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Green on What Side of the Fence? Librarian Perceptions of Accepted Author Manuscripts

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INTRODUCTION There is a growing body of accepted author manuscripts (AAMs) in national, professional, and institutional repositories. This study seeks to explore librarian attitudes about AAMs and in what contexts they should be recommended. Particular attention is paid to differences between the attitudes of librarians whose primary job responsibilities are within the field of scholarly communications as opposed to the rest of the profession. **METHODS** An Internet survey was sent to nine different professional listservs, asking for voluntary anonymous participation. **RESULTS** This study finds that AAMs are considered an acceptable source by many librarians, with scholarly communications librarians more willing to recommend AAMs in higher-stakes contexts such as health care and dissertation research. **DISCUSSION** Librarian AAM attitudes are discussed, with suggestions for future research and implications for librarians.

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IMPLICATIONS FOR PRACTICE

1. Scholarly communications professionals can benefit from understanding the general positive interest from librarians in accepted author manuscripts shown here, with the caveat that there is a preference for the publisher copy as the version of record in more formal academic contexts.
2. Scholarly communications professionals should consider potential differences of opinion among the rest of the library profession in the promotion of scholarly communications programs.
3. Clarifying citation standards and instruction regarding accepted author manuscripts would further integrate these documents into the scholarly record.
4. Scholarly communications librarians should consider future research in the area of accepted author manuscripts, including perception and use by researchers and other academics.

INTRODUCTION

More than 40% of the scholarship indexed in PubMed for the period of March 2015 to March 2016 is available free to readers. From this same time frame, more than half a million articles are available free to read on PubMed Central®, with 118,519 of these funded by the National Institutes of Health (NIH). The NIH has been at the vanguard of U.S. agencies requiring that the published results of federally funded research be freely available for all to read within one year of publication. Assuming that other funder mandates created in response to the 2013 Office of Science and Technology Policy (OSTP) memorandum remain in place, this wealth of free scholarly material will continue to grow across disciplines. In parallel, faculty at a significant number of institutions have voted for institutional mandates that release their work to be read freely in institutional repositories; the faculty at Harvard alone are making more than 6,000 of their journal articles a year accessible to the world. In most cases, the versions of journal articles deposited in national and institutional repositories are not the final edited publisher versions, but are instead the “accepted author manuscripts” (AAMs, also referred to as postprints). AAMs, having gone through peer review and final author editing, lack only publisher formatting and copyediting.

Through copyright transfer agreements, journal authors often surrender copyright to publishers, sometimes retaining self-archiving rights. Generally referred to as “green open access (OA),” the authors’ self-deposit of articles into repositories is often restricted to AAMs, and even then only after an embargo period. Besides green OA, the other broad open access model is “gold OA,” where authors retain copyright and the articles are made freely available

with a variety of reuse possibilities. For a more thorough overview of green and gold OA, several works in the literature review are specifically recommended, along with chapter one of Suber's (2013) book *Open Access*.

In light of the significant and growing number of AAMs being made available online, this study seeks to explore professional attitudes of librarians about this freely available scholarship. In what cases might librarians prefer the AAM or the publisher version? How comfortable are librarians with using AAMs in daily practice, including citation advice, interlibrary loan, and discovery? Do librarians who primarily work in the area of scholarly communications have a different view of these issues than the rest of the profession? To help answer these questions, an anonymous online survey was advertised across a number of professional listservs, attracting 232 responses. Of all respondents, 20% identified scholarly communications as their primary job duty, and 94% cited some level of familiarity with AAMs prior to taking the survey. The survey results indicate contextual preferences between the AAM and the publisher version among all respondents and a stronger overall preference for AAMs among the scholarly communications librarians. The survey provides a springboard for further research in this area as well as an opportunity for a brief discussion on potential implications for scholarly communications in general.

LITERATURE REVIEW

There has been sustained interest in green OA, and in turn AAMs, across scholarly publishing and scholarly communications channels. An email discussion on the scholcomm@lists.ala.org listserv, "benefits of an IR and post-prints," drew more than ten responses that expressed a range of opinions on the perceived quality and appropriate role of AAMs in relation to publisher versions, including whether AAMs were suitable replacements of publisher versions for purposes like teaching or citation, or whether they were more appropriately thought of as "advertisements" for the publisher versions (scholcomm, 2016). Anderson's blog post on green OA (2017) argued in part that the green model is like a snake eating its tail, with potential journal cancellations leading to publisher instability and thus the destruction of the version-of-record journals on which green OA depends. This blog post drew 62 comments in less than one week, which likewise displayed a spectrum of opinions on green OA and the role of the AAM. For a contrasting view to Anderson, Houghton and Swan (2013) articulate green OA as a pathway toward a fully open scholarly ecosystem. Harnad (2015), one of the earliest writers on green OA, provides a framework for instituting effective institutional and funder OA mandates that would support the growth and ultimate achievement of universal green OA. Björk, Laakso, Welling, and Paetau (2013) present a background on the history of green OA and related studies, including research on author attitudes and behaviors regarding self-archiving and preference for different article

versions. Further, they suggest that green OA coverage of all published journals (as of 2013) hovers at 12%, with substantial disciplinary differences.

The literature on OA includes a number of studies on OA attitudes and perceptions of scholars. Rowley, Johnson, Saffi, Frass, and Devine's (2017) recent study not only presents a thorough review of the literature but also grapples with a large cross-discipline dataset of almost 8,000 scholars. Using data from a Taylor & Francis 2014 survey, the authors offer insights including ongoing uncertainty among scholars regarding OA (both green and gold), the importance of reputable peer review and quick publication, and potential disciplinary differences. Of particular relevance to this paper, the authors assert that "it is likely that, for the short term at the very least, green and gold OA models will continue to complement each other" (Rowley et al., 2017, p. 1209). Yang and Li's (2015) study of Texas A&M University faculty attitudes toward OA and institutional repositories found strong awareness of OA, along with concerns regarding mandates and scholarly quality. Much of their work confirmed previous studies on barriers to repository participation, which included concerns over quality. Of the 295 Texas A&M faculty surveyed, 14.7% were from the libraries, but their responses were not broken out separately.

Librarian attitudes toward and acceptance of OA have been studied through both surveys and publication patterns. Based on a study analyzing academic librarians' peer-reviewed articles published in LIS journals in 2008, Mercer (2011) found that academic librarians were slightly more likely to self-archive articles than others publishing in LIS journals, although many more articles were eligible for self-archiving than were made openly available. Palmer, Dill, and Christie's (2009) national study of librarians found support for and professional connections to OA while surfacing dissonance between this support and librarian publishing patterns. They also demonstrated statistical differences in OA attitudes and practices among librarians whose work involved OA activities, finding that those librarians involved in OA educational campaigns had more positive OA attitudes and practices. Librarians involved in other OA activities such as managing a repository or OA journals did not differ from the others.

Since the Palmer, Dill, and Christie study, the landscape has changed, with scholarly communications growing to be both a specialty in libraries and foundational to many other librarian roles. This is evidenced in the changes between the two Association of Research Libraries (ARL) SPEC Kits on scholarly communications initiatives in member institutions from 2007 and 2012. In 2007, 75% of survey respondents indicated that their library was involved in scholarly communications educational activities, while another 18% were in planning stages (Newman, Bleicic, & Armstrong). In 2012, 93% of respondents indicated that their library was involved in scholarly communications services, and almost three-

quarters of respondents reported that their library had undergone changes in organizational structure to better provide these kinds of services since the 2007 survey (Radom, Feltner-Reichert, & Stringer-Stanback, 2012). In 2013, Thomas reported that non-ARL member institutions, including libraries of all types and sizes, were also providing scholarly communications leadership and services similar to those of ARL institutions, though at varying scales.

Scholarly communications positions have also become more common, as has inclusion of scholarly communications responsibilities in other library positions. A COAR (Confederation of Open Access Repositories) task force produced a list of competencies for scholarly communications librarians and open access in 2016 (Calarco, Shearer, Schmidt, & Tate). In 2017, a NASIG task force likewise created a scholarly communications librarian competency list (Wesolek et al.). The creation of these two competency frameworks illustrates the increasing interest from libraries in identifying skills gaps, training and assessing librarians, and undergoing organizational changes to create new scholarly communications positions and services. The makeup and growth of the scholarly communications profession was also noted in Kingsley's (2017) report on a survey specifically showing that many scholarly communications positions are less than five years old in organizations and that there is a thirst for continuing education.

The Association of College and Research Libraries' white paper "Intersections of Scholarly Communication and Information Literacy" (ACRL, 2013) encouraged librarians to integrate scholarly communications topics into student instruction. Suggestions included teaching about the economics of publishing that determine students' access to scholarship during and after their time as students, transitioning from an emphasis on the traditional concept of publishing to the entire life cycle of scholarly information, and teaching new criteria for evaluating quality of scholarship given the growing amount that can be accessed for free online. Mullen (2011) recommended that public services librarians consider integrating open access into reference work by offering preprints (the originally submitted version of a work prior to peer review) or AAMs as substitutes for publisher versions, in spite of the expectation that some patrons would not find these works citable. The specific issue of citing preprints has been highlighted, with a summary of recent dialogue on the *Jabberwocky Ecology* blog (White, 2017) and a National Institutes of Health (2017) notice to guide and encourage the use of preprints and other interim research products.

In summary, the existing literature with regard to librarians' OA attitudes and behaviors indicates a dynamic space that suggests growing acceptance and awareness, with situational differences and concerns on topics such as prestige, discipline, and sustainability. The debates on the green/gold continuum are far from settled, with much conjecture on economic

forecasting. This study seeks to add a dimension to the discussion by exploring librarian attitudes toward one specific aspect of green OA, the authority and preferred use of AAMs, with a focus on librarians as practitioners involved in faculty outreach, student instruction, and other areas of library services such as interlibrary loan and discovery. The specific question of librarian attitudes toward the authority and preferred scholarly use of AAMs has not been deeply explored in the literature, and is especially relevant amid the growing body of AAMs. It remains unclear if there is any agreed-upon role in the discovery and use of this material. This study also contributes to scant investigations on any differences between librarians in general and those who specialize in scholarly communications. The results of this survey can help inform library practices, scholarly communications outreach, future research, and general debates about scholarly OA publishing.

METHODS

An online survey was posted to nine different professional listservs, asking for anonymous voluntary participation, on March 2nd, 2017 (VCU IRB HM20009466; see Appendix for survey questions). Established listservs were selected to cover specific areas of librarianship, including scholarly communications, medical librarianship, interlibrary loan, public libraries, technology, administration, instruction, serials, and public services. The following listservs were queried: Scholarly Communications (scholcomm@lists.ala.org), Library Information and Technology (lita-l@lists.ala.org), LLAMA Library Administration (libadmin@lists.ala.org), Medical Librarians (medlib-l@list.uvm.edu), Interlibrary Loan (ill-l@webjunction.org), ACRL Forum (acrl-frm@lists.ala.org), Information Literacy (ili-l@lists.ala.org), Public Libraries (publib@oclc.org), and Serials in Libraries (serialst@listserv.nasig.org). No follow-up reminders were sent. The survey was closed on March 31, 2017.

The survey design included brief definitions and an explanatory example of the differences in AAMs and publisher versions that sought to be informative and neutral. The survey itself was brief, with 17 questions, taking an estimated 5–10 minutes to complete. A three-part scale of preference for “Accepted Author Manuscript,” “Publisher Final Edited Version,” and “No Preference” was used across a core set of questions that asked about specific research contexts. This scale was adapted from a previous study dealing with consumer preference between brand-name and generic drugs (Smith, Mosley, Ford, Courtney, & Stefanelli, 2015). The generic and brand-name drug scale resonated in part as a potential metaphor for AAM and publisher versions. Other parts of the survey asked for anonymous demographic information and opinions on the role of AAMs in libraries with regard to interlibrary loan, citation advice, repositories, and discovery. An open-ended question wrapped up the survey.

Results were analyzed through the use of pivot tables with attention toward comparing

responses between scholarly communications librarians and other respondents. Free text comments were informally coded for content in broad categories, and analyzed for both quantitative and qualitative assessment. In many cases these categories corresponded with specific survey questions. The categories that were noted and coded included version of preference, cost, survey feedback, citation, promotion, discovery, ILL, qualified responses (“it depends . . .”), and education. While nothing formal was done with the coding, the activity helped provide an overview of the scope of AAM concerns, highlighting issues deserving special attention such as cost and citation.

The limitations of the study are largely due to the nature of anonymous Internet surveys. While anonymity is convenient for quickly assembling data, there are no guarantees that respondents correctly self-identify. In a voluntary survey there is a self-selection bias, where only those individuals who have an interest in the topic of AAMs might participate. The small participation of public librarians (4%) vs. the large representation of scholarly communications librarians (20%) speaks to the self-selection issue. In an effort to understand the degree of self-selection, the survey included a question to gauge how familiar the respondent was with AAMs before taking the survey. The inclusion of a choice for “I do not understand the question” was used for the most technical question about the location/source of the AAM, which could require advanced knowledge on repositories. Roughly one-quarter of the respondents reported that their jobs involved “multiple primary duties,” making it difficult to fully gauge their level of engagement with or responsibility for scholarly communications. The recruitment listservs were not exhaustive and tilted heavily toward North American libraries. Despite these limitations, the responses do paint some consistent views on librarian perceptions that can be used in an exploratory manner for both additional research and discussion on the current library climate for AAMs, especially in North American college and research libraries.

RESULTS

There were 232 total respondents. 94% of these indicated that they worked in a North American library. In answer to what type of library, higher education was the main choice, accounting for more than 90% of respondents, with “University Library” leading the way with 153 responses (65.9%), followed by “Health Sciences Library” with 32 responses (13.8%), and rounded out by “College Library” (25 responses, 10.7%). The other demographic question was “Which of these most closely describes your primary duties?” The leading answer with 59 responses was “Multiple Primary Duties” (25.4%), followed closely by “Scholarly Communications” (47 responses, 20.3%). “Public Services” (25, 10.8%), “Interlibrary Loan” (23, 9.9%), “Administration” (23, 9.9%), “Teaching” (19, 8.2%), and “Technical Services” (16, 6.9%) accounted for all but 8.6% of the rest of responses. Round-

ing out that segment was “Systems” (9, 3.9%) and “Collection Development” (7, 3%), with “None of the Above,” “Special Collections and Archives,” and those who left the question unanswered all with two or fewer responses.

The respondents largely indicated familiarity and experience with AAMs. Of the 231 respondents who answered the question “Before taking this survey how familiar were you with Accepted Author Manuscripts?” only 6% (14 respondents) indicated they were not at all familiar. More than half (120) chose the other end of the scale, saying they were “Very familiar.” Among the 47 scholarly communications librarians, 44 selected the “Very familiar” choice, two selected “Moderately familiar,” and none selected “Slightly familiar” or “Not at all familiar.” When asked “Have you encountered Accepted Author Manuscripts either in your personal or professional information needs?” only 28 of 232 respondents (12.1%) answered “No.” Eighteen (64%) of the “No” responses correlated with Administration (7), Multiple Primary Duties (6), and Technical Services (5). Within the scholarly communications group, only one out of 47 indicated that they had not encountered AAMs.

Questions 6–10 and 12 asked respondents to choose among “Accepted Author Manuscript,” “Publisher Final Edited Version,” and “No Preference” in answer to “Which version should be preferred in these cases?”

- Undergraduate Research
- Graduate Research
- Dissertation Research
- Personal Research
- Professional Research
- Recommend to your own physician

On average across all of these categories, the respondents indicated “No Preference” at 51.1%, “Publisher Version” at 41.6%, and “AAM” at 7.5%. The scholarly communications librarians gave less overall preference toward the publisher version at 31.6%, with 58.2% indicating “No Preference” and 10.3% preferring AAM. Academic uses (Undergraduate, Graduate, Dissertation, and Professional) were generally scored higher for the publisher version across all groups. The “Personal Research” case was especially interesting, with very little difference in preferences between scholarly communications librarians and the rest of the respondents, and some of the highest scores (above 10%) showing a preference for the AAM and the lowest scores (below 23%) showing a preference for the publisher version. On the other hand, a more notable difference was seen for the nonacademic use case of one’s physician, with 23.4% of scholarly communications librarians preferring the publisher version as compared to 46.4% for the rest of the respondents. For the physician question,

the 32 librarians from Health Sciences Libraries likewise preferred the publisher version at 46.9%, with “No Preference” at 46.9% and AAM at 6.3%. The lowest preference for AAM was from the non-scholarly communications respondents, with only 4.4% for Undergraduate research. The highest preference for the Publisher Version was also from the non-scholarly communications group, with 51.6% preferring it for Dissertation Research (Table 1).

	Accepted Author Manuscript	Publisher Final Edited Version	No Preference
Undergraduate All	5.2%	47.2%	47.6%
Undergraduate SC	8.5%	38.3%	53.2%
Undergraduate Not SC	4.4%	49.5%	46.2%
Graduate All	5.6%	43.7%	50.6%
Graduate SC	6.4%	36.2%	57.4%
Graduate Not SC	5.4%	45.7%	48.9%
Dissertation All	6.6%	48.0%	45.4%
Dissertation SC	8.5%	34.0%	57.4%
Dissertation Not SC	6.0%	51.6%	42.3%
Personal All	11.3%	22.6%	66.1%
Personal SC	10.6%	23.4%	66.0%
Personal Not SC	11.5%	22.4%	66.1%
Professional All	7.8%	45.7%	46.5%
Professional SC	12.8%	34.0%	53.2%
Professional Not SC	6.6%	48.6%	44.8%
Physician All	8.2%	41.6%	50.2%
Physician SC	14.9%	23.4%	61.7%
Physician Not SC	6.5%	46.4%	47.5%

Table 1. Preference for AAM and Publisher Final Edited Version by primary duties: all respondents (All), scholarly communications (SC), and nonscholarly communications (Not SC).

In answer to the question “If the Accepted Author Manuscript was used in any of the cases above, how confident are you of advising the researcher how to cite it in relationship to the published version?” there were similar divisions among the scholarly communications and other professionals. Of the scholarly communications librarians, 53% indicated that they were “very confident,” followed by “moderately confident” (42.6%) and “slightly confident” (4.3%), with no respondents choosing “not at all confident.” In comparison, only 14.9% of the non-scholarly communications librarians were “Very confident,” with most of the respondents clustering toward “moderately confident” (46.8%), 20.7% indicating “slightly confident,” and 14.9% reporting “not at all confident.” Of the 19 librarians who identified “teaching” as their primary duty, only two (10.5%) were “very confident,” eleven “moderately confident” (57.9%), five “slightly confident” (26.3%), and one (5.3%) “not at all confident.” Ten of the 74 total separate responses in the open-ended question at the end of the survey referred to the issue of AAM citation, offering either guidance, critique of the question, or acknowledgment of struggles. One comment in the latter category noted, “There need to be better citation methods for accepted author manuscripts. Librarians should take the lead in developing citation standards for such documents.” The challenge of pagination agreement between the AAM and publisher version in citation was mentioned twice in the comments.

Perhaps the most nuanced question, or at least the one requiring knowledge and opinions of repository infrastructure, asked “Would the location of the Accepted Author Manuscript influence your confidence in it as a trusted source?” Of the scholarly communications librarians, 46.8% gravitated toward an answer of “Yes, I am most likely to trust an Accepted Author Manuscript in an institutional repository or national repository equally,” as did 46.5% of the other respondents. There were some differences between the two groups at the outer ends of the question, with 40.4% of the scholarly communications librarians more sympathetic to trusting an AAM on an author’s webpage as opposed to 27.6% of the other respondents. None of the scholarly communications librarians selected the more restrictive choices of not trusting AAMs regardless of location or only trusting AAMs in national repositories. In comparison, 5.4% of the non-scholarly communications librarians indicated that they did not trust AAMs, and 9.2% singled out a national repository as the *only* trustworthy location.

The survey included two situational questions about the use of AAMs in libraries. The first of these questions focused on interlibrary loan: “If an article is requested through Interlibrary Loan, for which there is an openly available Accepted Author Manuscript, the library should” 70% of all respondents indicated that the library should ask the user if the AAM is acceptable, 12.2% favored canceling the request and pointing the user to the AAM, and 17.4% elected to ignore the AAM and deliver the publisher version. When filtered for scholarly communications and other respondents, the scholarly communications librarians indicated additional interest in pursuing the AAM and less interest in the publisher version. On the

other hand, of the 23 librarians who identified as primarily interlibrary loan professionals, eleven (47.8%) felt that the library should ask the user if an AAM were acceptable, followed closely by ten (43.5%) who chose the publisher version regardless, with only two (8.7%) advising that the library cancel the request in lieu of the AAM (Table 2).

If an article is requested through Interlibrary Loan, for which there is an openly available Accepted Author Manuscript, the library should:	SC	Not SC	ILL
ask the user if the Accepted Author Manuscript is acceptable	34 (72.3%)	128 (69.9%)	11 (47.8%)
cancel the request and point the user to the Accepted Author Manuscript	8 (17%)	20 (10.9%)	2 (8.7%)
pursue the publisher version regardless of if there is an openly available Accepted Author Manuscript	5 (10.6%)	35 (19.1%)	10 (43.5%)
Total	47	183	23

Table 2. AAM options for interlibrary loan by primary duties: scholarly communications (SC), non-scholarly communications (Not SC), and interlibrary loan (ILL).

The second situational question focused on the library discovery environment: “If an article is requested through the Library Discovery Service, for which there is an openly available Accepted Author Manuscript and for which the library has a subscription to the journal in which it appears . . .” Half of all respondents indicated that both versions should be presented to the user. As with other questions, the scholarly communications librarians were more inclined toward the AAM, with 71.7% indicating that both versions should be presented. Of all respondents, 48% were in agreement that only the publisher version should be presented. A much smaller percentage (26.2%) of the scholarly communications librarians singled out the publisher version, as opposed to 53.3% of the other librarians. None of the respondents were terribly enthusiastic about hiding the publisher version, with none of the librarian categories exceeding 2.2% for this choice (Table 3).

The final question asked generally, “Is your library actively promoting the use of Accepted Author Manuscripts?” Of the 47 scholarly communications librarians, 26 (55.3%) answered yes. The other 180 librarians had a different perspective, with only 37 (20.6%) answering that yes, their library was actively promoting AAMs. Four comments spoke to this question, all clarifying that their promotion was largely through the collection of AAMs into their institutional repositories. For example: “With respect to whether the library is actively promoting the use of AAMs, I answered yes, but that is only insofar as we have an IR and are encouraging deposit of AAMs in it and we allow our discovery layer to search it. There is no more active promotion in place.”

If an article is requested through the Library Discovery Service, for which there is an openly available Accepted Author Manuscript and for which the library has a subscription to the journal in which it appears:

	All	SC	Not SC
both the Accepted Author Manuscript and the publisher version should be presented	116 (50.4%)	33 (71.7%)	83 (45.1%)
only the publisher version should be presented	110 (47.8%)	12 (26.1%)	98 (53.3%)
only the Accepted Author Manuscript should be presented	4 (1.7%)	1 (2.2%)	3 (1.6%)
Total	230	46	184

Table 3. AAM options for discovery by primary duties: all respondents (All), scholarly communications (SC) and non-scholarly communications (Not SC).

Comments in response to the open-ended question “Are there any comments about Accepted Author Manuscripts and the role of libraries or librarians that you would like to share?” held a good distribution across primary duties, with no one group commenting more than the other. All told, 73 of the 232 respondents left comments, many of which were rich and substantive. In addition to the concerns about citation and promotion mentioned above, other issues raised in the comments ranged from cost as a potential factor in determining suitability of versions to the pervasive need for education of researchers, librarians, and users. As one commenter put it, “When I request an AAM the author often sends me the published article, even if I explain what the AAM is. There is definitely a need to educate authors on publisher policies and the mechanics of sharing.” Another comment reflected our own thinking on generic drugs as an AAM metaphor, highlighting cost, content, and promotion: “With regard to whether we should deliver [an] AAM or published version to a user, there should be a ‘generic OK’-type option on the request form or discovery interface so that the user can indicate that they will accept [an] AAM if one is available.”

DISCUSSION

The results from the survey indicate a good deal of interest and a variety of opinions from librarians in the use of accepted author manuscripts. These attitudes are contextual depending on the potential use of the AAM and whether the librarian is primarily working in scholarly communications. There was support for AAMs from all respondents and across the variety of scenarios presented, from undergraduate and graduate research to personal and professional uses. For most of the scenarios offered, less than half the respondents preferred the publisher’s final edited version, with an equal or greater number indicating “No Preference.” The only scenario to receive more than 50% of responses with a preference for

the publisher version was from the non-scholarly communications segment for dissertation research (51.6%). A continuum of academic and personal risk was observed. For the lowest-risk scenario of “Personal research,” the publisher version was preferred by less than one-quarter of the respondents. Across all other scenarios, scholarly communications librarians were more likely to have no preference for either version. As noted earlier, responses should be foregrounded with the demographics: most of the respondents (94%) had prior knowledge of AAMs and were largely from North American research and college libraries (also 94%).

On the most practical level, the survey raises concern for adequately citing AAMs. There is considerable ambiguity surrounding AAM citation, such as whether to cite both the AAM and publisher version even if only the AAM is used. Pagination differences can become problematic for citations that include quotations. There may be the temptation to cite the publisher version regardless, based on notions of prestige or common practice. If solely the AAM is being used, a citation to only the publisher version could introduce downstream problems for scholars if the two versions present substantive differences. As librarians are often trusted advisors on citation, there is an opportunity for greater advocacy and leadership here, particularly in the areas of standards and best practices. Without clear guidance for citation, it will remain difficult for the AAM to stand on its own in the scholarly dialogue, further disadvantaging those without access to the publisher version.

Coupled with the expressed interest in AAM citation, strategies to further integrate AAMs into library education efforts should be an area of further investigation. Opportunities for research include more focused surveys on the perceptions of librarians involved in instruction and the faculty whose students they most frequently instruct. With librarian and faculty support, AAMs could serve as introductory teaching objects to introduce students to the life cycle of scholarly information, prepare them for loss of access upon graduation, and expand on the concept of what constitutes a “citable” resource.

Intersecting the issue of library education, the lowest preference for an AAM, at 4.4%, was from the non-scholarly communications respondents in the context of undergraduate research. Several comments mentioned undergraduate research and provided potential insight into the low preferences for AAMs in the undergraduate scenario. Some comments stated a belief in the importance of educating undergraduate students on scholarly communications issues, including the value of AAMs, so that students can make their own informed decisions. However, some comments specified that the publisher version is superior for instruction and should be introduced before other versions of a publication. Comments also noted a connection to broader education efforts around credibility of sources and publications and a concern that introducing AAMs, which may be missing traditional hallmarks used

to identify credible publications, might create confusion for students (confusing an AAM for a preprint, for example). One commenter elaborated: “I find it important to present the published version to undergraduates because they likely will not have a deep understanding of what a journal article is, and as young and inexperienced researchers it is important that they first learn what journal articles are, and it is more obvious with the published version, as some pre-prints, non-formatted, look like ‘just’ a word document and are more difficult to analyze whether or not it is a trusted source.”

The survey results highlight a range of librarian perceptions regarding the authority of the publisher version versus the AAM. Reliance on the AAM was seen as a life-or-death matter by at least one respondent who commented in part, “for clinical care it should only be final publisher documents. Who knows if a number is wrong and corrected in final review.” While this comment probably represents an extreme, the survey results indicate a sentiment that the publisher version is most trusted. The comment does remind us that scholarship is important, with the potential to transform our lives. Perhaps the published AAM becomes even more important, documenting the full provenance of the scholarship. On the other hand, as the “version of record,” the publisher version has an established responsibility to note postpublication corrections or retractions. Future research might look critically at the substantive differences of AAMs and publisher versions, as well as engage the issue of how AAM repositories monitor and account for corrections and retractions.

The impact of cost was noted by ten of the survey respondents in the comments. For example, two different librarians commented, “I think there is a lot of privilege tied up in the questions you ask. I work in the US at a university so I have access to tons of published articles. A great majority of the world doesn’t have this privilege . . .” and “. . . Most readers, IF they have access, would prefer the VoR. If it’s no access, or pay 41.00, or wait for ILL, they will happily read and use the AAM.” An interesting area for future research would be to pair attitudes toward AAMs more directly with costs, by more explicitly stating that the AAM is free or by setting up different scenarios with regard to potential price points of the publisher version.

The specific issue of cost was intentionally not addressed in the survey to reduce bias in favor of the AAM, and it is only one potential reason why a librarian might prefer an AAM. The questions on interlibrary loan and discovery did assume access to either copy. While essentially “free” to the user, there are costs to the institution in providing access to the publisher version. These costs include the immediate subscription cost and future negotiated costs based in part on cost per use. Perhaps the economics of journal subscriptions influenced scholarly communications librarians who were more willing than the rest of the group to leverage the AAM in interlibrary loan and discovery services.

While the survey results point toward qualified librarian acceptance of AAMs, numerous questions remain that present avenues for further research and application. As this is only an exploratory Internet-based survey, additional studies could be done on librarian attitudes in more controlled environments where degrees of statistical significance could be calculated. The door is also open to more qualitative research on the reasons behind librarians' attitudes, as well as surveys of librarians outside of North American universities and research institutions.

As scholarly communications matures into a specialty within college and research libraries, and often involves internal staff development, tracking alignments and divergences in comparison to the broader profession would also have ongoing benefits. Such awareness could help gauge the effectiveness of scholarly communications efforts, pointing toward areas for additional internal staff development and opening up dialogue across the library profession. It is worth noting that these divergences were seen not only in perceptions of AAMs but also in how libraries were promoting them.

Another fruitful line of research would be to more widely assess scholars' attitudes toward AAMs. Up to this point, much of the research has focused on attitudes toward OA in general or on scholars' interest in supplying copies to repositories. It would be fascinating to have a better portrait of how researchers (including librarians) are actually using AAMs for their scholarship. With the continually growing number of AAMs, such a portrait, if reproducible, would have the potential to track changes in terms of acceptance and use over time.

CONCLUSION

Librarians were surveyed for their preferences and practices in using and promoting AAMs. The survey results demonstrate in part that AAMs can be acceptable to librarians, while at the same time revealing attachment to the publisher copy as the version of record to be especially preferred in more formal academic contexts. Librarians whose primary duties rested in the scholarly communications field were generally more likely than other librarians to not have a preference between the AAM and publisher version. The survey also suggests areas for outreach, advocacy, and education surrounding AAMs. As librarians provide guidance for the discovery and evaluation of the scholarly record, their attitudes toward accepted author manuscripts are an important measure of the potential and limits of this growing body of literature.

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APPENDIX

Survey on Librarian Perceptions of Author Manuscripts

This is a survey on librarian perceptions about Accepted Author Manuscripts (also known as postprints) which are freely available in online repositories. Results from this survey will be used for a research study and subsequent publication. Participation is voluntary and the survey is anonymous. No identifiers are requested or tracked that could be linked to an individual. You are free to abandon the survey at any time. We estimate that the survey should take 5-10 minutes.

You may make inquiries concerning this research project to the primary investigator Jimmy Ghaphery, Associate University Librarian, VCU Libraries, 804-827-3551; jghapher@vcu.edu; VCU IRB HM20009466.

Definitions:

Accepted Author Manuscript: The version of a scholarly article that has been accepted for publication. The Accepted Author Manuscript includes all changes made by the author during the peer review process but does not include publisher copyedits or publisher formatting.

Publisher Final Edited Version: Published version under the publisher's imprint in print and/or online. Includes all publisher copyedits and formatting style.

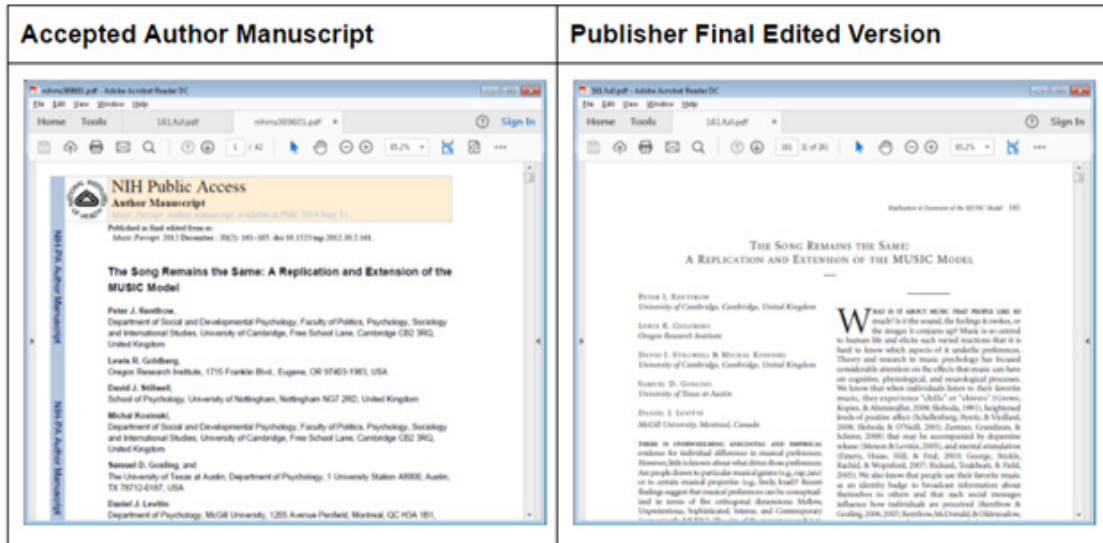
Example:

The Song Remains the Same: A Replication and Extension of the MUSIC Model, *Music Percept.* 2012 Dec; 30(2): 161–185.

Accepted Author Manuscript: PubMed Central® <https://www.ncbi.nlm.nih.gov/pmc/PMC4016970/>

Publisher Final Edited Version: doi: <https://doi.org/10.1525/mp.2012.30.2.161>

More information on Author Manuscripts: <https://www.ncbi.nlm.nih.gov/pmc/about/authorms/>



1. What type of library do you work in?

- University Library
- College Library
- Community College Library
- Public Library
- Government Library
- Health Sciences Library
- Special Library
- School Library
- Other

2. Which of these most closely describes your primary duties?

- Administration
- Collection Development
- Interlibrary Loan
- Public Services
- Scholarly Communications
- Special Collections and Archives
- Systems
- Teaching
- Technical Services
- Multiple primary duties
- None of the above

3. Is your library located in North America?

Yes

No

4. Before taking this survey how familiar were you with Accepted Author Manuscripts?

Very familiar

Moderately familiar

Slightly familiar

Not at all familiar

5. Have you encountered Accepted Author Manuscripts either in your personal or professional information needs?

Yes

No

6. Which version should be preferred in these cases?

	Accepted Author Manuscript	Publisher Final Edited Version	No Preference
Undergraduate Research			
Graduate Research			
Dissertation Research			
Personal Research			
Professional Research			

7. If the Accepted Author Manuscript was used in any of the cases above how confident are you of advising the researcher how to cite it in relationship to the published version?

Very confident

Moderately confident

Slightly confident

Not at all confident

8. Which version would you recommend to your own physician?

Accepted Author Manuscript

Publisher Final Edited Version

No Preference

9. Would the location of the Accepted Author Manuscript influence your confidence in it as a trusted source?

No, I would trust any Accepted Author Manuscript version

Yes, I am most likely to trust an Accepted Author Manuscript on the author's webpage, in an institutional repository, or national repository equally

Yes, I am most likely to trust an Accepted Author Manuscript in an institutional repository or national repository equally

Yes, I am most likely to trust an Accepted Author Manuscript in a national repository

No, I do not trust Accepted Author Manuscripts regardless of location

I do not understand the question

10. If an article is requested through Interlibrary Loan, for which there is an openly available Accepted Author Manuscript:

The library should cancel the request and point the user to the Accepted Author Manuscript

The library should ask the user if the Accepted Author Manuscript is acceptable

The library should pursue the publisher version regardless of if there is an openly available Accepted Author Manuscript

11. If an article is requested through the Library Discovery Service, for which there is an openly available Accepted Author Manuscript and for which the library has a subscription to the journal in which it appears:

Only the Accepted Author Manuscript should be presented

Both the Accepted Author Manuscript and the publisher version should be presented

Only the publisher version should be presented

12. Is your library actively promoting the use of Accepted Author Manuscripts?

Yes

No

13. Are there any comments about Accepted Author Manuscripts and the role of libraries or librarians that you would like to share?