

## Beyond the Conference: Health Sciences Librarians' Motivations for Publishing

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**Objectives:** Previous studies have found that only 21.8% to 28% of abstracts presented at the annual Medical Library Association (MLA) conferences are later published as journal articles. What motivates health sciences librarians to take the next step in publishing and disseminating their work? This study will answer the following questions: 1) Are librarians presenting at MLA conferences more motivated to publish due to internal motivational factors (e.g., “to build a professional reputation for myself”), external motivational factors (e.g., “I am expected to participate in research for my job”), or a mix of both? 2) Do motivations for publication differ between academic and hospital librarians? 3) Do motivations for publication differ between those who published in peer-reviewed journals and those who published in other venues?

**Methods:** In this retrospective cohort study, the team surveyed first authors of abstracts presented at the MLA conferences in 2012 and 2014 to determine if they later published their work in any full-text format. If they did publish, the team asked authors where their work was published and the primary and secondary reasons for pursuing publication. The reasons for publication included internal and external motivational factors identified from the library science literature. Chi-square tests were used to assess differences in motivation.

**Results:** One hundred and sixty one authors responded to the survey, and of these, 49 authors reported that they had published their abstract(s). Fifty-one percent (n=25) of respondents selected only internal motivational factors, 18.4% (n=9) selected only external motivational factors, and 30.6% (n=15) reported a mix of both. The author found no statistically significant differences between hospital and academic librarians, or those who published in peer-reviewed journals versus other venues.

**Discussion:** Findings indicate that librarians who chose to publish their work after presenting at annual MLA conferences are primarily motivated to publish due to internal factors. Interventions designed to encourage MLA presenters to publish their work should consider ways to cultivate presenters' internal motivation.

### Introduction

Presentations at professional association meetings allow researchers to share new ideas and findings, receive feedback, and collaborate on future projects. In many fields, a conference presentation is seen as a precursor to a journal article or other “gold

standard” product of research dissemination.<sup>1-4</sup> The publication rate of a conference, or the percentage of conference abstracts that are later published as journal articles, is a commonly used knowledge translation metric to indicate the success of a conference.<sup>5,6</sup> A Cochrane systematic review of biomedical conference publication rate studies found that 37.3% of abstracts are later published.<sup>7</sup> In the field of library and information science (LIS), conference publication rates tend to be lower, ranging from 13% to 31.5%.<sup>1,6</sup> Two studies of abstracts presented at the national Medical Library Association (MLA) conferences found that the publication rate ranged from 21.8% to 28%.<sup>8,9</sup> To some extent, the lower publication rates of LIS conferences is not surprising because librarianship is practice-based, and research may be a low priority for many librarians when not required for their job. However, for evidence-based librarianship to become the norm, it is important for health sciences librarians to be engaged with research throughout the process, from conceptualizing and designing projects to presenting and publishing their work.<sup>10</sup> This drives the question of this study—what motivates health sciences librarians to publish and disseminate their work beyond a conference presentation?

## Literature Review

In recent years, the LIS literature on research productivity of librarians has shifted from focusing on barriers to conducting research (e.g., a lack of time or lack of confidence) to facilitators or success factors.<sup>10-12</sup> One of these studies identified 16 factors that contribute to research success, which were then organized into three categories: peers and community, institutional structures and supports, and individual attributes.<sup>11</sup> In a study looking at Canadian academic librarian publishing practices and these same success factors, the authors found that all three categories had a positive and significant effect on research productivity.<sup>12</sup> Similarly, in a survey of American academic librarians, all three success factor categories contribute positively and significantly to total research output and the number of peer-reviewed articles, though not for number of conference presentations.<sup>13</sup>

Many articles that describe interventions for improving librarian research focus on the categories of peers and community, and institutional structures and support. Peer and community-based interventions include writing and research support groups,<sup>14,15</sup> research collaboration networks,<sup>16,17</sup> mentorship,<sup>18-20</sup> research seminars,<sup>21</sup> and research methods training.<sup>22,23</sup> Articles on institutional structures and support discuss factors such as research leave, funding, faculty status, promotion, merit raises, and tenure.<sup>24-27</sup> Librarians with faculty status have an external push to publish as this is often required for promotion and tenure. As such, librarians at tenure-track institutions publish more than those at non-tenure track institutions.<sup>24</sup> In health sciences librarianship, similar results have been found comparing hospital and academic librarians: generally, academic librarians have higher research engagement and are more likely to have research as a job requirement.<sup>28,29</sup> To increase librarian research productivity, providing peer, community, and institutional support appear to be actionable and viable options.

The third category, individual attributes, is often acknowledged as important for research productivity and engagement, but may be less developed or studied

empirically.<sup>11</sup> Many studies cite personal satisfaction or enjoyment in doing research,<sup>26,30</sup> pride in contributing to the profession,<sup>25,28</sup> or commitment to research as key factors for success.<sup>10,12,13</sup> Many of these same studies suggest that intrinsic factors may have more of an influence on research success than extrinsic factors<sup>31</sup> or that they contribute more to productivity in the long-term, including post-tenure.<sup>10,26,30</sup> However, it is less clear what intrinsic factors such as a “commitment to research” look like in librarianship, and how they could be influenced. As Hoffman and colleagues conclude in their study of academic librarians’ research productivity, “it is evident that some librarians who feel that they have the expectation and support to do research are productive researchers, while others are not. Similarly, some librarians are productive researchers despite feeling unsupported and not being expected to do research.”<sup>12</sup> The influence of librarians’ personal attributes on research success and productivity needs to be considered on its own.

## Theoretical Framework

### *Self-Determination Theory*

To investigate librarians’ motivations for doing research and publishing, it is useful to use the framework of motivational theory. One of the most common motivational theories is self-determination theory (SDT), which distinguishes between different types of motivation (i.e. extrinsic or intrinsic).<sup>32</sup> It also addresses the roles of self-determination, locus of causality (i.e. internal or external), and autonomy on the types of motivation.<sup>32,33</sup> Intrinsic motivational behavior occurs when an individual does an activity because they enjoy the activity. This behavior is self-determined and the cause of the action is internal to the individual.<sup>32,34</sup> Extrinsic motivational behavior, on the other hand, occurs when an individual does an activity because of incentives or punishments; this activity is controlled and external to the individual.<sup>32,34</sup> Extrinsic motivation has been connected with low effort and lack of enjoyment.<sup>33-35</sup>

In some circumstances, extrinsic motivation can be largely self-determined and internal, much like intrinsic motivation.<sup>33</sup> These sub-types of extrinsic motivation are called identified and integrated motivation. Identified motivation occurs when an individual consciously identifies with the behavior’s value and its relation to their goals, and integrated regulation occurs when an individual assimilates the behavior’s value into their self, making their behavior resemble intrinsic motivation.<sup>32,35</sup> In some studies that use SDT, identified and integrated motivation are combined with intrinsic motivation to create a category called self-determined motivation.<sup>32</sup> Self-determined motivation has a more internal locus of causality, and is connected with better performance, persistence, and well-being as opposed to externally driven motivation.<sup>32,36</sup> Because of this distinction, this article will use the terms external and internal motivation rather than intrinsic and extrinsic motivation.

*Self-Determination Theory and Research Productivity* Self-determination theory has been used to study faculty research productivity in academia, but does not typically include academic librarians.<sup>34-39</sup> There appears to be a complex interplay between external and self-determined types of motivation. In some studies, external pressures, such as promotion and tenure, were found to strongly motivate faculty to be productive

researchers, but internal, self-determined motivation becomes more significant as faculty grow in competence and become established in their field.<sup>35,37</sup> Faculty also appear to be more intrinsically motivated in universities that strongly support faculty autonomy.<sup>34</sup> However, these motivational concepts do not seem to have been applied to academic librarians, nor to librarians in general. It is unclear whether successful librarian-researchers are more motivated to publish due to internally driven motivation or externally driven motivation, or a mix of both.

## Research Questions

This study will answer the following questions:

1. Are librarians presenting at annual MLA conferences more motivated to publish due to internal or external motivational factors, or a mix of both?
2. Do motivations for publication differ between academic and hospital librarians?
3. Do motivations for publication differ between those who published in peer-reviewed journals and those who published in other venues?

## Methods

This study is a secondary data analysis using data from an article published previously.<sup>9</sup> The Indiana University Institutional Review Board reviewed this study and determined it was exempt.

### *Survey Development*

The author developed a questionnaire using Qualtrics (Qualtrics, Provo, UT) to survey the first authors of presentation and poster abstracts from the 2012 and 2014 MLA conferences. These conference years were selected because they gave the authors at least five years post-conference to publish. The MLA conference in 2013 was skipped because it was a joint conference with international librarian associations.<sup>9</sup> Drawing on data from a spreadsheet of all the conference abstracts and first author names, the questionnaire presented each author with the title(s) of the abstract(s) they presented as a reminder. The questionnaire asked authors if the abstract(s) they presented was later published in any format. If they responded ‘yes,’ they were then asked if it was peer-reviewed, where it was published, and what their primary and secondary reasons for choosing to publish were. Authors selected a primary and a secondary reason for publishing from a list of eight, randomly displayed options and a write-in option (Figure 1). These reasons had been used previously in a survey of librarians’ research productivity.<sup>12</sup> Authors who had published more than one abstract were asked to choose reasons for publishing each one.

Select the primary reason you chose to pursue publication for this abstract:

- To receive merit increments, tenure, and/or promotion due to my research activities
- Share results with a broader audience
- Contribute to my profession's evidence-base
- My research or project was novel
- I am (formally or informally) expected to participate in research as part of my job.
- My coauthors and/or colleagues encouraged me to publish
- To build a professional reputation for myself
- To demonstrate the impact of my library or the profession
- Other, please explain:

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What is the secondary reason you chose to pursue publication?

- To receive merit increments, tenure, and/or promotion due to my research activities
  - Share results with a broader audience
  - Contribute to my profession's evidence-base
  - My research or project was novel
  - I am (formally or informally) expected to participate in research as part of my job.
  - My coauthors and/or colleagues encouraged me to publish
  - To build a professional reputation for myself
  - To demonstrate the impact of my library or the profession
  - No other reason
  - Other, please explain:
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Figure 1: Reasons for publishing questions from survey

*Survey Distribution* According to the conference programs provided on MLA's website,<sup>40</sup> there were 487 unique first authors who presented oral presentations or posters at the MLA Conference in 2012 and/or 2014. Email addresses were located for 434 authors; 53 email addresses were not found, or the author was retired, had changed careers, or had passed away. Qualtrics sent an initial invitation to complete the survey to these 434 first authors in August 2020, and then sent reminder emails to recipients who had not yet completed the survey two weeks later, and then one week after that. The survey was kept open for one month.

#### *Data Analysis*

The reasons for publication listed in Figure 1 were categorized as being either externally or internally motivated. External reasons for publication included:

- “to receive merit increments, tenure, and/or promotion due to my research activities,”
- “I am (formally or informally) expected to participate in research as part of my job,”
- “My coauthors and/or colleagues encouraged me to publish.”

Internal reasons for publication included:

- “share results with a broader audience”

- “contribute to my profession’s evidence base”
- “to build a professional reputation for myself,”
- “to demonstrate the impact of my library or profession,”
- “my research or project was novel.”

Five respondents selected “other” as their primary motivation and provided write-in responses. Of these, three write-in respondents indicated that a journal editor had encouraged them to publish. These responses were combined with the “co-authors encouraged me to publish” option, which was re-categorized as “encouraged to publish by others.” Two other write-in respondents indicated that their abstract was grant-funded and was therefore required to be published. These responses were added to a new external motivation category called “grant requirement.” All five of these write-in responses were categorized as external motivation.

Author responses were categorized as either internal motivation, external motivation, or mixed motivation based on whether their selected primary and secondary reasons were both internal, both external, or one of each. For authors who published multiple abstracts, only the reasons selected as their primary motivation for the most recent article were compared to categorize their response. Chi-square tests were used to assess overall differences in motivation between the internal, external, and mixed motivation categories, and for peer review status (peer-reviewed or non-peer-reviewed), and work setting (hospital or academic). A  $p$ -value  $<0.05$  was considered statistically significant. Data were analyzed using (IBM SPSS Statistics, version 26).

## Results

The electronic survey was emailed to 434 authors, but 34 emails failed, leaving a total of 400 successfully delivered emails. Of the 400 successful emails, 161 authors responded for a response rate of 40.3%. Six authors had incomplete responses and were removed from the dataset. One hundred and five ( $n=105$ ) authors responded that they had not published their abstracts, and 50 authors responded that they had published. One author was removed from the analysis because they indicated that they presented at MLA conferences but was not an author of the final published article. Overall, 49 authors who published 60 abstracts were included in the data analysis. The sample selection process is depicted in Figure 2.

### *Motivations for Publishing*

The respondents’ motivations for publication are depicted in Figure 3 from the most selected reason to the least selected reason. The most common reason selected was “Share results with a broader audience” followed by “I am (formally or informally) expected to participate in research as part of my job.” These two reasons were also the most common combination selected for primary and secondary motivations.

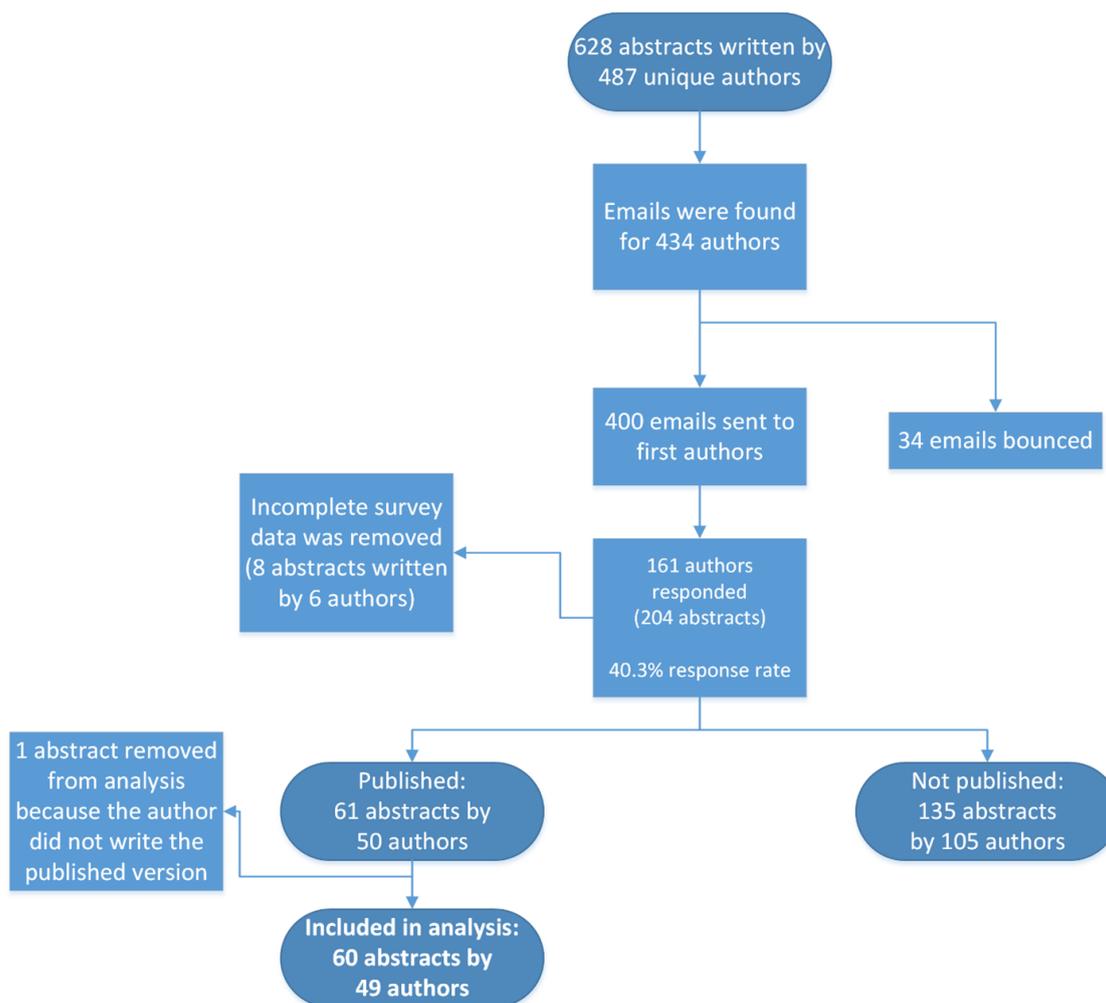


Figure 2: Flow chart of survey responses

In total, 51% (n=25) of survey respondents selected only internal motivations for publishing, 18.4% (n=9) selected only external motivations, and 30.6% (n=15) selected mixed motivations. The difference between the internal, external, and mixed motivation categories is statistically significant ( $X^2 = 8.00$ ,  $p = .02$ ).

The results look similar when broken down by work setting. Internal motivation was the driving factor for both hospital and academic librarians (Table 1). However, more academic librarians than hospital librarians reported mixed motivations (37.2% vs. 0%). The difference between these categories is not statistically significant, as the sample size of hospital librarians was very small (n=6, 12% of total respondents).

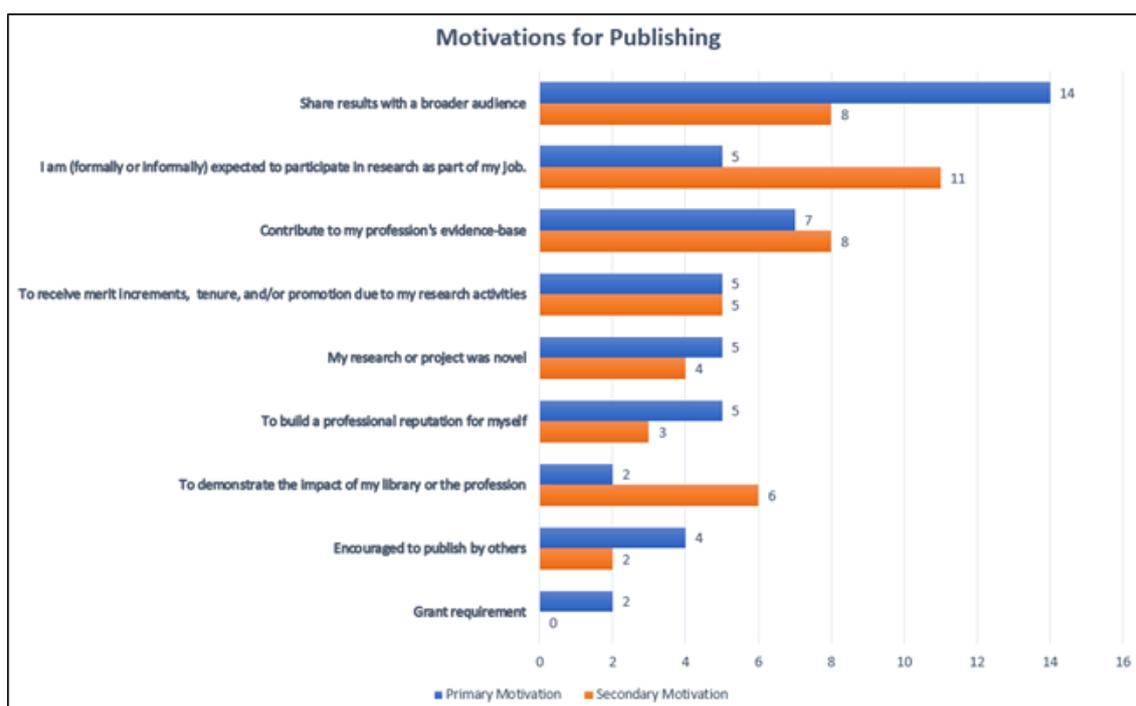


Figure 3: Ranked motivations for publishing

The sample size of librarians publishing in non-peer reviewed venues was also very small, and there was no significant difference in motivation between those publishing in peer-reviewed and non-peer-reviewed venues. Seven librarians published in non-peer-reviewed venues, including book chapters, newsletters, and non-peer-reviewed journals. Most librarians (n=42, 85.7%) chose to publish in a peer-reviewed journal, and 54.8% of them were driven by internal motivation.

Table 1. Motivations for publishing by total, work setting, and peer-review status

	External (n, %)	Internal (n, %)	Mixed (n, %)	Total (n, %)
<b>Work Setting</b>				
Hospital	1 (16.7)	5 (83.3)	0 (0)	6 (12.2)
Academic	8 (16.3)	20 (46.5)	15 (37.2)	43 (87.8)
<b>Publication Type</b>				
Peer-Reviewed	7 (14.3)	23 (54.8)	12 (31.0)	42 (85.7)
Other	2 (28.6)	2 (28.6)	3 (42.9)	7 (14.3)
<b>Total</b>	<b>9 (18.4)*</b>	<b>25 (51.0)*</b>	<b>15 (30.6)*</b>	<b>49 (100)*</b>

\*Statistically significant

## Discussion

This study found that health sciences librarians who publish and disseminate their work after presenting it at a conference are primarily driven by their own internal motivation. Many librarians in this study have a strong commitment to research, and

to them, this is more important, or at least more motivating, than external rewards or requirements. This is a positive finding, as intrinsic and self-determined motivation has been connected to high quality work.<sup>32,35</sup> This finding also aligns with many studies of academic librarians' research productivity, which found that internal motivation is an important factor in research success.<sup>12,25,26,31</sup> However, in contrast to those other studies, this study specifically looked at librarians' motivations to publish post-conference, rather than on their overall research productivity and output. Librarians who present at national conferences may already be a highly internally-motivated group. Even so, low publication rates of conference abstracts delivered at the MLA and other LIS conferences indicate that not everyone wants to publish post-conference or is able to do so. This brings up questions of how librarians value types of research outputs, and if motivational factors vary between different types of outputs. It is possible that for some people a conference presentation is considered "enough" to meet an external requirement or personal desire to share their work and contribute to the profession. Even so, the low percentage of conference abstracts that are later published suggests that when conducting evidence syntheses in our own field, a search of conference abstracts might be necessary to capture all evidence.

### *Implications*

There are ways for institutions and associations to cultivate individuals' internal motivation. One way is to encourage individuals' autonomy to develop their own research vision and mission.<sup>32,35</sup> When a behavior is autonomous, it is less likely to be associated with external pressure and anxiety, and is more likely to be associated with personally valuing and identifying with the goal of the behavior.<sup>33</sup> As seen in studies of research faculty and post-tenure librarians, having the autonomy to follow their own personal interests leads to higher internal motivation for doing research.<sup>30,35,36</sup> For new researchers, it takes time to develop a research agenda. Institutions and associations can assist the development of a research mission and vision, and thus build internal motivation, by setting the "stage" for individuals to build upon.<sup>35</sup> Examples of stage-setting for research in health sciences librarianship include MLA's Research Agenda.<sup>41</sup> Mentors and collaborators can support new researchers in connecting their ideas to big picture questions and needs in the profession.

Another way to cultivate internal motivation is to address individuals' competence and self-efficacy. Feeling competent in a task tends to spark internal motivation.<sup>35,36</sup> Research methods training has been found to increase librarians' competence and confidence.<sup>22,23</sup> Mentors and peer networks have also been shown to increase librarians' competence and self-efficacy.<sup>17-20</sup> One study by Eldredge and colleagues describes an intervention called "real time peer-review" before, during, and after a library science conference to encourage presenters to publish their presentation in a scholarly journal. As a result, two of the four presenters did publish in a peer-reviewed journal, and a third opted to do a blog post to speed dissemination.<sup>19</sup> This is an example of an intervention that could directly encourage conference presenters to further disseminate their work in a peer-reviewed journal by providing them support and mentorship. The cultivation of internal motivation by institutions and associations could be possible by supporting librarians in achieving autonomy, competence, and self-efficacy in their research.

### *Limitations*

This study has some limitations that could affect the results. Small sample sizes of sub-groups such as hospital librarians reduced the study's power to determine differences in motivation between groups. Selection bias could have skewed the results if individuals who are internally motivated to do research are more likely to respond to surveys. Because this study was specifically sampling from librarians who presented at the national MLA conferences, it is not necessarily generalizable to the broader health sciences librarian population because not all of them attend these MLA conferences. Lastly, because this is a quantitative descriptive study rather than qualitative study, there was not a way to gather more nuanced detail about why participants selected the reasons they did. For example, "to demonstrate the impact of my library or the profession" could be internally driven, but perhaps library leadership or other external factors encouraged the author to do so. A follow-up qualitative survey, interview, or focus group could delve further into these results, and examine more nuances on why librarians chose to publish.

### **Conclusion**

The publication and dissemination of research is important for building an evidence base for health sciences librarianship. Conference presentations are often a first step towards publishing a journal article or other research product. The publication rate of research presented at LIS conferences tends to be quite low compared to other fields. Many studies have examined how peer, community, and institutional support can positively impact librarian research productivity and success. However, less research has been done on individual attributes of librarians that increase the likelihood of publication. This study found that librarians who chose to publish post-conference are primarily driven by internal motivational factors rather than by external motivational factors. To motivate more librarians to publish their work, researchers could design and implement interventions meant to cultivate librarians' internal motivation to do research. Future qualitative studies could delve into the nuances of why librarians choose to publish, including why librarians may choose to publish in a non-peer-reviewed versus peer-reviewed venue, and how the venue selected relates to their job requirements and career goals.

### **Data Availability Statement**

Data associated with this article are available at <https://doi.org/10.7912/D2/31>.

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