Library & Information Science Research*
30. *Library and Information Research*
31. *Library Collections, Acquisitions & Technical Services*
32. *Library Hi Tech*
33. *Library Quarterly*
34. *Library Resources & Technical Services*
35. *Online Information Review*
36. *Partnership*
37. *portal: Libraries and the Academy*
38. *Reference & User Services Quarterly*
39. *Reference Services Review*
40. *School Library Research*
41. *Serials Review*
42. *The Code4Lib Journal*
43. *The Electronic Library: The International Journal for the Application of Technology in Information*
44. *The Information Society: An International Journal*
45. *The Serials Librarian*
46. *Theological Librarianship*
47. *Urban Library Journal*
48. *Information Discovery and Delivery*

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