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The cover of this issue of Science Editor is dominated by the grand-design spiral galaxy M51, as seen by the James Webb Space Telescope. It is not hard to imbue human emotions on an image such as this: seeing it as a violent swirling mass of anger and rage, festering and spiraling. Yet it is none of those things. It is an interplay of light and dust and gas, stretching out over time and space. Throughout, newly formed star clusters can be seen in the yellow compact regions, possibly the beginning of new star systems, and maybe, new life. ***Credit:*** *ESA/Webb, NASA & CSA, A. Adamo (Stockholm University) and the FEAST JWST team. Source: https://esawebb.org/images/potm2308c/ (CC BY-NC 4.0)*

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FEATURE

Toward Responsible Collection and Use of Demographic Information in Scholarly Publishing

Beryne Odeny

The growing emphasis on demographic data collection among publishers and journals underlines the crucial need for responsible data management in scholarly publishing. As a follow-up to CSE's webinar by Dr Beryne Odeny and Julia Robinson, this synopsis provides insights into dilemmas of, and considerations for, collecting and using demographic information in scholarly publishing. We focus on the value of diversity, equity, inclusion, and accessibility (DEIA) at various levels of scholarly communication.[1] We delve into the importance of collecting demographic data as a tool for achieving DEIA, considering the vulnerabilities of those who share their data and potential harms, and harm mitigation strategies, including acknowledgement of the positionality of those who collect and use the data.[2] Responsible data management should prioritize conscientious collection, analysis, interpretation, and dissemination of demographic data.

The Importance of Diversity in Research

In 2020, the Royal Society of Chemistry (RSC) convened over 50 global publishers to endorse a joint commitment to DEIA in scholarly publishing.[3] As part of this commitment, publishers are actively collecting data on sex, gender, race, and ethnicity to assess DEIA in their editorial and publication processes.[4] There is growing evidence that promoting diversity in research and publishing strengthens the generalizability of scientific conclusions to broader populations.[5] Designing research for widespread dissemination enhances its accessibility, societal relevance, and scientific merit.[6]

Promoting diversity among editors, peer reviewers, and authors is crucial for broadening perspectives and ensuring fairness and inclusivity in scientific research. In fact, studies have demonstrated that diversified research teams produce more diverse, nuanced, and impactful research. For example, Nielsen and colleagues,[7] showed that teams with diverse backgrounds and perspectives are more likely to generate novel ideas, approach problems creatively, and produce research that has broader societal impacts. Conversely, less diverse editorial boards are less likely to publish diverse and generalizable research.[8] Considering this, publishers have an ethical imperative to uphold equity and justice alongside assessing scientific merit in publication processes. The Belmont Report's justice principle on equitable sharing of burdens and benefits in research should extend to scholarly publishing.[9] Equitable dissemination of research from diverse authors and contexts is essential to upholding this principle.

Demographic Data Is Vital for Addressing the Lack of Diversity

Unfortunately, the current lack of diversity in scholarly publishing poses a threat to equitable and inclusive editorial practices. Demographic data can provide valuable insights into the diversity and inclusivity of editorial boards and authors, as well as the representation of diverse populations in research.[10] Existing research on the composition of editorial boards, authorship groups, and peer reviewer panels has revealed a concerning lack of diversity, particularly underrepresentation of women and researchers from low- and middle-income countries (LMICs).[11-15] Issues like parachute science—where researchers from high-resource settings conduct research in low-resource communities without meaningful community engagement and capacity building—undermine efforts to promote DEIA.[16] To address

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demographic disparities in publishing, it is crucial to monitor unjust publication practices, collect demographic data, and develop robust metrics for evaluating DEIA initiatives' impact on scientific knowledge generation and dissemination.[13,17]

Dilemmas and Potential Harms of Collecting Demographic Data

Although collecting and using demographic data offers valuable insights, publishers must gather this information with caution and consideration of potential harms to respondents sharing their information.[9] Publishers can learn from the experiences of researchers who, when collecting and using demographic data for research purposes, have encountered unintended consequences—largely borne by research participants. To further illustrate this dilemma for researchers, Call and colleagues,[18] aptly explores how the collection of demographic data unintentionally reinforces harmful stereotypes and stigma, and further marginalizes underserved and underrepresented groups, especially within the context of existing societal structures and forces.[19-20] For instance, maintaining sample homogeneity by excluding groups based on their characteristics can exacerbate underrepresentation of minoritized populations and lead to disparities in scientific advances across varying contexts.[21] In light of this, publishers need to anticipate potential harms associated with the collection and use of demographic data, such as highlighting an author's underrepresented status inadvertently, and introducing bias into the peer review process.

Other dilemmas around the use of demographic data for research provide critical lessons for publishers. For instance, although the temptation for researchers to prioritize homogeneity of demographic characteristics is convenient for analytical and interpretation purposes, it can inadvertently hinder DEIA efforts. In some disciplines, heterogeneity may be seen as a nuisance that needs to be controlled for to uphold internal validity.[21] Due to personal preference or expertise, editors and peer reviewers may prioritize manuscripts that conform to conventional research methodologies, which may exclude studies from marginalized communities or use more nuanced approaches like implementation science.

Another potential dilemma and harmful practice in research is the use of demographic variables as proxies for sociocultural factors or experiences driven by structural factors. This can lead to misclassification of individuals, inaccurate inferences, and development of inappropriate or unacceptable interventions for certain contexts.[22] For example, an affluent Black respondent may be subject to irrelevant classification and intervention, whereas a more socioeconomically disadvantaged White individual may be misclassified and overlooked when dispensing interventions.

While the collection of demographic data from authors and peer reviewers is a relatively recent practice, emerging knowledge from researchers indicates that publishers need to proactively monitor and mitigate potential unintended consequences for respondents.[9] This involves ensuring that demographic data is collected and used ethically, and responsibly, avoiding the perpetuation of stereotypes, stigma and inequities.

Considerations for Demographic Data Collection

Publishers and editors who are recipients and users of demographic data need to be mindful of their positionality as they review and draw conclusions from these data. In research, positionality refers to the way personal background, experiences, and social identity influence how we see and interpret information.[2] In scholarly publishing, it acknowledges that editors and publishers are not neutral observers but bring their own perspectives and biases to their interpretation of data. Those analyzing and interpreting these demographic data can acknowledge their positionality and indicate measures to minimize potential biases. This will help to build trust with respondents sharing their data and avoid the perpetuation of biases.

The standardized RSC demographic questionnaire[1] is not universally relevant and accessible. There are concerns about selection bias in its design and the voices represented given the categories, which are primarily US-centric and tailored more toward high-income settings. The relevance, appropriateness, and acceptability of standardized demographic questionnaires to diverse global contexts has not been fully explored and should be revisited. While relevant to some contexts, the questionnaire does not fully capture the nuances of diverse identities and experiences of authors (such as how early in a career), publishers, and editorial boards in LMICs.

Collecting demographic data is fraught with challenges—some beyond publishers' control—associated with inflexible paradigms for representing the spectrum of demographic diversity. There are concerns that demographic questionnaires constrain individuals to predetermined categories, which undermines efforts to uphold diversity.[23,24] For example, the category "Black/African American" may not accurately reflect the experiences or identities of individuals from Africa who do not identify as being Black nor being an African American but identify as having "brown skin" rather than "black skin." Various approaches to address these narrow classification paradigms have been proposed.[23-25] One approach is to give respondents freedom to qualitatively describe themselves and code these data; however, this presents challenges for quantitative analysis and comparison across settings. To address this, questionnaires with closed-ended questions and follow-up questions that provide opportunities for individuals to self-describe their identity can help to mitigate feelings of invalidation and ensure a more comprehensive understanding of diverse identities. The RSC's standardized questionnaire[1] provides this flexibility and has been adopted by several journals, such as the *BMJ*.

Analysis and reporting of demographic data also require special attention and deliberation. Very specific or unique demographic characteristics can risk the confidentiality of respondents if their numbers are small. Conversely, grouping small data cells into larger categories to minimize identification can be harmful if the categories mask characteristics that are understudied and underrepresented, limiting a deeper understanding of minoritized groups. This can have downstream effects on data analyses, potentially failing to expose the real issues underlying disparities and contributing to a vicious cycle of undue stigmatization and stereotyping of individuals.[26-27] To address these potential harms, processes for protecting privacy and confidentiality must be clear and transparent to respondents and users of demographic data. Those who share their demographic data need to be informed about how their data will be stored, analyzed, and used, and how potential harms will be mitigated—akin to consenting processes in a research setting.

Recommendations for Responsible Data Collection and Use

In response to these dilemmas and considerations, we provide 7 theory-driven recommendations founded on Call and colleagues'[18] ethics and social justice framework for collecting and using demographic data in the context of scholarly publishing.

1. Publishers can clearly define their goals for collecting demographic data, ensuring transparency and implementing robust privacy measures. Part of this means disclosing their positionality and implementing strategies to mitigate biases when using demographic data in their custody.
2. Publishers can engage diverse scientific communities in revising or refining data collection questionnaires to be contextually relevant, in addition to developing strategies for diversifying authors, reviewers, and editorial boards.
3. Editors can consider blinded peer review processes where applicable, to protect marginalized groups of authors, and strategically select reviewers who are familiar with the research context. In some cases, as an equity measure, financial compensation may be considered to enhance the engagement of reviewers from underrepresented groups who possess specialized knowledge of the research context.
4. Publishers need to give greater visibility to the work of underrepresented researchers (e.g., special issues and collections) as a strategy for actively promoting inclusivity in curated journal content.
5. Publishers should actively consult with, and seek feedback, from underrepresented communities about how to interpret and use demographic data to benefit those at highest risk of exclusion.
6. Publishers should institute and communicate mechanisms to eliminate or mitigate the anticipated harms that can arise from demographic data collection and use. This will further demonstrate their commitment to fostering trust with respondents and readers.
7. Publishers can commit to share demographic reports for accountability to the scientific community. Publishers should consider reporting de-identified data summaries and outlining how the data will inform efforts to improve author and reviewer diversity and editorial composition. Responsible data collection should culminate in actionable strategies to reduce inequities, as merely collecting data without a clear plan for utilization falls short of responsible data management.

A Call for Collective Action

This synopsis is applicable beyond publishing and can be applied to funding agencies, as the effects of bias and inequity reverberate throughout the research lifecycle, from funding to publication and implementation. While the success of DEIA efforts hinges on evaluating and acting upon demographic data, more is needed to safeguard those sharing their data and the data itself. The approach by which demographic data are collected, handled, and reported must adhere to the Belmont Report to avoid propagating biases and disparities in scholarly publishing. A justice-oriented approach to demographic data collection and use within scholarly publishing, research, and funding agencies can significantly advance DEIA efforts by prioritizing ethics, transparency, and accountability. This is a call for thoughtful collection, use, and dissemination of demographic data to create a more diverse and equitable scientific ecosystem.

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FEATURE

Scholarly Metadata as Trust Signals: Opportunities for Journal Editors

Madhura S Amdekar

In recent years, research integrity issues are in the limelight with the emergence of new and complex threats, such as paper mills, citation cartels, fabricated peer reviews, fake papers, artificial intelligence–generated images, among many others.[1-4] A worrying feature of these emerging research integrity threats is that they often occur at scale and can affect many journals and articles at the same time. Taken together, this poses a considerable challenge to journal editors and editorial offices, which are key stakeholders in ensuring the integrity of the work they publish.

Scholarly metadata is an important tool that can be used in the endeavor to protect research integrity, especially to uphold the integrity of the scholarly record. The term "scholarly record" refers to the complex and interconnected network of published outputs (e.g., journal articles, books), the inputs that go into the creation of these outputs (e.g., datasets, preprints), and the metadata for these outputs.[5] Preserving the integrity of the scholarly record is important because the scholarly record provides the foundation on which the global scholarly community can continue to build. When relationships between research outputs are not explicit, or when the metadata about these outputs are either incomplete or outdated, there is a risk that the scholarly community will not be able to access the most up to date information.

Metadata provide critical context about published works.[5] By doing this, it acts as a marker for trustworthiness. Crossref provides infrastructure that allows those who create scholarly outputs to provide metadata for these outputs. These metadata are openly available; hence, others can use and evaluate them as evidence of the credibility of the published work. We at Crossref have been engaging with our community to find out which key metadata elements are the most pertinent as trust markers. This will help in informing the kind of scholarly communications infrastructure the community needs. We trust it will also encourage editors and journals to champion for the collection and deposition of these metadata elements.

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Metadata as Trust Signal

It should be noted that the presence of a persistent identifier for a scholarly output in itself is not a signal of quality—a digital object identifier (DOI) only indicates that the item exists. Rather, it is the presence (or absence) of metadata associated with the scholarly output that serves as evidence of how the creators, or stewards, of these items ensure the quality of their content.

Crossref is an organization that enables its members to create and register persistent identifiers (Crossref DOIs) for their publications and to cross-reference the works. When members deposit their content with Crossref, they provide the basic bibliometric metadata related to scholarly publications, such as article title, publication date, names of authors, journal title, name of the conference, and volume or issue number.[6] We also recommend the inclusion of authors' affiliations (preferably as Research Organisations Registry [ROR] IDs—more about those later) and ORCiDs, the abstract, and the list of references—all of which assist discoverability, as well as provide better context about the work at hand. Additional information, such as funding metadata, the relationships between objects (e.g., "is preprint of", "is review of", "is funded by"),[6] and clinical trial numbers (where relevant), offer even more insight into how that scholarly output came about. The presence of this information means the metadata can tell us who authored a particular work, who funded it, where was the research carried out, what the relationship is between this work and a particular dataset, and so much more. Works such as journal articles may undergo changes even after publication. Additional information may be added to them, they may undergo a correction, or they might be retracted. Metadata that signifies these updates are essential in maintaining the

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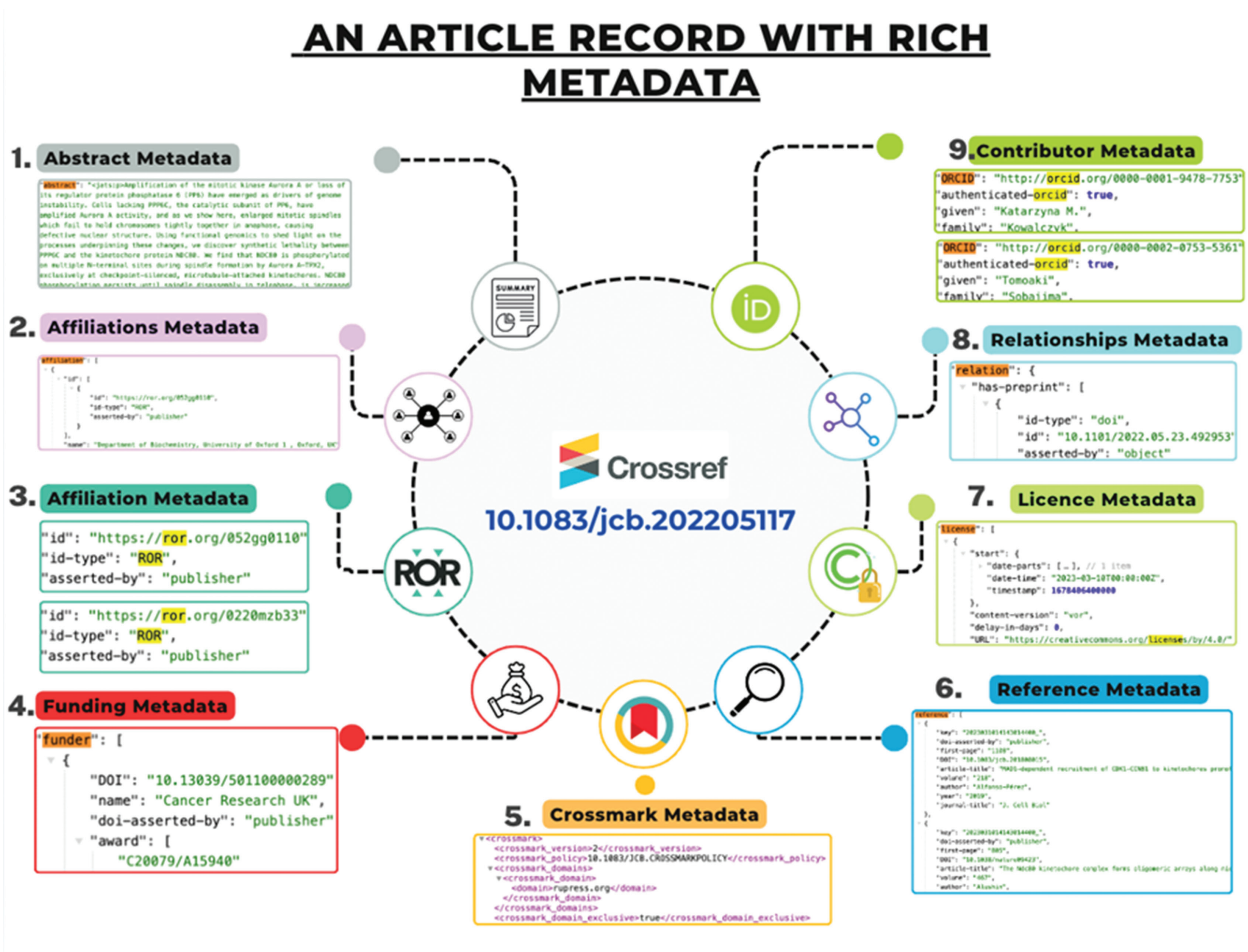

Figure 1. Case example of an article record with rich metadata (Credit: E Atoni).

integrity of the scholarly record as they ensure scholars are reading and citing the most up-to-date work.

All the metadata that Crossref members provide in this way are made openly available through our application programming interfaces, in a machine-readable format, which allows downstream services and users to access this information to build tools and assess the trustworthiness of any research output. The more metadata elements associated with a research output, the more complete the information available to the community is for determining its trustworthiness (Figure 1). On the contrary, when metadata are missing, it is harder for others in the community to understand the context and therefore the credibility of the work.

When metadata are associated with a persistent identifier, a large database may be created that increases the feasibility of analyzing data at scale. For instance, ROR IDs, which are persistent identifiers for research organizations, can help in connecting problematic manuscripts to the institution where they were produced.[7] An example of an advantage of persistent identifiers is the ability to identify organizations associated with paper mill articles.[7]

Working With the Community

Ever since its inception, all of Crossref's initiatives have focused on preserving the integrity of the scholarly record. In the past couple of years, we have made dedicated efforts to engage with the scholarly community on this issue. Our purpose has been manifold: as a community-led organization, not only did we want to share our thinking about the role we can play in the community to bring everyone together, we also wanted to get the community's input on our role and understand its perspective on leveraging metadata for trustworthiness.

Figure 2. An example of a grant linked from a journal article to the funder (Credit: G. Hendricks).

So far, we have held discussions with our community in 2022 and 2023, to which we invited publishers, research integrity experts, researchers, policy-makers, funders, editors, and organizations such as the Committee on Publication Ethics and STM.[8,9] The focus of the rest of this article will be on 2 of the key questions that were asked of the participants: 1) What metadata are important for signaling trust? 2) What metadata are "nice to have" in the scholarly record?

Metadata Important for Signaling Trust

When it comes to signaling trust, information about retractions and corrections, references, abstracts, affiliations, and funding make it to the top of the list for our members. This is expected, given there have been several instances in the recent past where hundreds of manuscripts had to be retracted due to identification of concerns. Retractions, corrections, and other kinds of postpublication updates are crucial in keeping the scholarly record up to date and are evidence for readers that they are reading or citing the most recent version. References and abstracts are especially useful, as they can be subjected to text mining to uncover any systematic inconsistencies—again, an avenue where large scale datasets help to uncover large scale trends and tie them back to the concerned authors, institutions, and funders. With affiliations, authors can be consistently associated with their organizations, which is immensely helpful for circumstances in which ethical investigations need to be carried out, and organizations need to be involved. Grant identifiers and funder identifiers, which are part of funding metadata, make the link between research and its funders explicit (Figure 2). This enhances the trustworthiness of the research and helps to identify any conflicts of interest.

Metadata Horizon Scanning

The community also has several suggestions for metadata elements that are "nice to have" in the scholarly record for ascertaining trustworthiness. Given there have been increasing concerns about the quality of work reported in guest-edited issues, the need for more information around these special issues is a recurring theme. Identity of the guest editors, identity of reviewers, and submission and acceptance dates of the articles are the key pieces of information about special issues that the community would like to see. In general, more information about peer review, such as key dates in the process (e.g., submission, revision, acceptance) and the identities of the people involved (e.g., handling editor, reviewers, corresponding author), even for articles in regular issues, are welcomed.[9] In addition to calls for registering retractions, community members have also called for addition of reasons for retractions and submission dates of retracted papers in the associated metadata. Metadata that add transparency to the research process, such as details of ethical approvals, clinical trials, and conflicts of interest are also deemed valuable by the community in this context.[9] However, not all of these pieces are possible to be included in the metadata, and including expanded metadata related to editors is not a part of our roadmap currently. We are working on several metadata development projects, many of which are tied to the integrity of the scholarly record (read more about our plans[10]).

Opportunities for Journal Editors

Upholding the integrity of the scholarly record requires combined efforts from everyone in the scholarly community. Editors and editorial offices are at the forefront of the endeavor to uphold the integrity of the work they publish. Editors drive the day-to-day editorial and production operations of journals, including the submission of their publications' metadata to Crossref. As outlined above, metadata are not just a part of the production workflow but also are important in signaling the integrity of scholarly output. Editors have a crucial role to play in this effort. By virtue of their close relationship with authors, peer reviewers, and editorial boards, editors are uniquely positioned to gauge the metadata that are relevant for signaling trustworthiness in a specific subject discipline. They can champion expansion of facilities for capturing such key metadata in their submission process with colleagues and vendors. Editors can encourage prospective authors and researchers to deposit key metadata with their submissions and to adopt journal policies that allow publishers to collect and deposit this metadata with Crossref. Crossref also provides a community forum for editors to share their knowledge and best practices with one another in this domain.[11] There is much work to be done on this front. At Crossref, we are very keen to hear more from the community about how we can work together to preserve the integrity of the scholarly record. We welcome your thoughts on the key metadata elements that you think signal trust and how it can be made easier to collect and deposit this metadata.

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FEATURE

Publishing in January and Impact on Citations: Does the Data Support the Strategy?

Duncan A MacRae and Maya Workowski

There are many conventional wisdoms surrounding maximizing citations. With rare exceptions, these largely hold true under scrutiny; however, one oft-mentioned strategy is the assertion that articles published in January contribute more citations to the Journal Impact Factor (JIF) due to their longer exposure time—sometimes referred to as "issue frontloading." In its simplest form, the JIF is the average number of times articles published in the last 2 years are cited in a given year. The argument follows that because January-published articles are available to be cited for the largest percentage of this 2-year window, then publishing more content in January leads to a higher JIF.

However, we have doubts.

Firstly, we have never actually seen evidence of this presented at the journal level to prove the theory correct, and secondly, when we have done the occasional analysis illustrating citation distribution over the calendar year, it has never shown that the January issue is the highest contributor to JIF. Figure 1 is an actual example—taken from a recent JIF analysis of a title published by Lippincott, the journal imprint of Wolters Kluwer—of how a journal's individual issues compare with each other in terms of contribution to JIF. Noticeably, there is no identifiable trend over the course of the calendar year, and January was certainly not the biggest contributor to this journal's JIF.

The source of this supposed strategy is the assertion that citations are primarily driven by an article's exposure as measured by time. It is true that citations do roughly follow a predictable pattern, wherein articles remain largely uncited for 6–9 months after publication, with the bulk of citations occurring at 18–36 months, followed by a dramatic decline. Issue frontloading presumes that JIFs can be maximized if a greater portion of the 18–36 peak time can be included in the JIF calculation. However, if this exposure were the only determinant, we would expect to see a consistent (~8%) decline of citation contributions to JIF by month over the course of a single calendar year. If, on the other hand, exposure had no effect on citation contribution, we would expect to see equal citation contributions to JIF across the calendar year (Figure 2). In this analysis, we set out to examine the degree to which exposure drives JIF, and whether issue frontloading is indeed an effective strategy for improving JIF.

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Data Analysis

We examined the citation contributions of all articles published by Lippincott over a 5-year period (2017–2021; n = 175,830) broken down by month of publication. This was determined by calculating the citations generated by articles published in a specific month of the year in the 2 years after an article publication and dividing the resulting total by the number of articles published in that specific month.

Average Citation Contribution of Month (M) = Citations to articles published in M in Y1 and Y2 / Number of articles published in M.

For example, in January 2017, 3218 articles were published that were cited 9879 times in 2018 and 12,433 times in 2019. The Average Citation Contribution of the January 2017 articles was (9879 + 12,433) / 3218 = 6.9.

Data was exported from Clarivate's Web of Science and limited to articles and reviews (as defined by Web of Science). We used publication date rather than indexed date or early access date to assign a month of publication. Table 1 shows the data collected and subsequent calculations, and indicates that over this 5-year period, articles published in February and March had the first and second highest contributions, respectively. Charted over time (Figure 2), we can see that there is some level of predictability at the publisher level. For example,

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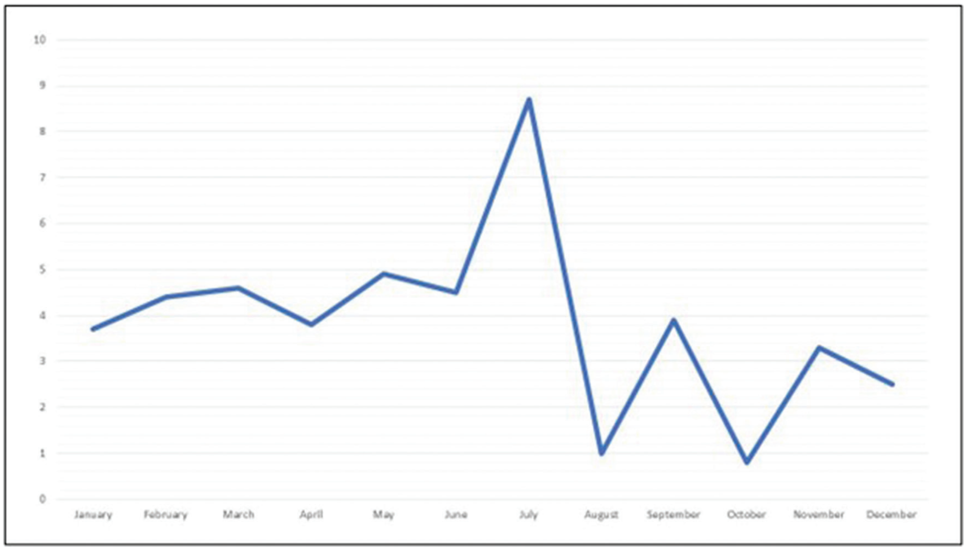

Figure 1. Example journal with a calculated Journal Impact Factor for each 2021 issue.

Average Citation Contribution in October, November, and December were consistently the lowest, suggesting that less exposure time has a detrimental impact on Average Citation Contribution. However, articles published in the first 8 months of the year did not correlate directly to exposure time compared to each other, with unexpected upticks in June and August, and, perhaps most surprisingly, January achieving only the fifth highest Average Citation Contribution (tied with May). Of note is the impact of COVID in the 2020 publication year, which produced the highest mid-year citation contribution (Figure 2), due in large part to the publication of a number of highly cited review papers examining the early impact of COVID.

One important caveat is that the trend indicated in Figure 2 is from a very large sample size, which negates, to a large degree, the volatility of individual journals due to varying publication output and the impact of outlier articles in terms of citations (as illustrated in Figure 1).

Discussion and Conclusions

Even then, how to explain January's underperformance? Initially we suspected that January articles may have a higher exposure to same-year citations, i.e., a significant number of citations are falling within the same calendar year, and therefore not contributing to the JIF. However, this wasn't borne out by an examination of same-year citations. January did not have a greater number of same-year citations than subsequent months either by total or percentage of citations. February and March both had higher overall same-year citations and a higher percentage of citations occurring in the publication year.

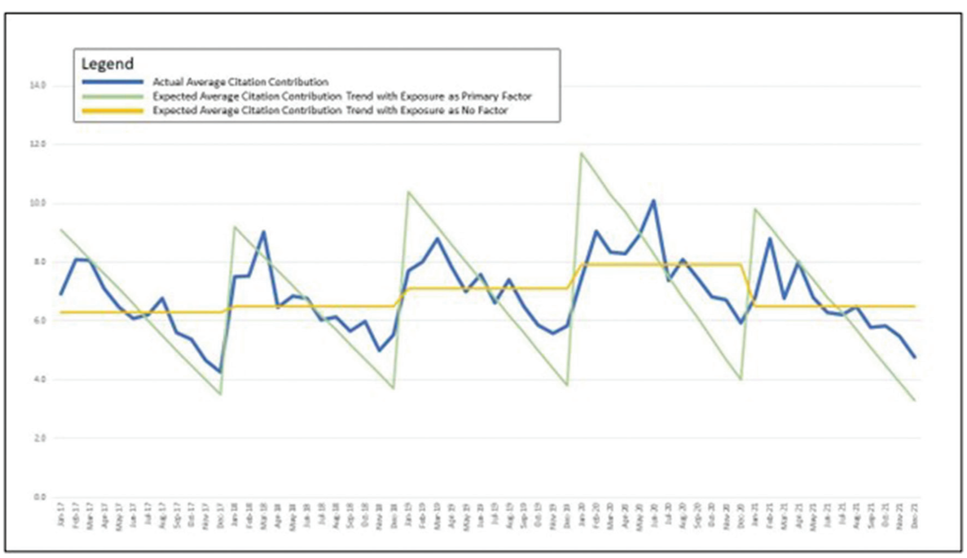

Figure 2. Monthly Average Citation Contribution for Lippincott journal articles, 2017–2021.

Table 1. The Average Citation Contribution of Lippincott articles and reviews as indexed by Web of Science

Publication Month (2017–2021)	Article Count	Y1 Citations	Y2 Citations	Average Citation Contribution
January	17,033	57,447	66,039	7.2
February	11,688	45,294	52,077	8.3
March	15,810	59,297	69,645	8.2
April	13,574	46,363	56,462	7.6
May	14,893	48,771	58,817	7.2
June	13,407	44,720	53,820	7.3
July	16,712	48,106	60,868	6.5
August	12,485	37,489	49,873	7.0
September	16,165	42,103	58,743	6.2
October	14,332	34,035	52,036	6.0
November	15,363	32,821	51,793	5.5
December	14,368	28,430	46,770	5.2

Interestingly, January and July consistently had the highest number of articles published during the year as well as the first issue of volumes for many journals that publish 2 volumes per year. This timeline may explain July's unexpected dip in Average Citation Contribution. The Average Citation Contribution should accommodate for fluctuations in journal output, but perhaps January's large output is a by-product of editorial strategy. This phenomenon could be a case of the tail wagging the dog, in other words, the customary order of influence has reversed. And to what end?

Could it be that more articles are being published in January because editors think that a January publication date will bolster the citations of weaker content, leading to bloated January issues filled with castoffs from the previous calendar year?

Like other conventional wisdoms (e.g., publishing fewer articles leads to a higher JIF), there are nuances that need to be considered. Publishing fewer articles does lead to higher JIF if you publish less of the content that underperforms and prioritize the content that traditionally receives more citations. It is a matter of prioritization over volume. Issue frontloading likely works if that content was of equal quality to the rest of the journal's output. However, content that is less citable, due to lack of novelty or lower levels of evidence, does not generate citations simply by being around longer. The data support the idea that exposure time does impact how many citations an article may contribute to the JIF, but it does not create citations for lower quality content.

Publishers and Early-Career Researchers Working Together: Guiding Initiatives

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Abstract

This article summarizes the outcomes and outputs of a workshop at the 2024 Researcher to Reader Conference that explored the perspectives of both publishers and early-career researchers (ECRs) on existing ECR–publisher initiatives. The workshop identified several challenges of current initiatives, including those from technical, engagement, financial, and evaluation perspectives. A large part of the workshop was dedicated to cocreating possible solutions, and this article uses both the identified challenges and solutions to offer recommendations to guide current and future ECR–publisher initiatives.

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Introduction

Both commercial and nonprofit publishers increasingly recognize the significance of engaging with ECRs to attract new authors and reviewers, build loyalty, and gain fresh perspectives that can inform new policies from publishers. But what is in it for the ECRs? Working together with a publisher can boost the profiles of the ECRs involved and help them advance their careers, as well as help them to develop skills that are, or will be, important to them as academics. However, to ensure that ECR initiatives within the publishing industry are mutually beneficial, it is crucial to set the right goals; identify, anticipate, and address the main challenges; and learn from past initiatives—what did and did not work well.

A workshop held at the 2024 Researcher to Reader Conference in London (https://r2rconf.com/) explored various (current) ECR-championing and training initiatives (here referred to as ECR–publisher initiatives). For the purposes of the workshop, we defined ECRs as a group including postgraduate researchers through to researchers within 10 years of their PhD award date. Also, in the context of our discussions, "publishers" include commercial, nonprofit, and society publishers, as well as university presses. At this workshop, the participants—made up of approximately one-third ECRs, one-third publishers, and one-third consultants and technology providers—were encouraged to share their experiences, discuss issues and hurdles, come up with solutions, and formulate a list of recommendations for current and future initiatives. We note that all academic and publisher participants came from STEM fields; our discussion was therefore based on experience and examples from within this area, though we hope it is widely applicable.

ECR–Publisher Initiatives: What Already Exists and Why They Matter

To gain an overview of ECR–publisher interactions within the current publishing ecosystem, we described the key features of existing ECR–publisher initiatives and discussed some examples (Table 1). We subdivided the initiatives into 4 categories: schemes in which ECRs act as editors, reviewers, authors, or ambassadors. For clarity, "ambassador" is defined as an individual who promotes the publisher authentically, regularly, and for an extended period of time—but without necessarily engaging in editorial activities. We were aware that some initiatives cover multiple categories, or none, and we did not attempt to cover all relevant initiatives. Notably, there were few ambassador initiatives, perhaps reflecting the less tangible nature of such schemes, and/or a lower attractiveness for ECRs to assume this role (Table S1).

We then turned to very basic, yet crucial, questions: why should publishers engage with ECRs, and what is in it for the ECRs? We asked workshop participants to generate a list of reasons to get involved with these initiatives—first from the perspective of the publisher and then from the ECRs' point of view.

Reasons to Be Involved in ECR–Publisher Initiatives

Publisher's perspective:

- Increases the dialogue between publishers and ECRs to better connect with sectors of the research community that are otherwise less accessible.
- Provides a chance to hear about new techniques and tools that allow publishers to adapt to new trends and enhance their publishing processes.
- Broadens the outlook on research fields helping publishers to diversify the scope of content they publish.
- Builds loyalty with the aim of encouraging ECRs to submit to, or review for, the publisher's journals in the long run.
- Demonstrates the values and mission of the publisher by showcasing, for example, commitment to advancing science and support for the next generation of scientists.
- Speeds up the peer review process by introducing particularly motivated reviewers to the reviewer pool.
- Enhances the overall publishing experience by obtaining feedback and insights that can, for example, improve existing workflows.

ECR's perspective:

- Allows career advancement, including the opportunity to build professional networks and enhance their publication track record.
- Opens the "Black Box" that is publishing for many ECRs by providing insights into manuscript evaluation, peer review, and editorial decision-making, for example.
- Allows ECRs to help advance their research field(s) by encouraging the discussion and dissemination of innovative studies.
- Raises the profile of the involved ECRs through greater visibility within the academic community, which potentially establishes them as emerging experts in their field.
- Builds self-confidence usually derived from, for example, improved skills, knowledge, and decision-making abilities.
- Provides different perspectives on scholarly communication, peer review, and editorial practices, and broadens their understanding of the research ecosystem.

What was clear was that all workshop participants agreed that ECR–publisher initiatives are important for both ECRs and publishers. During the workshop, the reasons for setting up these initiatives were also ranked in order of perceived importance (Figure 1).

Addressing the Challenges in Setting Up and Running ECR–Publisher Initiatives

Despite the unanimous agreement among workshop participants regarding the value of ECR–publisher initiatives, there are numerous challenges associated with setting them up and running them successfully. We delved into these challenges across 4 domains: technical, engagement, financial, and evaluation—noting that these domains are often associated with each other.

Setting up an ECR–publisher initiative often involves the need to navigate various technical hurdles, particularly around optimizing the available technological infrastructure without incurring significant cost. In terms of engagement, we focused, in particular, on the challenge of ensuring inclusivity and diversity. It is crucial to consider potential barriers to accessibility and inclusivity, as well as effective outreach strategies when planning or running ECR–publisher initiatives. There are also the financial constraints that often hinder the establishment and sustainability of ECR–publisher initiatives, which may also have negative impacts on inclusivity and diversity. Some of the specific financial challenges include securing funding, managing budgets, and ensuring equitable resource allocation. Lastly, one needs to consider how to evaluate and measure the impact of an ECR–publisher initiative. This is especially important when trying to draw lessons for the future and requires robust evaluation methodologies. Possible challenges revolve around defining measurable outcomes, collecting relevant data, and interpreting results.

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Table 1. Types of early-career researcher (ECR)–publisher initiatives, their key features, and examples.

<table>
<tr><th>Key Features</th><th>Specific Initiatives</th></tr>
<tr><td colspan="2">ECRs as Editors</td></tr>
<tr><td>Mentorship and training
Structured mentorship from experienced editors
Training provided on editorial processes and ethical standards
Collaborative and inclusive editorial boards
Editorial boards with both early-career and senior researchers
Professional development and community building
Supportive environment for ECRs
Easy access to professional development resources</td><td>British Geriatrics Society: Age & Aging journal Editorial Fellowship[1]
Applied Microbiology International: Letters in Applied Microbiology Junior Editors[2]
FASEB: The FASEB Journal Early Career Researcher Editorial Board[3]</td></tr>
<tr><td colspan="2">ECRs as Reviewers</td></tr>
<tr><td>Peer review mentorship
Senior reviewers team up with ECR reviewers; provide guidance and training on review processes, critical analysis, ethical standards
Professional development
Opportunities for skill development through workshops, feedback sessions
Access to resources for improving skills in reviewing and writing
Recognition and incentives
Formal recognition of contributions through certificates, acknowledgments, publication credits</td><td>Microbiology Society: Microbial Genomics Early Career Microbiologists Board of Reviewers[4]
Applied Microbiology International: Letters in Applied Microbiology Junior Reviewing Editors[5]
IOPP
Peer Review Excellence: Training and Certification[6]
Co-review Policy[7]
Nature Communications: Co-review mentoring initiative[8]</td></tr>
<tr><td colspan="2">ECRs as Authors</td></tr>
<tr><td>Expert guidance
Advice and support from experienced authors and editors; feedback on drafts; guidance throughout publication process
Supportive publication environment
Workshops and resources on writing, research methodologies, publication standards
Recognition and visibility
Dedicated sections or special issues to encourage submissions from ECRs</td><td>The British Academy: Early-Career Researchers[9]
Regional Studies Association: Early Career Membership[10]
The Royal Society: ECR Resource Hub[11]
Liverpool University Press: Trailblazers: An Open Access Monograph and Book Initiative for ECRs[12]</td></tr>
<tr><td colspan="2">ECRs as Ambassadors</td></tr>
<tr><td>Outreach and advocacy
ECRs actively promote and support mission of the publisher
Platform for ECRs to express their interests and needs within academic publishing landscape
Networking and collaboration
Connections between researchers, institutions, publisher are encouraged and strengthened
Professional development and recognition
Publisher provides opportunities for skill enhancement in communication, leadership, public relations
Ambassadors formally recognized for their contributions through certificates, acknowledgments, career advancement opportunities</td><td>eLife: Community Ambassadors[13]
The Company of Biologists:
The Node Correspondents[14]
preLights Ambassadors[15]
FocalPlane Correspondents[16]
Microbiology Society: Champions Scheme[17]</td></tr>
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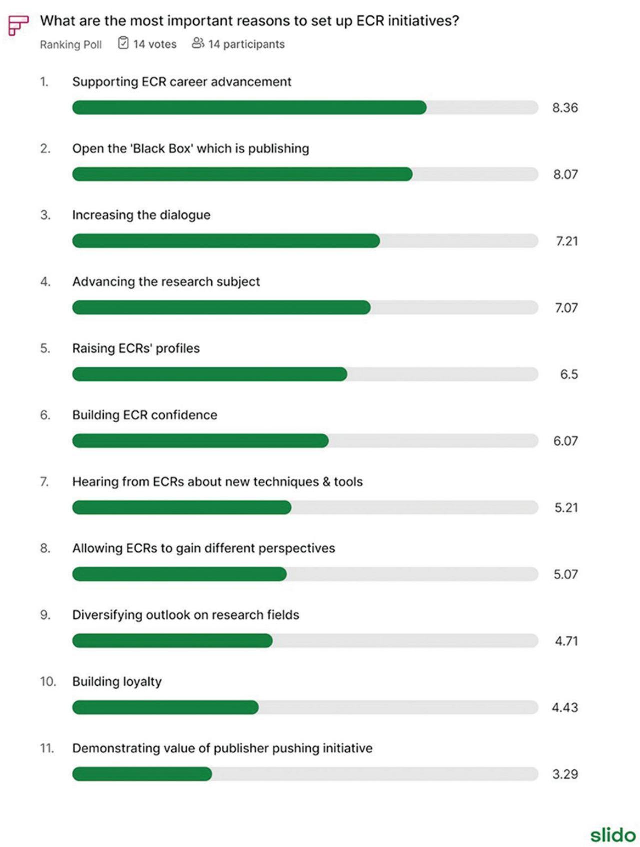

Figure 1. Poll ranking the importance of all discussed reasons why early-career researcher initiatives should be launched within the publishing ecosystem.

Workshop participants were asked to consider specific challenges for each one of the chosen domains: technical, engagement, financial, and evaluation. First, we pooled these together and asked workshop participants to rank them in order of perceived importance (Figure 2).

Following our exploration of the challenges associated with establishing ECR–publisher initiatives across the 4 domains, our workshop participants worked in groups (a mix of ECRs, publishers, and other participants) to actively seek and discuss solutions for these challenges. Table 2 shows all the different challenges identified, for each of the 4 domains, and also includes the solutions proposed for each specific issue raised by workshop participants.

Guidelines for Current and Future ECR–Publisher Initiatives

ECRs can play integral roles within the publishing ecosystem, in various capacities—editors, reviewers, authors, and ambassadors). When setting up ECR–publisher initiatives, it is crucial to consider the goals, potential pitfalls, and challenges, as well as the evaluation tools. Based on

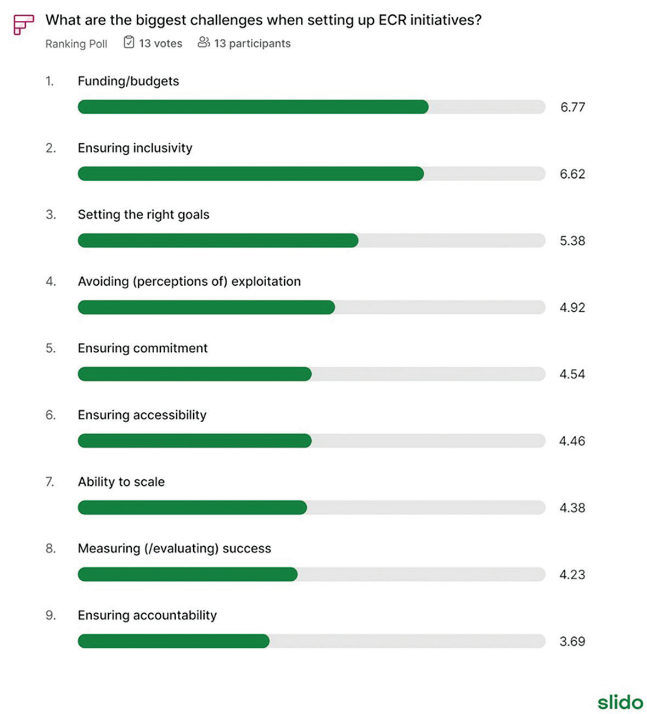

Figure 2. Poll ranking the importance of the main identified challenges when setting up an early-career researcher initiative within the publishing ecosystem.

discussions at the workshop, we have put together the following guidelines for current and future ECR–publisher initiatives.

Practical Guidelines

1. **Planning.** Conduct thorough research to identify the type of ECR–publisher initiative that—in the given context—will most likely be beneficial for all parties involved. Set clear, measurable goals and priorities for the initiative.
2. **Budgeting.** Factor in the costs of running an ECR–publisher initiative and critically review the budget. Ensure that expenses incurred by involved parties (e.g., ECRs, mentors) are funded.
3. **Recruitment.** Recruit and train ECRs over a defined period of time, emphasizing skill development and networking. Ensure the recruitment process is inclusive, with open calls for applicants. Consider setting targets for the representation of different groups.
4. **Implementation.** Ensure flexibility throughout the implementation process. Clearly define and communicate the nature of the work performed by all parties involved.

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Table 2. Early-career researcher (ECR)–publisher initiatives challenges and solutions proposed by workshop participants.

Challenges	Solutions
Domain 1—Technical: What are the technical challenges involved in setting up an ECR initiative?	
Designing efficient and intuitive technological infrastructure (platform compatibility)	Conduct thorough user research to understand needs, preferences, and behaviors of your target audience Use cross-platform development frameworks Regularly update applications used to incorporate new platform features, enhancements
GDPR/Database management	Work with the system you have—do not reinvent the wheel Provide comprehensive training and awareness programs to educate users about GDPR regulations, data protection best practices, and their roles and responsibilities in ensuring compliance Foster a culture of data privacy and security awareness across organization to minimize risk of violations
Scale: ability to communicate with many people at the same time	Use tools for global communication (e.g., slack) Online forums Outdated tools may make a comeback (e.g., listserv)
Domain 2—Engagement: How to ensure engagement with as diverse a group of ECRs as possible?	
Setting clear priorities, objectives geared toward ensuring diversity; making sure you can retain flexibility to recognize and act on growth opportunities and growth areas (to avoid one-size-fits-all approach)	Gather and analyze quantitative/qualitative data to identify trends, patterns, emerging opportunities before, during, and at end of initiative Monitor key performance indicators and gather feedback to assess effectiveness of different initiatives; refine strategies accordingly Adopt an agile decision-making process that allows for flexibility, adaptation
Reaching new ECRs; helping involved ECRs remain connected to peers	Organize wide-spread open calls for applicants (e.g., through word of mouth, digital marketing, etc.) Use tools for global communication (e.g., slack, online forums, listserv, etc.)
Making engagement opportunities accessible	Explore different networks/platforms Meet ECRs where they are most active and most easily found
Working across time zones	Allow people to adjust work schedules to accommodate different time zones, which ensures overlap for collaboration and respects individual preferences/constraints
Working across language barriers	Use multilingual communication tools/platforms (e.g., translation software) to facilitate effective communication and collaboration among team members speaking different languages
Defining "diverse": representation of different groups. Recognizing different cultures/groups	Organizational change comes first to ensure psychologically safe working environment Recruit new roles (e.g., sensitivity specialist, DEIA specialist, etc.)
Making the commitment to spending enough resources and time to ensure diversity	Factor in cost to make necessary changes in budget Recognize budgets are inherently political and a statement of intent: money allocated for things that matter

Table 2. Early-career researcher (ECR)–publisher initiatives challenges and solutions proposed by workshop participants. (Continued)	
Domain 3—Financial: What are the financial issues surrounding ECR initiatives?	
Publisher budgets are often stretched and funding for ECR initiatives may not be priority	There should be buy-in from senior leadership team of publishing company Society membership sometimes offers benefits that could be extended to others involved in the ECR–publisher initiatives (e.g., ECR discounts for membership) Research organizations, academic institutions/CDT, conference sponsors could fund and support ECR initiatives
Perception of exploitation of unpaid trainees/interns	Ensure equal treatment of everyone Ensure time spent as part of initiative is considered part of ECR's working week; additional expenses incurred should be funded Provide meaningful recognition for ECR (e.g., certificates, acknowledgments, career advancement opportunities) Clearly define nature of work performed by ECRs: clear responsibilities and opportunities for visibility (no "behind-the-scenes" work)
Among ECRs, there may be no knowledge of where to obtain funding for "own" initiatives	Create mentorship networks connecting ECRs with experienced researchers/professionals who can provide guidance on funding opportunities, grant applications, and navigating research-funding landscape
Domain 4—Evaluation: How to evaluate the impact and success of an ECR initiative?	
Success metrics may not always be obvious	Measure what matters: avoid vanity metrics Decide on key objectives and metrics in advance
There is no framework for evaluation nor are there pre-designed evaluation criteria; where to obtain hard metrics when so many initiatives are about "soft" skills development	Evaluation depends on objectives; measure how many ECRs engage and are retained Develop measures for "soft" skills (e.g., confidence) Keep it simple: keep scale of project in mind; start small, though eventually you may want to scale up
Lack of uniform CPD programs	Collaborate with other publishers to develop industry-wide standards for CPD programs, ensuring consistency/quality
Measuring success depends on perspective/point of view	Both sides (publishers and ECRs) should be considered when evaluating what success looks like
Evaluating the success of a global initiative when participants are each in different settings with varying access to resources	Evaluation should focus on key performance indicators—priorities set at the start should be clear
Measuring "return on investment"	There is need to use a wide range of measures, which are all closely tied to goals
What happens after the initiative, or ECR involvement, ends?	Continue relationship with ECRs (e.g., as reviewers, editors); this will show that the initiative supported career progression Implement feedback mechanisms to assess skills learned and improve mentorship

Abbreviations: CPD, continued professional development.

5. **Execution.** Organize relevant local, in-person, events, as well as inclusive online events across different time zones. Encourage peer-led initiatives and provide incentives. Put emphasis on strong marketing tools to effectively achieve the goals of the initiative. Use storytelling techniques. Monitor key performance indicators and gather feedback to assess the effectiveness of different initiatives and refine your strategies accordingly.
6. **Recognition.** Recognize, certify, and publicly acknowledge the valuable contributions of ECRs, thereby promoting their professional development and

standing within the scholarly community. Ensure time spent as part of the initiative is considered part of the ECR's working week.

7. **Evaluation and Follow-Up.** Support ECRs after involvement, offering certificates, references, or career opportunities. Ask all involved parties to evaluate their experience.

Conclusion

The workshop discussions at the 2024 Researcher to Reader Conference shed light on the importance of empowering ECRs within the publishing ecosystem. However, establishing and running effective ECR–publisher initiatives pose numerous challenges. Our workshop discussions make it clear, however, that there are promising solutions for most of these issues. If done right, the collaboration between publishers and ECRs can (continue to) drive positive change and innovation within the publishing ecosystem.[18,19] Working with ECRs, publishers, and other stakeholders, we have developed a set of key recommendations for current and future initiatives.

Acknowledgments

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Competing Interest Statement

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FEATURE

CSE Recommendations for Censoring and Editing Reviewer Comments and the Role of the Guest Editor

Ruth Isaacson

In response to the ever-evolving publishing landscape, CSE's *Recommendations for Promoting Integrity in Scientific Journal Publications*[1] is updated regularly to reflect new or best practices. In August 2024 it was updated with additional information in section 2.1.7, "Supplements, Special Series, or Calls for Papers," and now includes section 2.1.16, "Censoring or Editing Reviewer Comments." These standards and the updates are summarized below.

2.1.7 Supplements, Special Series, or Calls for Papers

In 2023, a *Scholarly Kitchen* post by Christos Petrou,[2] and then later a preprint by Hanson et al.,[3] raised the topic of journals publishing high numbers of articles via the Guest Editor model. These pieces discuss the strain this has caused for scholarly publishing, and in 2023–2024, we have seen the potential for reputational damage for some journals. In his post, Petrou stated that "publishers pursuing the Guest Editor model at scale ought to be transparent about the safeguards that they have in place to uphold their journals' editorial integrity." Given the conversations around Guest Editor models, the CSE Editorial Policy Committee determined an update to section 2.1.7 was needed.

The committee considered current Committee on Publication Ethics (COPE) guidance[4] and discussed a potential expansion to include the topic of Guest Editors for single papers.[5] Since community concerns seemed to rest with Guest Editors overseeing large collections of papers, the committee ultimately agreed the update should focus specifically on supplements, series, or calls for papers.

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The updated section recommends that Guest Editors have clearly defined responsibilities, which include declaration of conflicts of interest, application of the journal's review policy, and review of manuscripts in a manner consistent with the journal's vision, mission, standards, and processes. The updates also indicate that when Guest Editors are used, journals should be transparent about the peer review process. Decisions should be approved by the Editor-in-Chief, or the Guest Editor should be authorized via a Memo of Understanding to make decisions on peer-reviewed manuscripts. Guest Editors should not review any manuscripts in which they are a coauthor, and they should adhere to all timelines and consult the Editor-in-Chief if extensions need to be granted to authors.

2.1.16 Censoring and Editing Reviewer Comments

The August 2024 addition of a topic on censoring and editing reviewer comments came about naturally during discussions about areas where further guidance may be needed. I am particularly interested in this topic as it is one that comes up frequently during the training I provide for new journal editors. Aside from a formal policy issued by COPE[6] in 2021, there is little guidance that exists for censoring and editing reviewer comments. Yet, multiple scholarly articles online ponder this dilemma. In conversations with editors, I've heard a range of opinions as to if, and how much, reviews should be edited. There is a natural tension between respect for the work of the reviewer and the obligation of the editor to ensure that reviews are not offensive, derogatory, potentially libelous, or unethical in content. The recommendations added in August 2024 to CSE's recommendations refer heavily to the COPE policy and lean on the experiences of the members of the Editorial Policy Committee.

First, we focused on reviewer education. Journals should publish guidelines for reviewers with specifics as to what is

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acceptable (or not) in a review and try to include examples. This recommendation not only helps to ensure reviewers submit appropriate reviews but also allows journals to refer reviewers to the published guidelines when concerning language is used. The committee expanded on the COPE guidance by indicating that policies should bar language in reviews that could be derogatory or that passes judgment on an author because of their geographic or institutional location, language skills, or career level. This expansion of the COPE guidelines was in response to real-world examples we've seen with reviewers in our journals, for example, senior reviewers referring to an author's early career stage in an inappropriate manner or providing a poorly worded recommendation for professional editing.

Second, we focused on recommendations around the actual censoring or editing of reviews. While this is a decision that each journal must make (i.e., what is permissible), the common recommendation is that this should be stated clearly in a published policy so that reviewers and authors are aware of consequences. Journals should note what actions they may take and what circumstances might dictate these actions.

Journals that approve of the censoring or editing of reviews should explore the feasibility of 1) allowing reviewers to edit their own reviews and 2) consulting or notifying the reviewer of the edits or censorship. We recognize that at times this may not be possible if there are time constraints or other barriers; therefore, journals should create policies that reflect the practicalities of their publishing environment.

For journals that choose not to permit censoring or editing of reviews, the policy ideally should provide a path for editors to acknowledge the concerns they have with the review, advise the authors as to how to respond to the review, and note journal policy.

Finally, this recommendation emphasizes the need for internal documentation. If issues arise as a result of the review or censorship or editing, the journal should, at a minimum, have access to the original review, any changes made, and all communications with the reviewer.

The Editorial Policy Committee hopes the update and new section are helpful additions to the recommendations paper. If you are interested in becoming involved with the recommendations paper, please consider joining the Editorial Policy Committee.

Acknowledgements

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Benefits and Challenges of Mentoring in CSE and Beyond

Patricia K Baskin

Mentoring in CSE and Beyond: Personal Support in Professional Development—*Patty Baskin, Leslie Neistadt, and Barbara Gastel have long been leaders for the CSE Mentorship program. Based on a session from the 2024 CSE Annual Meeting in Portland, they have developed a series of articles on mentorship. The other two articles are available here: https://doi.org/10.36591/SE-4704-03; https://doi.org/10.36591/SE-4704-04*

A Personal Experience

I had been working about 6 months as managing editor of the *Neurology* journals at the American Academy of Neurology when my editor entered my office one afternoon. It's important to understand the stature of this editor—he had been director of medical development at a major medical center and later was appointed the CEO of the health system, working at a national level with government leaders on changing health care. On this day, he sat casually in the chair opposite me and offered some advice. First, he reassured me that I was fulfilling all my responsibilities as expected. Then he made some other observations: "Patty, I'd like you to think more like an executive—to challenge our Associate Editors and Editorial Board, to tell them when policies need to be updated and changed, to be confident and trust your own knowledge, and 'throw your weight around.'" He urged me to network more with senior staff in the organization, invite them to lunch as equals to learn more about their responsibilities, and even to "misbehave" a bit, for example, cancel routine meetings as needed in order to prioritize my time and energy for what I judged as more important. This time spent by a very distinguished person for a conversation of less than an hour had a lasting influence on my career and affected my approach toward colleagues (whether high-ranking CEOs or CFOs, Editorial Board members, or staff). I realized later that this was a mentoring conversation, and this example shows how mentoring need not be complicated or take much time and yet produce long-term effects.

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Beyond Networking to Mentoring

CSE events are designed to expand our networks. They are where we develop knowledge and skills, increase our leadership abilities to apply when we go back to our home organizations, develop professionally, and become more effective leaders. Networking helps us function more effectively when interacting with colleagues on everyday tasks. We are constantly hearing at CSE meetings how **others** manage and thinking about tips we can take home for managing workflows and teams. When we come together at the meetings, we're also networking from a professional development standpoint; meetings are safe spaces for stepping up to make contacts with others for future referrals and information, along with advancing our own professional growth and our careers.

Development Through Mentoring

There is a real distinction between networking and mentoring. Networking helps us all be more effective in our positions, but mentoring goes beyond networking—it's outwardly directed—and great benefits exist for both the mentor and mentee. Networking helps with tactical advice, whereas mentoring provides guidance and role modeling. While networking, you usually make short connections, focused on specific topics. With mentoring, connections are usually longer lasting and frequently lead to growth for both mentor and mentee.

Mentors are often a resource for colleagues who wish to increase their job skills or develop professionally or just need direction or advice navigating situations in their workplaces or careers. Every situation differs, depending on the individuals involved. Sometimes mentors play the role of a teacher, providing a helping hand to build skills, maximize strengths, and mitigate weaknesses. As coaches, they enable mentees to learn from mistakes and achieve goals. They support mentees in making decisions and act as sounding boards, providing feedback, helping assess their ideas, and conveying confidence.

Benefits to Mentees and Mentors

Mentoring benefits both members of the dyad. Mentees, of course, benefit from the experience of the mentor. However,

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mentors can gain immense fulfillment from assisting the professional development of mentees, and mentoring helps mentors reaffirm their self-esteem and reassess their own development goals.

Both mentors and mentees also increase their professional skills: Mentors reflect and often enjoy a new sense of self-awareness, while mentees develop and apply the skills learned from their mentors. Both benefit from discovering fresh ideas, considering alternative ways of looking at projects, and potentially bringing more productivity or better communication to the workplace.

Challenges of Mentoring

Challenges of mentoring include time limitations, incompatible matches, and the perception that formal training is needed to be a mentor. Lack of time, usually from one member of the mentoring dyad, can cause mentorships to fail. In an arranged mentorship, both members need to be open to forming congenial relationships and freely exchanging information. Personality clashes or differences in approach sometimes arise; this has happened a few times in the CSE program, and we have paired the members with other partners. Most mentors who are already "trained" by their experience possess certain characteristics; desired talents of mentors include being trustworthy, supportive, knowledgeable, and mainly possessing good listening and communication skills.

Hybrid Mentorship

New challenges have arisen for hybrid workers; mentoring is critically needed for many doing remote work. With the lack of regular face-to-face conversations at work, people are concerned about being kept "in the loop" with team projects and the ability to build professional relationships, leading to advancement. The COVID-19 pandemic led to refinement of remote tools such as Zoom and Microsoft Teams, which facilitate e-mentoring; these tools can promote greater flexibility in scheduling and help enable geographically diverse pairings. They also can promote equity, as they often eliminate biases easily formed through in-person meetings. Being face-to-face in a square on the screen is usually more democratic and often more comfortable than meeting in an office or a conference room, where there is an obvious power structure.

Opportunities for Mentoring

In your workplace, it's worth remembering that there are often multiple opportunities for mentoring. Mentoring opportunities for helping other employees or subordinates abound, but it is also important to realize that you are in a position to mentor editors, reviewers, authors, and other staff. Leading a staff with a mentoring approach is important for both their and the leader's further development—and to ensure effective back-up and succession.

Reflecting on Your Own Experiences

As you consider whether you would like to take on mentoring a CSE colleague or applying for a mentor, I encourage you to reflect on mentors, formal or informal, who helped you at pivotal points in your life or career. Also, if you have mentored others, consider the benefits you received in exchange. We encourage you to mentor someone new to CSE or someone at an early career stage. If you are in the early career category or just new to CSE, ask and we'll match you with a mentor!

And remember that mentoring doesn't have to be complicated or take much time. It can bring immense satisfaction—and new friendships.

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FEATURE

Imposter Syndrome: How to Recognize and Combat It

Leslie Neistadt

Mentoring in CSE and Beyond: Personal Support in Professional Development—Patty Baskin, Leslie Neistadt, and Barbara Gastel have long been leaders for the CSE Mentorship program. Based on a session from the 2024 CSE Annual Meeting in Portland, they have developed a series of articles on mentorship. The other two articles are available here: https://doi.org/10.36591/SE-4704-02; https://doi.org/10.36591/SE-4704-04

Most of us doubt ourselves, at least occasionally, and some of us do so more often than others. In life, and particularly at work, do you

- see each new challenge as the one that will finally reveal you as a fraud?
- view any success as a fluke?
- assume responsibility for everything that goes wrong?
- define competence as absolute perfection?
- overprepare to cover your perceived ineptness?
- procrastinate so you have a ready excuse for a poor result?
- fear both failure and success?

If you answered *yes* to any of these, you might have imposter syndrome, which has been described as the pervasive feeling of self-doubt, insecurity, fraudulence, and incompetence, often despite voluminous evidence to the contrary and despite the positive opinions of others. It is not listed in the *Diagnostic and Statistical Manual of Mental Disorders*,[1] and no formal definition or list of diagnostic criteria exists.

Imposter syndrome as a psychological phenomenon was first described in the 1970s, when Oberlin psychologists Pauline Clance and Suzanne Imes began talking about their shared sense of not being good or smart or hard-working enough. They suspected they were not the only ones and so studied 150 women: accomplished professionals and excellent students. Even though the participants were successful by every measure, many believed they had fooled everyone into thinking well of them and that one day, the truth would be discovered, and they would be identified as frauds.

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Clance and Imes wrote up their findings, and though the article was rejected by several journals, it was eventually accepted by *Psychotherapy* in 1978.[2] They proposed that the cause of imposter syndrome is multifactorial, involving the culture, environment, and family dynamics and suggested that it stems from a failure to feel validated in childhood. Some parents have completely unrealistic expectations for youngsters. Conversely, other parents are overly critical. In both cases, the offspring see their self-worth as contingent on achievement and an inability to attain perfection as failure. Some researchers have blamed structural problems and systemic inequalities and thought the aim should be to address these factors, not to pathologize the individuals. Clance and Imes agreed with many of these ideas. Clance subsequently developed the Imposter Phenomenon Scale.[3]

Who experiences imposter syndrome? Data on the prevalence and demographics are lacking. Anecdotally, the topic has received a good deal of attention, as evidenced by the more than 200 articles in PubMed, with a rapid proliferation in the past few years. Amazon has more than 450,000 links, and Google has more than 12 million links.

In a 2016 study by Villwock et al[4] of a medical school class, one-fourth of the male students and one-half of the females expressed symptoms of imposter syndrome. Whether women are truly more vulnerable than men is unclear; it may simply be that women are more willing to admit it. Smart, successful, conscientious, and perfectionistic people are most susceptible. They may feel they need to work twice as hard to be half as good, but their efforts are never enough.

Imposter syndrome can be particularly prevalent in historically marginalized populations, who may feel pressure to represent their entire group. It also tends to affect individuals who differ in any way from the majority of their peers: by gender, race, disability, or another aspect, such as being a first-generation college student. Alienation and feeling undervalued and less competent than peers may result, leading to increased stress.

Among the accomplished people who have experienced imposter syndrome are

- Author Maya Angelou: "I have written 11 books, but each time, I think 'uh oh, they're going to find me out now. I've run a game on everybody, and they're going to find me out.'"[5]
- Astronaut Neil Armstrong: "I just look at all these people and think, what the heck am I doing here? They've made amazing things. I just went where I was sent."[6]
- Associate Supreme Court Justice Sonia Sotomayor: "I have spent my years since Princeton, while at law school and in my various professional jobs, not feeling completely a part of the worlds I inhabit. I am always looking over my shoulder wondering if I measure up."[7]
- Actor Tom Hanks: "No matter what you've done, there comes a point where you think, how did I get here? When are they going to discover that I am, in fact, a fraud and take everything away from me?"[8]
- Actress and director Jodie Foster: "I thought everybody would find out, and they'd take the Oscar back. They'd come to my house, knocking on the door: 'Excuse me, we meant to give that to Meryl Streep.'"[9]
- Actress Meryl Streep: "You think, 'Why would anyone want to see me again in a movie? And I don't know how to act anyway, so why am I doing this?'"[9]

So, if you have imposter syndrome, what can you do? A number of things[10–16]:

- Remember that most people experience this at one point or another; you're not alone.
- Reframe those negative thoughts. Maybe your mistake isn't actually catastrophic?
- Personalize less and contextualize more. It's not necessarily all about you!
- Separate feelings from reality. Feeling that you're a fraud doesn't automatically make you one.
- Stop setting unrealistic goals. Acknowledge that life is imperfect, you're going to make mistakes, and sometimes "good enough" is sufficient.
- Learn to accept positive feedback with a simple "thank you" rather than a lengthy explanation of all the ways in which you failed to measure up.
- Keep a log of those compliments and refer back to them as needed.

Consider several real-life frauds. Elizabeth Holmes convinced investors to back her Theranos blood-testing company, which was based entirely on unproven and discredited claims. Bernie Madoff created the largest Ponzi scheme in history. How much time do you think they spent worrying about imposter syndrome?

If actual frauds rarely experience imposter syndrome, maybe the corollary is that if you do have it, then chances are you're not a fraud!

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Mentorship: Some Experiences, Reflections, and Suggestions

Barbara Gastel

Mentoring in CSE and Beyond: Personal Support in Professional Development—Patty Baskin, Leslie Neistadt, and Barbara Gastel have long been leaders for the CSE Mentorship program. Based on a session from the 2024 CSE Annual Meeting in Portland, they have developed a series of articles on mentorship. The other two articles are available here: https://doi.org/10.36591/SE-4704-02; https://doi.org/10.36591/SE-4704-03

Mentorship has existed for millennia, but the current emphasis on mentorship in professional contexts seems relatively recent, as does the sometimes-related concept of imposter syndrome. Although the term "mentor" is based on a character in *The Odyssey*, the term "mentee" seems to date to 1940.[1] A published description of the imposter phenomenon first appeared in 1978, as noted in the accompanying piece[2] by Leslie Neistadt. The term "imposter syndrome" seems to have first appeared in 1982.[3]

My time as a mentee, mentor, and person interested in mentorship has spanned much of this recent era. In this article, I share some experiences, reflections, and suggestions.

Some Experiences

My experiences as a mentee date back to the late 1960s. A scientist whose laboratory I worked in while in high school became a mentor and a model for my own mentorship style.[4] Ditto for an academic physician for whom I worked in summers during college and medical school. Not so for another potential mentor, assigned through a science communication fellowship program. Although we shared an office—where he smoked incessantly, as was still allowed—he barely acknowledged me. I learned from his skillful work but obtained mentorship from others at the publication.

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Since entering academia in the early 1980s, I have had multiple mentees. Most have begun as my students or advisees. Some are from my international work. And some are from mentorship programs, including CSE's. Most of the mentorships have been rewarding; I have enjoyed seeing mentees' careers develop, learned from my mentees, and been heartened to see some become mentors themselves. However, some mentorships—such as one where the mentee repeatedly failed to show up for meetings—have not worked out so well. The most successful and enduring mentorships, I believe, have been those where the prospective mentee perceived a resonance and sought continued interaction, regardless of whether it was labeled "mentorship."

Some Reflections

A favorite passage about mentorship comes from an essay in *JAMA*.[5] It reads as follows:

> *You can assign advisors, not mentors. A mentor and a student will come together because they sense it is right for both of them—not because a committee decides it suits some abstract bureaucratic goals. An advisor can show you how to write a grant proposal, how to get a research project started, or how to get promoted. A mentor will show you how to live your life.*

Some largely related reflections:

- A mentor needs resonance with you. An advisor need not have it. If, however, such resonance exists, the advising relationship may well evolve into a mentoring one.
- An advisor must provide guidance—for example, by sharing information, introducing resources, or providing structure. Commonly, a mentor also provides some guidance. However, much of the support may be more global—for example, by providing validation, serving as a sounding board, or helping the mentee analyze a problem.
- What institutions and organizations term "mentoring" is often largely advising. The advising might develop into mentoring, but it can be useful even if it does not.
- A mentor need not look like you. Emphasis sometimes is placed on assigning mentors of the same gender, race, ethnicity, or such. Such commonalities can contribute to resonance. But they are not imperative. My scientist

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mentor was 6′ 7″, blond, and a veteran. I am far from any of those. Yet our styles and values promoted rapport. Similarly, I have had mentees of varied races, nationalities, religions, and more. What is important in mentoring seems to go deeper.

Some Suggestions

Based largely on my experience, here are 10 suggestions for mentoring (or for advising that verges on mentoring).

1. **Find out the mentee's goals. However, don't feel limited to them.** Gear the mentoring to the mentee's aspirations, but do not be restricted by them. A mentor can broaden a mentee's horizons.
2. **LISTEN.** A mentee may benefit greatly from a nonjudgmental, perceptive, informed listener. Often, talking with a mentor helps the mentee clarify ideas and priorities and proceed accordingly.
3. **See yourself as part of a mentorship array.** A mentor is not a placenta, providing everything the mentee needs. Rather, a mentor is part of an array. Provide the guidance you can, and help the mentee find people and other resources to fill other needs. Doing so can serve mentees best and help allay mentors' imposter syndrome.
4. **Don't feel that you need all the answers. But help the mentee seek answers.** Doing so is a corollary of the point above. A plus: It models information-seeking behaviors for the mentee to develop.
5. **Give mentees chances to learn from your experience. However, don't overdo it.** Mentees can benefit vicariously from your experiences. But remember: The purpose is to help the mentee, not to reminisce for your own satisfaction.
6. **Be frank about your own struggles and vulnerabilities.** Even successful professionals sometimes face difficulties or lack confidence. Sharing your own challenges and insecurities can demonstrate how to deal with such items and help allay mentees' imposter syndrome.
7. **Don't term ideas "impossible." Rather, guide the mentee in exploring their feasibility.** Squelching ideas can squelch a mentoring relationship. Even if an idea seems infeasible, explore it with the mentee. Doing so can help develop critical thinking. And the idea might turn out to be workable after all.
8. **Realize different mentorships have different styles.** Different mentors can have different styles. Even for the same mentor, different styles may suit different mentees. Be flexible.
9. **Realize that mentorships evolve—and dissolve.** Mentorships change over time, and the duo may drift away from each other. Doing so might not indicate failure. Rather, the mentorship might have achieved its goals and so is no longer needed.
10. **Realize that some benefits of mentorship may be intangible.** Sometimes mentorships have tangible benefits, such as the mentee finding a job. But sometimes they have intangible benefits, such as the mentee's increased self-confidence. The latter are valuable too.

Finally, *learn from the mentee, too.* Science-editing mentees bring distinctive knowledge, fresh perspectives, thought-provoking questions, and more. Learn from them as they learn from you.

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CASE STUDY

All in the Same Boat: Consolidating Established Journals

Bryan Hibbard

For many journal portfolios, the focus is on ever-increasing expansion, launching new journals to reach new markets, and capturing niche audiences. But what happens when those niche journals cannibalize each other and fight for prominence—when one journal emerges as the de facto flagship journal, and your research community begins to see the others as second string? As Sr Editorial Operations Manager, this was the main problem I faced at the Society of Petroleum Engineers (SPE) and, rather than fight against this trend, I proposed merging our 4 journals into one robust title that covers all aspects of petroleum engineering. One year later, the results are promising: Submissions to the new, consolidated journal are up 20% compared with total submissions for the previous journal portfolio. I believe this new journal will allow SPE to remain competitive within our field of research and offer new opportunities for research in a rapidly changing industry.

How Did We Get Here?

In the early years of the Society (60–70 years ago), SPE had only one research journal. As that journal grew, it made logical sense to offer new, individualized journals that covered specific disciplines within petroleum engineering. At its height, SPE had 9 journals that were published simultaneously. In the 1990s and 2000s, interest and submissions to some of those journals dwindled, and they had to be sunset; many authors and readers were lost. In early 2022, the situation was not much better. SPE's general interest journal, *SPE Journal* (focused on fundamental research), was expanding rapidly due to a high impact factor and great reputation among the research community for speed and quality. Meanwhile, SPE's 3 discipline-specific journals (focused on field applications) were losing steam. There was a nearly direct-numbers migration from these journals to *SPE Journal* (Figure 1).

SPE's editors anecdotally shared the same concerns about authors increasingly selecting *SPE Journal* as their first choice and not being willing to transfer to our other journals. SPE needed a solution that built on the growing strength of *SPE Journal* but was inclusive of the research communities that had been created in its specialized journals.

The Pitch

Full disclosure, my first discussion with the editors on consolidating the journals did not go well. My goal was to assess interest, but I was nearly chased out of the virtual board meeting. I expected torch and pitchfork emojis to rain down on me. The specialized journal editors felt that the unique voice of each journal would get lost in a consolidation. On the flip side, the *SPE Journal* editors did not want to allow "riffraff" into their esteemed journal. Many felt personally attacked, as if SPE was flippantly dismissing all their hard work in the research community. I left the meeting a bit wounded, but with a clear direction.

What I needed for my room full of engineers was solid data. I gathered statistics (such as in Figure 1) that showed the trends in our journal portfolio. I also came up with a journal structure that would maintain the unique qualities of our past journals:

- Articles would be labeled as either "Fundamental Research" or "Applications" to capture the historic focus of our journal portfolio.
- The journal would be a collection of robust sections. Each journal to be sunset would have one or more dedicated sections in the new journal. The executive editors and associate editors for those journals would seamlessly transfer over to the new journal under their respective sections.
- The sections would even allow SPE to solve another problem—emerging research topics that had not grown enough to warrant a new journal could have their own

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Submissions	2017	2018	2019	2020	2021
SPEDC	190	168	182	177	174
SPEJ	**552**	**573**	**638**	**707**	**899**
SPEPO	184	174	160	229	188
SPEREE	353	348	296	301	268
All	**1279**	**1263**	**1276**	**1414**	**1529**

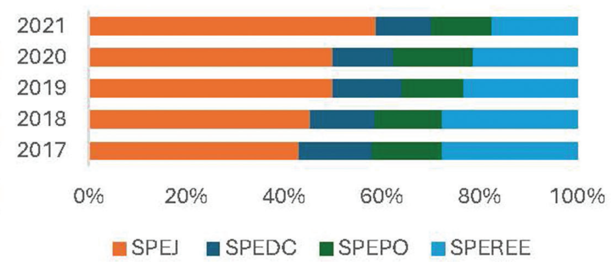

Figure 1. Submissions from 2017–2021 for Society of Petroleum Engineers' (SPE's) journal portfolio. The right chart shows each journal's submissions as a percentage of total submissions. Submissions increased greatly in 2020 and 2021 almost entirely due to *SPE Journal* (SPEJ). Abbreviations: SPEDC, *SPE Drilling & Completion*; SPEPO, *SPE Production & Operations*; SPEREE, *SPE Reservoir Evaluation & Engineering*.

section in the new journal. For example, the transition from the world's reliance on fossil fuels to renewable forms of energy is a rapidly growing, yet highly controversial, topic within our community. A journal focused on energy transition had been discussed and rejected many times in the past, but a section for energy transition proved to be acceptable.

- These sections would also be fluid and could grow and contract as research interests changed. The editorial board would be able to add, remove, or rename sections as needed.
- The larger journal footprint would hopefully lead to increased submissions and more engagement with our research community, which should ultimately translate to more citations. I noted that competing journals within our field tended to increase their impact factor as they grew. The growth of the journal may initially lower the impact factor as the other journals' content is added in, but the hope is to see citations and impact grow long term.
- With one submission site, one editorial board, and no need for transfers between our journals, this would simplify the submission and peer review process.
- The journal would be rebranded with an updated scope and detailed section descriptions that would serve as subscopes for each section.
- Importantly, the journal would keep the name of our most popular journal (*SPE Journal*) and since the scope was already broad, it only required minor updates. This would allow SPE to maintain its record in industry metrics such as Web of Science.

To say that my second pitch a year later, with data and a plan, went better would be an understatement. There was almost no pushback from my editors this time, and their concerns were now logistical and not existential. The editors made some minor tweaks to my plan, and we were off to the races (Figure 2).

Implementation

Obtaining buy-in turned out to be the easy part. The plan was approved by SPE's board of directors in early 2023 with the goal of the first issue of the new consolidated journal publishing January 2024.

My team began with a comprehensive awareness campaign focused on editors and reviewers, and gradually spread out to readers, members, and the general public. It was important that SPE get the message right and help our audience to appreciate all the positives this change

Figure 2. Rebranded cover for the consolidated *SPE Journal*.

would bring, while not dwelling on what would be lost. It was important that SPE never discussed closing a journal, instead focusing on the collaborative aspects of bringing all SPE's research under one title.

In the summer of 2023, my team began transferring manuscripts in active peer review into the new *SPE Journal* submission site, helping the authors to select the appropriate journal section. This is another area where I expected some pushback, but surprisingly, not a single author complained about transferring their paper. It turns out, they liked the extended reach and better impact factor of *SPE Journal*. With an article in our member magazine written by our editor-in-chief and multiple executive editor–led webinars on the consolidation, membership saw that SPE editorial leadership was supportive of the change and excited for the new future of the journal.

What Did We Learn?

It is now nearly a year into the journal launch. It seemed a bit like a crazy idea at first, but the consolidation really has made SPE's journal program stronger.

- As mentioned earlier, from the announcement of the new journal in early 2023 until now, there has been a 20% increase in submissions compared with previous years, and the acceptance rate has stayed consistent, showing that these new papers are of similar quality to the old submissions.
- Our board of 8 executive editors and more than 100 associate editors now all work together as a single team, which has allowed for a better exchange of ideas.
- The 2 new sections that launched with the journal (Data Science & Engineering Analytics and Sustainability & Energy Transition) are growing quickly.
- One thing that surprised me is that the Drilling & Completion section has seen record growth in paper submissions, quickly becoming the second largest section. In the last 5 years, *SPE Drilling & Completion* journal was on a rapid decline in submissions. The journal consolidation breathed new life into this research community.
- The editorial board has had to better define the journal sections. The authors choose what they believe is the best section for their paper, but often the editors must move the paper to a different section or outright reject it. This has been especially true for our newer sections, which get out-of-scope papers regularly.
- SPE's readers had to pay for a new individual subscription rate for the consolidated journal rather than buy individual journals. Most of our readers pay for a subscription to SPE's entire multisociety library (OnePetro.org), so this only reflects about 15% of revenue for the journal. Individual subscribers are down slightly with the change, but not as much as was originally predicted.

Why Did This Work for SPE?

First, I do not believe journal consolidation is the best choice in every situation. SPE had a unique set of circumstances that made it a success:

- SPE had a broad-scope, high-performing journal that could easily capture the content from our specialized journals. This allowed the journal to keep the name the same and maintain its journal metrics.
- SPE's publications are online-only and the Society has not published print journals for nearly 10 years. This allowed the flexibility to offer larger issues.
- Most of SPE's subscribers access our journals through the multisociety library, and so the consolidation did not affect their cost or access in any way.
- I had the right editorial board, open to change and willing to take a risk.

I am proud of the new journal and excited to see how it grows and changes with our research community. If you have questions or want to learn more about the journal consolidation, please contact me at bhibbard@spe.org.

The Indispensable Role of Human Attention and Observation in Editorial and Peer Review

Ashutosh Ghildiyal

The future of scholarly publishing lies in a harmonious collaboration between humans and artificial intelligence (AI), where AI is used to augment human capabilities rather than replace them. By maintaining a human-led approach and focusing on the unique qualities of human attention and observation, we can ensure the continued integrity and quality of the peer review process.

Scholarly publishers have long been at the forefront of advancing human knowledge by curating and disseminating research. However, as the volume of research submissions has surged, new challenges have emerged in maintaining the quality and integrity of published work. Editorial tasks and peer review, once manageable through human effort alone, are now strained by the sheer scale of submissions. The central issue is how to manage this increase without compromising the rigorous standards that define scholarly publishing.

The conversation around AI in publishing is often framed as a competition between humans and machines, but this dichotomy is misleading. AI is here to stay, and its role should be seen as augmenting human capabilities rather than replacing them. While AI can efficiently handle repetitive tasks, it lacks the uniquely human qualities of attention and observation—qualities that enable us to see beyond the obvious, think creatively, and draw insights from the unknown. AI operates within the boundaries of existing data, whereas human cognition transcends these limits, allowing for true innovation.

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The essence of learning and understanding in scholarly work is deeply tied to the quality of attention. True learning is not about memorizing facts for later recall, but about understanding the significance of those facts in the broader context of life and research. This kind of learning requires a level of attention that cannot be rushed or optimized by machines; it unfolds over time, allowing for deeper observation and reflection.

Despite AI's potential, there is a significant concern that its use might diminish the quality of human oversight. This is particularly important in academic publishing, where the precision of language and the clarity of ideas are paramount. Multilingual speakers, for instance, may struggle to determine whether AI-generated text accurately conveys their original insights. Even those for whom English is their first language find it challenging to review their work with the necessary attention to detail, which is why external review remains essential. AI's foundation, or its "consciousness," is built on data—information from everything that has ever been written or documented, both digitally and otherwise, that it can access. Its speed, processing power, and real-time access to this vast memory make it highly capable. However, human consciousness holds far more data, much of it unconscious, comprising nonverbal cues, intuitions, and understandings that AI cannot fully replicate. Consciousness is our foundational essence—beyond gender, race, or nationality—reflecting our internal relationship to the whole. This relationship enables us to understand and interpret another human being and their work. A human editor, who can draw on this shared human consciousness and appreciate the nuances and significance of a study, both objectively and subjectively, is indispensable in ensuring the final output preserves the essence and integrity of the original insight.

Instead of the increasing reliance on AI, leading to a reduction in human oversight, the relationship should be human-led and AI-assisted. Reviewer fatigue is a growing concern in scholarly publishing, driven by the increasing

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number of submissions and the limited pool of qualified reviewers. This fatigue can result in rushed reviews, delays in publication, and a reduction in the overall quality of the peer review process. AI tools can help alleviate some of this burden by streamlining certain aspects of the review process, such as initial manuscript screening and reviewer matching. However, the human element remains crucial, particularly in ensuring that the nuances of research are fully understood and accurately communicated. The value of human review lies in its ability to catch subtle nuances and irregularities that might be missed by AI.

AI also can support editorial teams by handling more mechanical tasks, such as checking for plagiarism or ensuring adherence to language and formatting guidelines. However, the final decision-making process must remain in human hands. AI-driven tools can assist with language and technical assessments, but they cannot replace the human editor's understanding of the author's intent or the context of the research.

The key is to free up editors' and reviewers' time from mechanical aspects so they can focus their most precious commodity—their attention—on what truly matters: reading the papers and engaging with the research.

As AI becomes more integrated into the publishing process, there is a growing need for humans to cultivate nonmechanical faculties, such as skepticism and critical thinking. These faculties enable us to question existing knowledge, discriminate between what is essential and what is not, and maintain the integrity of the research process. The ability to question, observe with an open mind, and draw new insights from seemingly unrelated data is what sets humans apart from machines.

We have no intention of belittling AI—it is a remarkable tool, and I believe it's the precursor to the next stage of human evolution. By taking over the purely mechanical and measurable aspects of intelligence—long a cornerstone of our education and global civilization—AI gives us the opportunity to explore our minds beyond mechanical thought, into the realms of creativity, art, and insight. AI is here to stay, and while it's incredibly capable, we need to place it in the proper context: as a pointer, not the final interpreter of information; as an artificial form of human thought, but not true intelligence.

The role of human attention and observation in editorial and peer review is more important than ever in the age of AI. While AI can handle many tasks efficiently, it cannot replace the human qualities of attention and observation that are essential for maintaining the integrity and quality of scholarly publishing. The future of publishing should be one where AI supports the management of the increasing scale of publishing, creating more time and space for editorial teams and peer reviewers to engage more meaningfully with manuscripts. By emphasizing our unique human qualities and nurturing attention and creativity, we can harness AI advancements to their fullest potential without compromising the standards that define scholarly publishing.

Authenticity, Veracity, and Rigor: Vintage Wine in a New Bottle of AI Publication Ethics

Bor Luen Tang

Abstract

The advent of generative artificial intelligence (AI) chatbots based on large language models (LLMs) has prompted much discussion and debate on its use in academic publishing, with calls for new approaches to publication ethics and a rush to establish fresh ethics regulations for AI use. I contend that regardless of any new ethical concepts or regulations that are put in place, it is the time-tested values of academic authenticity, veracity, and rigor that must be diligently maintained to guard against AI misuse.

A Need for New AI Publication Ethics and Regulations

The advent of freely accessible generative AI chatbots such as OpenAI's ChatGPT (now GPT-3.5 and GPT-4) and Google's Bard/Gemini, and their immediate widespread use in academic writing, has prompted much discussion on AI's impact on academic and publishing ethics, and how AI use might be regulated. The topics discussed are wide-ranging, from the legitimacy of AI authorship[1,2] to the use of AI in manuscript writing, review, and editing,[3,4] as well as the issue of AI-based plagiarism,[5] or "AI-giarism." The ethics of AI in academic writing has also been extensively explored, with many authors highlighting potential risks of ethical lapses that would undermine the production and examination of honest work.[6-8] Kocak, for example, summed up the general feeling that the use of complex AI in publications could risk "… biases, distortions, irrelevancies, misrepresentations and plagiarism," and as such would require "… the development of new ethical rules to protect scientific integrity."[8] These new ethical rules would hopefully address how AI use in research, writing, and editing should be declared and how AI should be credited (if at all appropriate), among other issues.

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I very much agree that the use of generative AI and LLM chatbots to generate scientific content for publication should be regulated with appropriate modifications of, or additions to, existing ethical rules in academic publishing. However, it is more important that the same ethical demands and standards that existed pre-AI are maintained. The onus would be on *all* stakeholders (i.e., authors, reviewers, editors, and publishers) to maintain these standards. To do so, sustaining the time-tested values of authenticity, veracity, and rigor would be paramount.

The Traditional Values of Authenticity, Veracity, and Rigor

Being *authentic* and original is perhaps the most important value of a scientific paper. One potential debate is the issue of how much AI use should be disclosed or declared.[9] This point arises because, with simple prompts, AI chatbots could quickly and readily write (or ghostwrite) an entire paper from scratch, to the benefit of the human author, who might then be committing AI-giarism.[5] However, asking the question of how much to disclose is akin to asking what percentage of text similarity (as it is detected with plagiarism software) would count as plagiarism, which could be rather meaningless because the instances of piracy of authenticity are what really counts. Therefore, including the prompts, and the AI content generated from these prompts, as raw data would, in fact, be a bare minimum. Authors using AI should diligently highlight the ideas, concepts, and insights they have discerned, derived, or otherwise garnered from the AI-generated contents. Thus, the onus is on the authors to provide a transparent and convincing illustration of originality and authenticity of their work that was produced using AI tools. Ironically, should one attempt to erase the trace of AI writing (there are, of course, AI tools that can do it), while keeping everything in a correct order, might entail even more work for the authors.

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Given that generative AI has the potential to be biased[10] or to generate nonsensical content (hallucination), the *veracity* of AI-aided writing becomes ever more important. Again, the responsibility lies primarily with the authors to ensure factual and semantic accuracy of their manuscripts. In other words, beyond checking their own input, the authors must now ensure that any content provided by the AI tool is also valid and accurate. In particular, AI chatbots are known to incorporate incorrect, inaccurate, or irrelevant bibliographic references; therefore, authors should diligently ensure the veracity of reference citations.

It is extremely alarming that AI-generated nonsensical contents are beginning to appear in peer-reviewed literature.[11] Peer reviewers would thus also play an important role in determining veracity, and their responsibilities could become heavier with AI-aided manuscript writing. With careful review, truly expert reviewers should be able to recognize biased and factual discrepancies, as well as products of AI hallucination, such as nonsensical text and image content or nonexistent references.[12] This should duly inform their recommendations for a manuscript. However, just as there are extremely productive authors,[13] there are also very productive reviewers who might take on many assignments, particularly those that have incentives, such as tokens or vouchers to defer the hefty article processing charges imposed by open access journals. This reviewer hyper-productivity should not come at the expense of review quality.[14] Some reviewers have undoubtedly used AI chatbots in crafting their review reports. Although it is possible to simply ban such activities, doing so might not be effective. Reviewers should be required to declare any use of AI in their manuscript review.

Finally, as the gatekeeper of publication ethics, editors (and their office staff) must be well-informed and equipped to exercise true *rigor* in regulating AI usage in papers. This would include identification of undeclared/underdeclared use of AI in manuscripts, recognition of the more obvious nonsensical contents/citations, and the prompting of reviewers to be on the lookout for these items. All this information thus should be gathered to guide editors toward a fair disposition on submissions.

Publishers must also invest in an expert workforce and software for AI content detection and provide adequate support to reviewers and editors. However, all detection tools have their limits, and counter-detection tools are also being developed and used. Ultimately, the editorial policies and processes must be stringent and rigorous enough to catch problems regardless of whether they are of AI or human origin.

It has been proposed that AI chatbots and LLMs might also be useful in certain aspects of editorial work.[4,15] However, beyond more technical tasks such as checking formatting and grammar, should editors use generative AI chatbots to perform editorial prescreenings prior to peer review, or in making editorial decisions based on reviews received? If so, it would only be fair for this use to be declared to the authors. All things considered, it appears that the effectiveness of new publication ethics rules[16] are in protecting scientific publishing against the misuse of AI depends on their strict enforcement and the rigorous monitoring of violations.

New Rules, Traditional Values

In brief, simply erecting new ethical rules in academic publishing to regulate the use of AI is not enough. The time-tested values of authenticity, veracity, and rigor must ultimately underlie any new or modified ethical rules associated with the use of AI in academic publications. Furthermore, all parties involved must be committed for these new ethical rules to work as intended, even if it means extra work.

Disclosures

No AI chatbot or LLM was used in the writing of this manuscript. The author is associate editor of *Cells* and the Cellular Biochemistry section of *Frontiers in Cell and Developmental Biology* but otherwise has no conflict of interest.

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Utilizing Engagement Strategies to Resolve the Crisis in Finding Reviewers

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The Crisis

The session "Utilizing Engagement Strategies to Resolve the Crisis in Finding Reviewers" took place Tuesday morning at the 2024 CSE Annual Meeting. Jason Roberts, a senior partner at Origin Editorial, started the session by introducing the panel speakers and topic. In a world where innovations and changes seem endless, peer reviewers are not. Peer review is an essential step in validating the legitimacy of scientific information before articles can be published. Each article published in a journal requires reviewers with specific expertise and experience, making it a constant battle to recruit and adequately train peer reviewers to produce high-quality reviews. This results in extreme reviewer fatigue, which poses a significant challenge for journals. In this session, 3 speakers provided practical tips and innovative solutions for supporting and building lasting connections with reviewers.

The Opportunity

Origin Editorial's Randy Townsend started the session by stating, "Where there is crisis, there is opportunity." He explained that journals can build trust with their reviewers by being transparent, clearly communicating expectations, and providing appropriate tools and training. During his presentation, Townsend highlighted several resources available for training reviewers with accessible, on-demand material (e.g., Origin,[1] ACS Reviewer Lab,[2] Elsevier's Researcher Academy,[3] Wiley's Peer Review Training[4]).

Given that peer review is primarily volunteer-driven, it is critical to understand the incentives that drive reviewers. Are peer reviewers motivated to complete better-quality reviews more frequently because they receive monetary compensation, seek better qualifications as a researcher, or want access to a journal's content? Townsend explained that when a journal understands what motivates their reviewers, it is easier to customize rewards and incentives, making contributors feel appreciated and encouraging them to review again.

Townsend also emphasized the importance of fostering a diverse and inclusive academic community. Increasing representation in the peer review process is one way to ensure that diverse opinions and perspectives are included. Journals should seek to implement the principles of IDEA, an acronym Townsend created that stands for Inclusion, Diversity, Equity, and Accessibility. When journals strive to reduce bias in the peer review process, this establishes trust and equity between the reviewers and the journal.

Training as a Form of Engagement

Training is a helpful tool in engaging reviewers in the peer review process. In her presentation, Melecia Miller, a scholarly support and engagement coordinator from Origin Editorial, covered various training efforts, possible reviewer rewards and incentives, and methods to measure the success of engagement initiatives.

There is a significant difference between training and mentorship. Melecia Miller explained that training is a more self-paced approach with take-home material that a peer reviewer can do to learn the basics of peer review. Training is beneficial as it allows a journal to tailor the experience by creating a list of reading material, objectives, or pretraining/posttraining surveys for the reviewer. After completing basic training, reviewers can then enter a mentorship program in which an experienced individual guides the reviewer through the review process.

Miller then shared some tips on how to design a mentorship program. She brought up several ways that mentorship can also be tailored to the individual,

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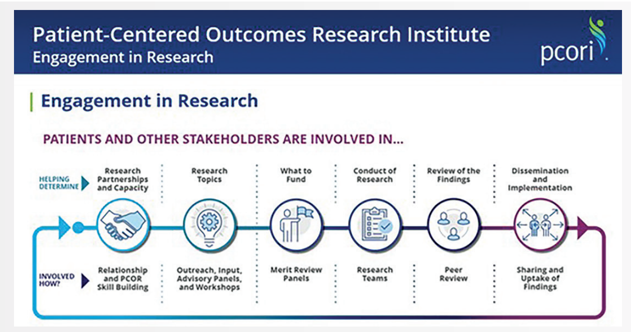

Figure. Incorporating patients into the process. Credit: PCORI.

including suggestions such as determining the duration of the mentorship cycle, collecting feedback, facilitating group mentee discussions, and providing appropriate incentives. Miller noted there is no need to reinvent the wheel when creating a program and provided a useful list of potential questions for a reviewer evaluation form.[5] When implementing a mentorship program, journals should consider how mentors will communicate with mentees, have a system to identify which manuscripts were reviewed by a mentee, and establish clear expectations for reviewers.

Proper incentives and rewards work hand in hand with training to prepare reviewers and keep them motivated. Miller specifically mentioned the American Society for Radiation Oncology's (ASTRO's) piloted program that highlights reviewers in their journals who have completed multiple high-quality reviews on time. Incentives and rewards will be different for every reviewer, whether it is a tangible reward like a gift card or recognition. She recommended that journals focus on early career researchers, as they already have a built-in incentive for becoming a peer reviewer. Early career researcher reviewers benefit by staying up to date with active research, building meaningful relationships with colleagues in their field or societies, and gaining qualifications or continuing education credits in their discipline. Meanwhile, journals gain more reliable reviewers and on-time, high-quality reviews for articles.

Engaging Lay Reviewers

Medical journals can overcome the challenge of finding reviewers by involving patients in the review process. Marina Broitman, director of peer review at the Patient-Centered Outcomes Research Institute (PCORI),[6] covered this topic as the last speaker of the session. PCORI is an independent, nonprofit research institute that funds research that strives to help patients make well-informed medical decisions. When patients and advocates are incorporated into reviews, they become research partners that can peer-review funding applications, journal articles, and much more (Figure).

Broitman highlighted some of the benefits of including patients as reviewers, mentioning that they have lived experiences, diverse opinions, and can help improve dissemination of research findings. However, the challenges of incorporating patients into the review process include finding patient reviewers with sufficient time, aligning their goals with the journal, and addressing their limited knowledge of the scientific content. PCORI addresses these issues by engaging patient peer reviewers with user-friendly resources and training modules online, and by having an advisory board that handles mentorship and support. Overall, involving patient reviewers provides unique perspectives that can significantly enhance the review process when balanced with scientific evaluations as well.

Takeaways

Even though there are many challenges with finding reviewers, there are also various solutions and tools to help strengthen peer reviewer–journal relationships. By providing appropriate training and incentives, peer reviewers will be better equipped to produce more frequent, high-quality reviews.

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Training for All: Training for the Editorial Office and Beyond

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At the heart of a successful journal lies its editorial office. The objective of this session was to prepare editorial offices, publishers, and societies with tools for successful journal and editorial office training and management. The session also highlighted the importance of standardizing policies, documentation, and workflows for everyone involved with the journal, whether it be editorial and production staff, journal managers, or peer reviewers.

Editorial Staff Training

Jennifer Mahar, from Origin Editorial and Editorial Evolution, started out the session with the importance of training your editorial staff. The keys to a well-run editorial office include communication, time management, reporting, policies, and workflow. Training programs also aim to equip editorial staff with the necessary skills and knowledge to manage journals and publication. Mahar explained that not only is it vital for new hires in the editorial office to have a mentor available for support during the initial month, but thorough author instructions, introduction to peer review, policies/procedures, and organizational charts should also be provided to assist a smooth onboarding process. Journal managers must also define their expectations of their staff, from turnaround times to work hours. She added that if a journal manager is not clear on expectations on both sides, the new hire will not get their tasks done in the way that the manager expects. Journal managers need to be clear in their communication to staff.

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Added value training ought to be provided to editorial staff. Journal managers need to encourage their staff to become familiar with author instructions, style guides, standardized forms, policies, and procedure manuals. Ethics and social media training is becoming increasingly more important. Everyone involved with the journal should be encouraged to participate in continuing education, attending conferences or online seminars, and subscribe to blogs and newsletters. Mahar added that there is a training module at your staff's disposal for just about everything. Mahar provided follow up documents as Supplemental Material.

Training Production Staff

Danny Lambert, Scholarly Publishing Professional, provided insights on developing production staff. He explained that the primary responsibilities of production staff are the operations and project management of journals and books, which serve as a valuable training ground for early career staff. Other primary responsibilities are ensuring on-time delivery of content and maintaining quality through proofreading and other quality control measures.

Technical and customer service writing are also valuable skills the production staff should possess. The language of internal documentation and customer service emails should be kept simple; their instructions should be tangible and easy to follow. Lambert emphasized to be aware of your audience and use plain language. Authors are among a publisher's most valuable customers. It is helpful to paraphrase what they are saying to show that you care. He noted that LinkedIn Learning's Customer Service Email writing course (https://www.linkedin.com/learning/writing-customer-service-emails-22379835) is a valuable resource for training production staff in customer service and even technical writing. Coaching and cross-training among staff are other valuable activities.

Journal Management Training

Next, Ginny Herbert, from AIP Publishing, discussed how journal managers act as diplomats and wear many hats within their organizations. She noted that they "translate the organization's vision into product-level strategy and drive execution through relationship management." Building these relationships is crucial for effective journal management. The role of journal manager can also be defined by 4 core competencies: 1) relationship management, 2) project management, 3) product strategy, and 4) industry knowledge.

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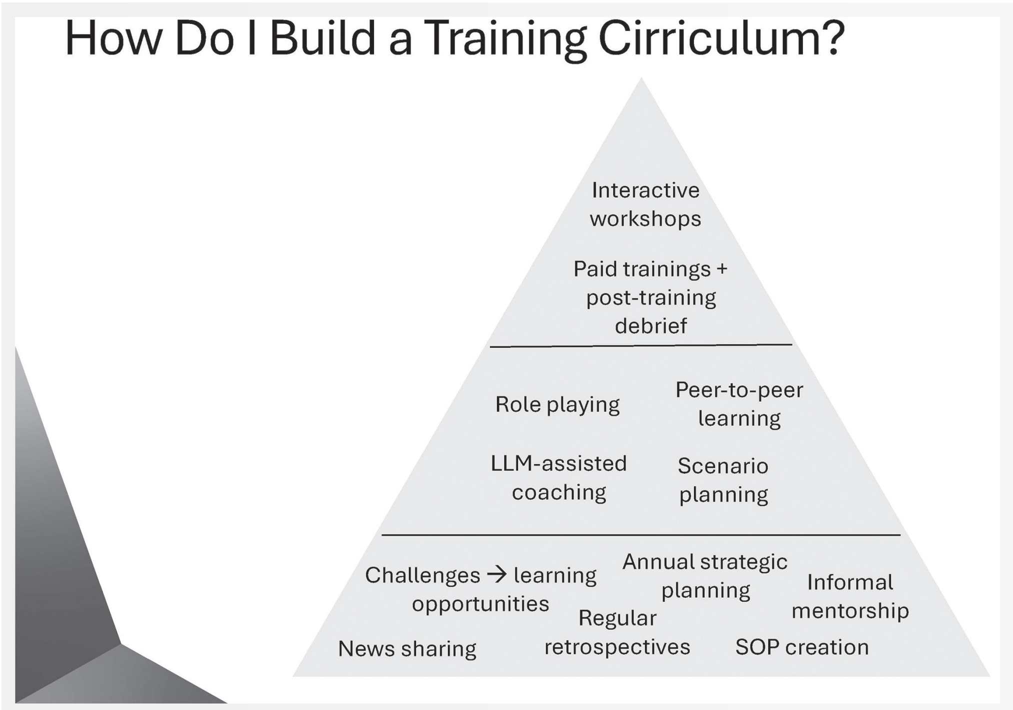

Figure. Commonly used style guides during the manuscript editing process. Image Credit: Peter J Olson.

Herbert discussed how journal managers should encourage active learning with their teams by having team members teach each other a new skill, then assign a project so they can practice what they have learned. She noted that this is a far more effective way to learn and retain new skills and can foster collaboration between the person doing the training and those who are learning. Teams with greater emotional intelligence and personality diversity are more successful. The more curiosity, the better.

Herbert included a training curriculum pyramid (Figure) to showcase what journal managers can provide to benefit their editorial teams. The base of the pyramid includes basics like being a good manager by fostering informal mentorship and sharing news with your team to help with training and curiosity. The middle focuses on role playing and peer-to-peer learning. The top level includes interactive workshops and training, which, despite being time-consuming and expensive, are the most important.

Review Training

Lastly, Jason Roberts, from Origin Editorial, ended the session with a discussion on conceptualizing reviewer training. He remarked that there is a great need for reviewer training as it is likely that most reviewers have received little training. Organizations may not be responsible for training reviewers; however, by doing so, journals and societies can boost the number of qualified reviewers in their pool. Journal-led training and developing a training philosophy are crucial not only for having good reviewers but also for engagement to help foster loyalty and turn those reviewers into potential authors. He emphasized that this is a chance for journals and societies to model, improve, and diversify the pool of future researchers and reviewers.

Training efforts should target various groups, including early career researchers who may lack adequate mentorship, underrepresented populations to diversify reviewer pools and improve peer-review quality, society members who could benefit from peer review training as a membership benefit, patient reviewers to offer unique perspectives on research, and mentorship programs that can be conducted virtually with proper oversight. Roberts added that training methods may include webinars for group sessions, on-the-job experiential learning under guidance, and slide shows or written materials for self-paced learning.

Roberts went on to explain that the training of peer reviewers should aim for a balanced approach, focusing on such areas as defining what makes a good reviewer and establishing clear criteria for effective peer review. It is important to model good behavior by focusing on reviewers who do good reviews and promote their reviews and why they were good. Journals can provide reviewers with acceptance and rejection criteria that covers methodological reasons, as well as poor reporting, statistical, and writing problems.

The Ever-Changing Landscape of Social Media

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Wiley Partner Solutions

SPEAKERS:
Kim Stuart
American Society of Nephrology

Connie Rhee
David Geffen School of Medicine & VA Greater Los Angeles Healthcare System

Chirag "Jay" Patel
Cactus Communications

REPORTER:
Kevin Gladish
Staff Editor, *Journal of Graduate Medical Education*

Staying Social on Social Media

The first speaker was Kim Stuart, who manages several social media accounts for both the American Society of Nephrology and the Council of Science Editors. She provided some practical "do's and don'ts," as well as a few tips on how to leverage the advantages of social media and navigate its pitfalls.

Do's

Do keep a consistent tone for the longevity of your brand. Ask yourself how you want to be perceived by your audience. Are you a reliable news source, or are you a more friendly and informal presence? Keep in mind you can have more than one account, each with a different tone.

Do tag relevant accounts outside of your regular audience of followers. Expand your reach through accounts that relate to specific subject matter.

Do be aware of the limitations of each platform. X, for example, allows only 280 characters, so a more in-depth post might be more appropriate for LinkedIn. Some platforms also make it more difficult to schedule posts ahead of time, so choose accordingly.

Do post regularly. On platforms like X, where there is so much happening, post regularly, otherwise your post will likely get lost.

Don'ts

Don't respond to hate comments. If someone is upset about something you can change, you may be able to respond to them directly, but responding to most hate comments only legitimizes them.

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Don't use too many hashtags. Research shows that using more than 2 hashtags makes your post less effective. Keep in mind what is most relevant.

Don't use emojis. Unless you are 100% certain you know what they mean.

Don't worry too much about typos. If you are posting multiple times a day, no one will remember the typo, so it is not worth deleting and reposting.

How to Use Social Media to Promote Research

Kim Stuart also had the following tips:

Ask for social media handles when sending an acceptance letter to an author. Authors love talking about their research, and you can help introduce them to new audiences.

Look for accounts that are similar to yours and connect with their followers. You can also use the "people you may know" or "people you may like" section on some platforms.

Take advantage of each platform's unique features. X, for example, has a polling feature that can invite easy interaction with your post.

Use text that authors have already provided. When trying to convert an article into a 280-character post, take language directly from the abstract or the author's own summary statements. This also decreases the likelihood that your post will misrepresent the article.

Don't be afraid to try new platforms to find one that is right for you. With some users leaving X, and the future of platforms like TikTok being in doubt, we don't yet know where people will go next. Communities form naturally online, however, so pay attention to what people in your field are talking about and where they are discussing it.

A Physician-Scientist's Perspective

In the next presentation, Dr Connie Rhee offered a much more personal account of how she became involved with social media, how she uses it, and how her experience with Korean culture highlights the power of these networks.

Dr Rhee first sees social media as her "academic news channel," offering up-to-date information she otherwise would not see right away. The brevity of most social media posts also allows her to make time in her busy schedule. She also uses social media to cultivate career development, easily spreading news about conferences and events, acknowledging colleagues' accomplishments, and disseminating information about her lab to a broad audience, including internationally. She even uses it to help recruit staff, trainees, and faculty. In addition to the well-known platforms of X, Meta, and LinkedIn, Dr Rhee also engages with health care channels such as Doximity and ResearchGate, and the Student Doctor Network. She enjoys social media as a forum for healthy discussion and debate, as well as a way to just have fun and be social.

Dr Rhee next gave attendees a look at how she has personally seen social media transform South Korean culture and bring phenomena such as "K-Pop" to the United States. She noted that South Korea, at one time, was known as the "hermit kingdom." Now, K-Culture is everywhere, and much of its popularity can be attributed to social media. While most session attendees raised their hands when asked if they'd heard of the band BTS, almost no one had heard of TVXQ, who is also incredibly popular in South Korea. Social media has been largely responsible for what has become popular in the United States, attesting to its power to connect cultures around the world incredibly quickly.

Like the previous speaker, Dr Rhee had her own personal list of don'ts, which included the following: Don't post pictures of patients. Don't engage in negative arguments. Don't post nonwork-related content during work hours. Don't post about others without their permission. However, do know when to disconnect.

Social Media: What, How, and Why

What

The final speaker was Chirag J Patel, who began by noting that social media is global and looks very different depending on where you are. A user in China won't see any of the platforms or channels used in the United States. Platforms like WeChat are more popular in China, so it is important to know where your researchers are and what networks they use.

He also noted that new platforms are continually emerging, each with a different focus. Cassyni, for example, is dedicated to discovering and publishing research seminars, while Kudos is excellent for posting research summaries. Both work with journals to develop communities around their content.

How

Patel next focused on the following strategies for effective social media dissemination:

Use short-form videos. Video currently drives engagement, with much of user network time spent watching them. People are also much more likely to engage with a 30- to 60-second video rather than with a 20-minute one.

Use infographics and images. These also drive engagement; strong, high-quality visuals make a huge difference.

Use jargon-free plain language summaries. When posting about research, focus on why the research was done to generate strong hooks and headlines.

Use artificial intelligence to generate summaries. However, be wary of using audio summaries that purport to sound like human speech.

Engage in comment sections. Also, host your own "Ask Me Anything" Q&A sessions.

Be aware of the algorithms that companies use. They determine what you see and who sees what you post. An algorithm can put you into a bubble of like-minded users, so it is important to engage with people you don't agree with and see who they follow. The algorithm can, however, work for you to curate personalized content.

Why

Despite its challenges, social media creates accessibility, democratizing availability of your content. It can also combat misinformation about your research. And finally, people are filled with passion and wonder about science. Many users log into social media every day, eager to learn something new. Seen this way, social media can be a wonderful way to expand our knowledge.

If You Build It, They Will Come: How to Write and Improve Author Instructions

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The advice of the speakers in the session "Standardizing Author Instructions" conjures up the adage: "If you build it, they will come." That is, if author submission instructions are easy to find, read, and use, the authors will be more willing to submit to your journal over others.

Anna Jester opened the session with a slide containing a roadmap for the session: Jillian Poland would describe 4 principles to govern how author instructions should be written; Chelsea Lee would speak on the process the APA Journals team used for manuscript submission and evaluation and improved usability of the most recent APA Style Manual; and Anna Jester would end the session with a Q&A session.

Four Principles for Standardizing and Improving Author Instructions

Jillian Poland is a user experience researcher, working with Wiley to assess the experiences their clients have with Wiley's digital products. Her job includes conducting and analyzing surveys, one-on-one interviews, and focus groups with authors, editors, and journal administrators. Poland says that based on survey results, authors strongly prefer that manuscript submission instructions are simple, familiar, and not text-heavy.

Improved submission instructions can reduce administrative burdens at all stages of manuscript processing and decrease overall time from submission to publication. Poland encourages writing submission instructions such that authors are armed with all the answers they will need up front, from presubmission (e.g., potential authors often begin asking questions even before they have begun a submission) to post-acceptance (e.g., could this problem have been avoided if the author knew the exact requirements presubmission?) and during inter-journal transfer, too. Poland outlined 4 principles to guide the creation, review, editing, and maintenance of an ideal set of author submission instructions.

1. Center Authors

First, Poland says, we need to "center authors." To write your instructions with authors in mind, you must know them. Who are they? How do they interact with your online content? What outcome do they get, or want to get, when they are navigating around your author guide? Authors are different from one another, particularly with regards to their publication experiences, so the author instructions should accommodate the needs of new and experienced authors alike. For instance, to highlight what a submitting author should address in their conflict-of-interest disclosures, use bold text to make this requirement easy to find. For less experienced authors, provide a link to a resource that defines conflict-of-interest disclosures and explains how they are used by the journal.

2. Use Intuitive Organization

Users will typically start reading submission instructions at the top of the page, so the most critical information should be near the top of the page. You can also include a table of contents to help the authors know what information is included in the instructions. This "inverted pyramid" style of writing should then be complemented by the use of appropriate headers, bolded font, bullet points, or other ways to separate sections and draw attention to the requirements. Poland recommended learning about the inverted pyramid writing style and the concept of information foraging.

3. Take Advantage of Industry Standards

Rather than writing from scratch the sometimes-complex requirements involved in manuscript evaluation, Poland encourages the use of previously published, standardized

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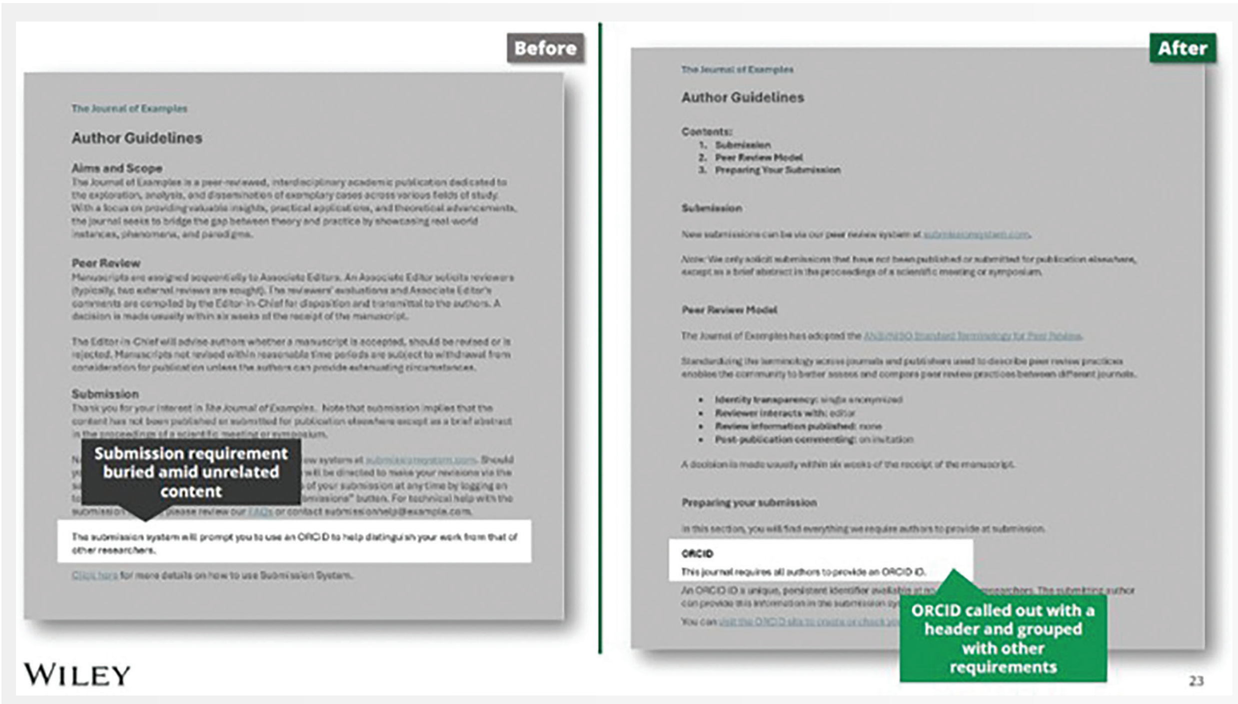

Figure. Before and after exercise resulting in clearer author submission instructions.

language. Examples included using and citing the National Information Standards Organization (NISO) standard terminology[1] to explain peer review or using ORCID's explainer[2] to let authors know why you are requiring an ORCID number at submission.

4. Keep the Text Simple

Poland encourages writing the submission instructions at an 8th grade level, a standard recommended by many media organizations. Use simple words, do not use nested sentences with a lot of punctuation, and use line breaks, bullet points, and multiple, short paragraphs to make the content easy to scan. Academics are busy, and in the world of international scholarship, many speak English as a second language. Writing simple instructions benefits everyone.

The Figure shows a slide capture from Poland's presentation that illustrates these 4 principles applied to the transformation of a draft author guidelines page.

Using Psychology to Improve Authors' Lives

Chelsea Lee presented 2 topics related to how the APA has worked to improve their submitting authors' experience. Lee discussed the process the APA undertook to revise the 6th edition of APA Style[3] for formatting written works (not just for journal submissions) and also provided some general examples of how the APA Journal Article Reporting Standards (APA-JARS)[4] are employed to improve the submission, peer review, editing, and transfer process for articles submitted to an APA journal. Of the 89 journals published by the APA, all but one require that submitting authors adhere to APA Style when preparing their manuscripts (the exception requires it only after acceptance).

APA Style JARS are meant to help authors, reviewers, and editors know how a submission should be crafted, making submission, review, and decision-making as simple as possible. APA Journals staff are working to streamline the steps that follow. Staff ask the most essential questions of authors at initial submission, which pertain to topics such as funding source, duplicate submissions, data transparency, ethics board review, copyright, and the use of generative artificial intelligence, in addition to any article-type specific questions (e.g., for comments, editorials, research articles, or registered reports). Only if the article is accepted will additional requirements be enforced. If the article is desk-rejected, staff will suggest a more appropriate APA journal and, with the author's consent, transfer the manuscript for them; it is largely

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about making the publication process even easier and more manageable for authors.

Lee then described how authors' feedback was used to revise the 6th edition APA Style Manual and publish the 7th edition in 2020. Through user surveys, the APA Style team identified 3 areas needing improvement: 1) the information authors wanted to find was hard to find; 2) the guidance given on how to follow APA Style was too complicated; and 3) implementation of the guidance was not adequately obvious.

To make information easier to find, the APA Style team implemented several changes. The team increased the number of distinct sections within the style guide, improved the search index, unified the online and print user experience by editing the website and print guide so that they align better with each other, and made the print version of the APA Style manual tabbed and spiral-bound. All these changes were proposed, implemented, and tested with the help of a hired accessibility consultant and various task forces and committees.

To simplify the guidance and make it easier for authors to meet the requirements, the guidance in the 7th edition of the APA Style Manual now has fewer exceptions and makes formats for references, in-text citations, and figures and tables more uniform. More templates and examples are now provided to make implementation of the guidance easier as well. Lee emphasized that because there are varied types of research reports and other submissions a journal receives, examples should be provided not only for the complicated cases but also for the most-often encountered cases such as those used by students.

Overall, Lee advises journal staff to be intentional, be mindful, and re-evaluate regularly: tend to submitters' needs by being consistent and communicating with brief and explicit directions; test-drive your guidance and show examples; listen to all feedback, both solicited and unsolicited; and zoom out and back in again on your instructions often, continually evaluating them from the perspective of various potential users.

Q&A Session

Questions from the audience included: how to work with editors and other society leadership, in particular when a society publishes multiple journals, to come to agreement on submission requirements; what type of feedback to solicit from users; and whether to use artificial intelligence (AI) tools to improve an author guide.

Conversations among editors, society staff, and publications staff should be commonplace to achieve a unified approach. The panelists and audience members involved in the discussion agreed that the conversation can indeed be difficult. Poland suggests identifying a steward of the submission instructions among the publications staff who would host regular conversations with editors, publishers, authors, and other staff; provide templates for new journals joining a society's portfolio; and to provide for regular re-evaluation of published submission instructions.

Poland and Lee spoke to questions related to solicited feedback from users. Lee mentioned that when redesigning the APA Style website, the team recorded volunteers using the website to accomplish specific tasks to better understand the actual usage of published instructions and refine them accordingly. Poland used a similar approach and suggested 1 to 1.5 hours of a volunteer's time to test-drive submission instructions.

Lastly, Lee and Poland spoke to an audience member's question about the use of AI tools in preparing author instructions. Both panelists said that although some AI tools could simplify language structure and vocabulary, output from these tools were not ultimately used, in part because the AI tool generated incorrect information.

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Overview of CSE Connect: SSP DEIA Committee on Building DEIA in Editorial Roles and Peer Review

Rachel Taylor

CSE Connect[1] hosted an event on October 8, 2024, with the purpose of discussing the C4DISC[2] Focused Toolkit for Journal Editors and Publishers: Building Diversity, Equity, Inclusion, and Accessibility in Editorial Roles and Peer Review.[3] The discussion included representatives from the Society for Scholarly Publishing[4] (SSP) DEIA committee: Shaina Lange, Managing Editor, American Society of Nephrology and Sue Harris, Managing Editor, *American Psychologist,* American Psychological Association. CSE Connect is an online event consisting of a 15-minute presentation by experts, followed by 30 minutes of questions and discussion.

Lange and Harris discussed how the COVID-19 pandemic brought diversity, equity, inclusion, and accessibility (DEIA) issues to the forefront of scholarly publishing's collective consciousness, spurring many efforts to rectify deeply rooted inequities. Importantly, the scholarly publishing community began to consider what these practices would look like and the long-term goals of these efforts. Not only will increasing the diversity among editorial boards, reviewers, and editorial staff benefit marginalized communities, but the efforts will also improve the quality of the peer review process and expand the scope and reach of the journal. Harris and Lange noted that these efforts can be improved by appointing a dedicated DEIA associate editor to identify gaps in the peer review process, as well as any harmful content within papers. However, many organizations might not have resources for one dedicated DEIA editor, so it is alternatively recommended that a DEIA task force be created to meet consistently and examine new projects by paying specific attention to the DEIA goals of the organization.

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Part of measuring progress in increasing diversity is collecting and reporting demographic data. Gathering this data can be sensitive for respondents, leading Lange and Harris to encourage journals to provide clear rationale for why the data are being collected and how they will be used, and to ensure that the responses are optional and anonymous. Participants in the CSE Connect event discussed this process in more detail, querying how often other journals requested this information and in what manner. Some participants noted they send out an annual survey to request updated contact and institution information, folding in a request to include DEIA responses as part of that annual request. Others noted they included a reminder in the system to complete the information every 6–8 months, allowing for respondents to note their decline in participation as well to avoid repeated requests.

When speaking of recruiting more broadly and intentionally, Harris and Lange discussed examples of recruitment strategies to reach underrepresented communities. Editor fellowships and peer review training programs have been used to give clear guidance to less experienced individuals and provide the tools to succeed in further participation within the scholarly community. One participant noted that reviewers could opt in to complete a reviewer training course and then be marked in the system as having completed the course. This allows the editorial team to expand their pool of potential reviewers and identify qualified individuals who editors may not have worked with previously. Many of the top reviewers at this particular journal came from the peer review training course, increasing the confidence in the participants throughout the peer review process. Other participants noted that they proactively reached out to various top institutions in their field to recruit diverse individuals to participate in these training programs. By working with the professors and directors of various programs, they were more successful in identifying who could fit the criteria of the journal's diversity

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search. Another participant discussed how they used their manuscript tracking system to allow peer reviewers to give credit to any students who aided in the review. Recognition for the mentees can also give greater visibility to early career professionals who are building experience in a field.

In discussing the C4DISC toolkit, Harris and Lange emphasized that every journal is at a different point in the process of working toward greater equity and inclusion. Some journals are fighting against limited resources or ambivalent editorial boards, whereas others may struggle to implement programs or find next steps to meet their goals. By using resources like the C4DISC toolkits, every organization can identify gaps in their knowledge and incrementally improve the diversity of their scholarly journal.

Please visit the CSE Connect Web page[1] to join future events.

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It's Free to Be Nice and to Comb Your Hair: Civil Discourse in Scholarly Publishing Social Media

Jennifer Regala

The thing I love most about our scholarly publishing world is the community we've built together. Our professional societies, including the Council of Science Editors, the Society for Society Publishing, the International Society of Managing and Technical Editors, and many more, are welcoming and inclusive. Diversity of thought and experience is not only encouraged, but championed. And the willingness to share knowledge and best practices is so special. Not only is our world one of intelligence and innovation, but its foundation is built on kindness. I have lifelong friends I never would have had without my beloved profession. My publishing friends are the ones I text first in good times and bad. I've performed in a scholarly publishing musical (only Heather Staines could get me to dance and sing in public when I've said loud and clear for my entire life that I don't do either of those things). Heck, I'm even the one that Chhavi Chauhan and Jason Roberts asked to co-lead the Wine & PJs event at the CSE Fall Symposium because they know my favorite thing is to vibe with our colleagues. The victories of our colleagues are all of ours to share, and when one of ours suffers, we suffer along with them.

I've learned a lot since 2020, when I began writing this *Science Editor* social media column. We've discussed all facets of social media, where it intersects with publishing, including: different platforms, using emojis, social media influencers, and more. And as long as Jonathan Schultz will let me, I believe we'll have social media topics to dissect and discuss together well into the future. I also know that social media is here to stay as a useful tool to remain connected. Although the world has opened back up since COVID, we can't possibly attend every conference. We need these various social media platforms to stay connected.

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Opinions expressed are those of the authors and do not necessarily reflect the opinions or policies of their employers, the Council of Science Editors, or the Editorial Board of Science Editor.

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What Are We Really Here to Discuss?

That was a lengthy preamble à la Jennifer Regala leading to the topic I gathered you all here for today. Let's address the real reason I am sitting down at my computer to type this column: IT IS FREE TO BE NICE AND TO COMB YOUR HAIR. I coined this motto long ago, I think for my kids, to convey a very simple thought: BE KIND ALWAYS. And it's my fervent wish that this motto is followed in all aspects of life, including online.

Cyberbullying has long been a problem, with a Pew Research Center study[1] stating that nearly half of teenagers have been cyberbullied. It's horrifying to think of children being bullied on social media, and when I was thinking about this article, I learned many, many adults have been victims of cyberbullying, too. I have been considering writing this column for months, as I have been noticing alarming instances of individuals within our community receiving not-so-nice comments on their social media posts.

With the prevalence of social media as a communications tool in our industry growing and constantly evolving, I've seen a concerning trend. In the past, our scholarly publishing circle felt like a very safe space on social media. *I am sad to say that I don't feel the same vibes any longer.* People aren't always being nice to one another on social media within our own scholarly publishing community, which hurts. Hiding behind a screen and various social media platforms gives some people a confidence I don't believe they'd have in a face-to-face encounter.

I will use myself as an example. On X, when I was leaving a previous role, I was celebrating my last annual meeting and sharing some photos of cherished authors and editors. An individual began commenting countless mean messages remarking on my looks, my personality,

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how I ran the journals, and more. It was not constructive criticism. It was cruel, targeted, evil, and the comments took my breath away. I blocked and reported this individual to X, alerted the organization I was leaving about what had happened, deleted the comments, and then tried hard to pretend none of it had ever happened. I am not going to lie, though. Even thinking about it now brings tears to my eyes and makes me feel embarrassed and ashamed. And I did nothing wrong! On LinkedIn, I've noticed the same sort of behavior increasing. I've had comments that are rude and baseless.

This article is not meant to ask for sympathy for me! I am totally fine and can take care of myself. I use myself as an example to raise awareness of the problem. I am a very confident person, and these instances sucked my soul straight out of my body. I struggle to think about anybody being treated like I was who was unable to handle this treatment. Even 5 years ago, I don't know if I would have been able to withstand these incidents. I speak out on behalf of all of us, who deserve a positive experience on social media and beyond.

What to Do If You're Being Cyberbullied

It is never okay to let anyone else treat you in a way that makes you feel uncomfortable. Merriam-Webster Dictionary defines cyberbullying[2] as follows: "the electronic posting of mean-spirited messages about a person... often done anonymously."

If you believe you are being cyberbullied, do not hesitate to take action:

1. Report the offender. Take this step immediately. Every social media platform has a mechanism to report offensive behavior. And if this person is posting in a negative way to you in a professional capacity, report the incident(s) to their employer and your own. Start with HR and let others in leadership positions in the organizations know, too. If you don't know who this individual is, it's not your job to investigate, but report to as many as you are able to. And if you are very concerned, do not hesitate to report to the police. There is nothing more important than your safety.
2. Block the offender. It's that easy. Block this individual and try your best not to think about them.
3. Evaluate the platform(s) you're using. X has grown alarmingly toxic, and I've seen many of our scholarly publishing friends showing up on Bluesky in droves in recent weeks. The Scholarly Kitchen's Chefs shared their thoughts about this movement in a recent post.[3] Find the spot(s) where you feel good being there. If it doesn't feel good to you, it probably isn't good for you.
4. Take a social media break. Feel free to skip #3 altogether! Social media connectivity is not imperative to your career or your well-being. Disengage from social media platforms and don't return until you feel comfortable. This break can last from 1 hour to forever. Do what is best for YOU.
5. Know it's not you. As personal as an attack from an Internet troll may feel, you are not the problem. This troll has their own problems that you cannot begin to understand. It's not your job to figure out what's going on; rather, you must focus on yourself and your own well-being.

It's Okay to Disagree

There is a difference between being nasty and starting a respectful debate. I have engaged in so many of these conversations on social media that I couldn't begin to count them. I live for *civil* discourse on social media. Not everyone likes the color pink. Please explain to me why you don't like it! Not everyone agrees with my views on AI (work smarter, not harder). Tell me why you think I'm wrong! I don't think peer reviewers should be compensated financially for their work, but I do think reviewer incentives like reduced APCs and discounted meeting registrations are a great reward system. Do you vehemently object? Please, please tell me why. Our world is better because we all have our own opinions. It's okay to voice these opinions on social media, but it's important to do so respectfully.

What Can You Do Right Now to Make Someone Feel Seen and Included on Social Media?

The smallest gestures can make a scholarly publishing colleague feel important. If you want to make stronger connections and ensure that you are supporting and uplifting others, take these easy yet feel-good steps:

- Follow your favorite colleagues on your favorite platforms. I am here to tell you that some of us are on all the platforms. Wherever you feel comfortable, find our people and follow them—I promise they'll be delighted to have you on their journey.
- Like and comment! There is nothing better than engagement. Validate your colleagues. And yes, it's okay to disagree (politely). Some of the best friends I've ever met in publishing are the ones I disagree with spiritedly but always in a friendly way.
- Pursue a relationship outside of social media. Direct message your favorite follow to invite them to a virtual coffee. I promise you won't be sorry.

CONTINUED

- Keep an eye out for your colleagues. If you see someone treated badly, say something. Report, block, reach out!

What Are Some Recent Articles Written by Our Peers That Made Me Feel Better and Are Great Resources for You, Too?

These articles aren't related directly to cyberbullying, but they do pertain directly to workplace bullying and mental health. I've read them over and over myself and encourage you to keep these bookmarked on your own laptops.

James Butcher always says it best. I am NOT on his payroll. I haven't met him in person. But I tell you what, he knows what's what. Read his take[4] on the MDPI story please. And if you want the smartest take on everything always, subscribe to Journalology!

Randy Townsend never lets any of us down. His full commitment to the mental health of an entire industry is commendable. If you want a place to discuss mental health awareness in scholarly publishing and meet new people committed to this important growth, join us for this new initiative, the Mental Health Awareness and Action Community of Interest (CoIN) Group.[5]

And of course, our beloved Editor-in-Chief, Jonathan Schultz, wrote this amazing article[6] about bullying in the workplace. Although not directly applicable to social media, there are many important relevant takeaways.

Final Takeaway: It's Free to Be Nice and to Comb Your Hair

This article is clearly centered around my own opinions, but I hope I can encourage all of you to join me in being kind, not only on social media but everywhere you go. If you don't have something nice to say, please don't say it. And if someone has something nasty to say to you, please don't listen. They are struggling with their own demons. Block that person, report them as inappropriate, and remember you are beloved and important.

If you ever need someone to talk to, please email me (Jennifer.Regala@wolterskluwer.com) or reach out to me on social media (X: @JenniferARegala, Insta/Threads: @mommyjennyblog, Bluesky: @JenniferARegala, LinkedIn: https://www.linkedin.com/in/jennifer-regala-02735812/).

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Ethics Clinic: Paper Mills and Predatory Publishers

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Sponsored by the CSE Editorial Policy Committee, the Ethics Clinic kicked off the second day of the 2024 CSE Annual Meeting. As in years past, real-life cases were shared by speakers for group discussion at each table, followed by sharing and further discussion with the panel. The primary lessons from the Ethics Clinic include the following:

- Rigid approaches may struggle to keep pace with the changing tactics of fraudsters.
- If you encounter serious fraud in published material, be proactive in addressing the issues.
- Editors sometimes have well-founded suspicions of fraud that may fall short of conclusive evidence. In these situations, Editors should carefully consider the burden of evidence (including circumstantial) and the potential negative consequences of being right about their suspicions and not acting.
- Editors need the authority to act decisively.
- Journals should research potential authorship and peer review concerns as part of a paper mill investigation.
- When questioning authors about suspected issues, avoid revealing details about the concerns and/or your detection methods that may compromise the larger investigation or may be used to evade journal processes.
- Stringent guidelines and policies may help to address integrity issues and discourage the submission of fraudulent content.
- If your investigation reveals a connected web of problematic articles, address them at the series level rather than in separate article-level investigations. Identify common elements between the linked articles and, where relevant, collaborate with other affected journals and publishers.
- Fraudsters are capable of influencing people with good reputations; legitimate researchers may knowingly or unknowingly buy into problematic services.
- Solutions need to be scalable whenever feasible. In some cases, a journal or publisher will need to take a pragmatic approach to resolve a large-scale issue in a timely manner.
- Researchers should do due diligence in evaluating a journal before submission (e.g., using services such as Think Check Submit). Resolving concerns involving content published inadvertently in predatory journals can be difficult.

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Renee Hoch, PLOS

Context. Rigid approaches cannot handle all cases of publication misconduct. Fraudsters adapt; Editors need to follow and adapt with them. But we still need ways to deal with these cases that are scalable.

Often, the evidence is related to clues that strongly suggest fraud and are spread out across different papers. The evidence may be circumstantial in nature, and for many large-scale cases (e.g., paper mills) the concerns would not be evident when looking at an individual article in isolation. In these situations, Editors may be concerned about the implications of being wrong about their suspicions and wrongfully rejecting legitimate content. However, Editors should be empowered to take action based on their overall assessment and whether or not they trust the content. They should also carefully consider the implications of being right about their suspicions and not acting. Making this mistake could be deleterious to the integrity of the scholarly record and could facilitate a type of fraud that continues at your publisher and other publishers, even if unintentionally.

In these situations, Editors also need the authority to act decisively and try to root out problematic content before publication. Editors should also collaborate on these cases across their portfolio and across publishers where appropriate.

Case 1

Description. A sleuth raised concerns about image reuse. PLOS's investigation revealed that the issue involved a large network of articles from different research groups that were all connected by image data reuse; the affected articles spanned several different publishers.

Audience response. Audience members suggested checking guidelines from the Committee on Publication Ethics (COPE), contacting authors, and, if necessary, retracting articles. Plagiarism detection software for images would benefit the industry.

Resolution. PLOS responded to the situation by asking the authors to comment on the concerns and provide the primary data from a few articles. (In retrospect, given the scope of the issue, the primary data would not have been able to resolve the series-level concerns and so the data request could have been omitted.) Ultimately, PLOS retracted the affected articles and contacted other publishers with affected content to notify them of the concerns. PLOS also attempted to contact the author's institution but received no response. This happens a lot, so some publishers are considering keeping a list of unresponsive institutions.

Case 2

Description. Editors were conducting initial checks on submissions and noticed an influx of articles on similar topics. PLOS looked into the submissions and noticed other similar features across the series that raised concerns about a large-scale integrity issue.

Audience response. Audience members suggested that when questioning authors about suspected issues, avoid revealing your detection methods. Fraudsters could use this information to adapt their own methods and attempt to manipulate peer review. The audience also suggested that journals require each author to have an ORCID.

Resolution. PLOS responded by actively monitoring incoming submissions for content linked to the case and rejecting or retracting submissions where it found convincing evidence of integrity concerns. For submissions where the evidence was ambiguous, PLOS monitored the peer review process closely.

Patrick Franzen, SPIE and COPE

Context. Spotting fake research can be a tricky business. The case highlights the importance of organizations like COPE and a new membership option for universities and research institutions. To flag suspect articles, listen to your intuition—editors and publishers have seen hundreds, if not thousands, of articles and know what seems odd. Also, look into whether articles in your own journals are for sale on Facebook or WhatsApp groups to discover potential paper mill activity. In this instance, SPIE found examples of potential paper mill activity and peer review fraud in one of its journals.

Case description. SPIE found suspicious submissions for special sections of a journal. Many of them did not fit the intended topic of the special section or journal, and there were indicators of peer review integrity concerns.

Audience response. The audience suggested creating an accountability system that could monitor the work of guest editors for dishonesty. It also suggested seeking legal advice if a publisher discovers a paper mill.

Resolution. SPIE responded by canceling the special sections still in progress and reviewing already published special sections. It also contacted all the guest associate editors and each of the authors involved in those special sections. Authors who submitted to in-progress special sections were invited to resubmit their articles to the journal, but the vast majority never replied to the invitation. SPIE also began scouring social media groups to weed out attempts to sell articles to the journal.

Furthermore, SPIE formed a panel of trusted experts to review all previously published articles once again. Most of the suspected articles were recommended for retraction, but not all were. Authors of retracted papers were given an opportunity to appeal and several of the appeals were honored.

SPIE worked with Retraction Watch to help communicate the news of the retractions and developed a communication plan for its own research community. It also worked with the Web of Science to review the circumstances of the fraud and shared updates to policies and processes to prevent future fraud. Doing so allowed the journal to retain its status in SCIE.

Chirag "Jay" Patel, Cactus Communications

Context. Assume fraudsters are more clever and have no scruples. They are capable of corrupting associate editors with good reputations. Publishers have the responsibility of a clean-up crew for unethical behavior.

Case description. An author inadvertently submitted an article to a predatory journal. The author then wanted to withdraw it, and the journal insisted on a $500 fee to withdraw the article. The author did not sign a copyright transfer form. The fraudulent withdrawal fee was too expensive for the author, who is from a developing country.

Audience response. The audience recommended the author shame the predatory journal on social media. This helps educate people and encourage other authors to reference Think, Check, Submit (https://thinkchecksubmit.org).

Resolution. The author submitted the article to a legitimate journal and explained the situation. The situation presented the legitimate journal with different alternatives for responding. Each alternative presented its own set of significant challenges. The legitimate journal suggested that the author seek legal counsel and proceeded with the article as if the author had not submitted it to the fraudulent journal. If a predatory journal threatens to publish an article without its copyright, the author can threaten legal action for copyright infringement.