


Beyond Gatekeepers of Knowledge: Scholarly Communication Practices of Academic Librarians and Archivists at ARL Institutions

Cassidy R. Sugimoto, Andrew Tsou, Sara Naslund, Alexandra Hauser, Melissa Brandon, Danielle Winter, Cody Behles, and S. Craig Finlay

Librarians and archivists are intimately involved in scholarly communication systems, both as information providers and instructors. However, very little is known regarding their activities as scholars. This study seeks to examine the scholarly communication practices of librarians and archivists, the role that tenure plays in scholarly communication practices, and the degree to which institutional support is provided in librarians' efforts to consume and disseminate research and reports of best practices. A questionnaire was sent to professional librarians and archivists at 91 ARL institutions. The responses demonstrate that ARL librarians and archivists are avid consumers and creators of scholarship, and they use emerging technologies to stay up-to-date on the profession's latest research.

he duties of academic librarians and archivists are inherently tied to the world of scholarly research. By organizing, disseminating, and providing access to information, librarians and archivists act as gatekeepers of knowledge for countless students, researchers, and professors. The role of librarians and archivists in scholarly communication has expanded in recent years. In addition to

their traditional job duties, librarians now perform liaison functions, wherein information professionals act as educators for both students and faculty. Modern librarians also advocate for “sustainable models” of scholarly communication, help faculty members to develop tools that facilitate scholarly communication, and work in the field of digital preservation.¹ It has been argued that the “changing landscape of research, open access, and

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managing information and intellectual property rights has added urgency to the need to define the library's role in scholarly communication."² This role has been promoted as one of advocacy, wherein librarians should actively promote open access, institutional repositories, and other novel means of conducting scholarly communication.³ This transformation toward a dissemination and publication role moves librarianship "beyond a custodial role model" and into one that involves "active...contributi[ons] to the evolution of scholarly communication."⁴ In many cases, this involves collaboration with existing publishing initiatives at the university (such as the university press).⁵ Proponents also argue that the library should be reconceptualized as a publisher in its own right.⁶

The increasing role of librarians within the scholarly communication process has not gone without challenge. Faculty members and other actors in the scholarly communication system have demonstrated reluctance to embrace the evolving paradigm.⁷ The rationale for engaging in new (particularly open) systems of scholarly communication seems obvious for those librarians who see the contemporary landscape as an opportunity to rid themselves of a 40-year-old serials crisis,⁸ but there is less of an incentive for other actors within the system to depart from the status quo.

The number of librarians in tenure-track positions and the associated publishing responsibilities of these positions indicate an expectation on the part of universities for these professionals to engage in scholarly research. This is reflected in the growing number of academic librarians who receive some form of institutional support for their research.⁹ In addition, due in large part to emerging technologies and the changing expectations of patrons, the role of librarians (not to mention the term "library" itself) is in flux.¹⁰ This dynamic environment may provide a platform for information professionals to make it clear that they

are information creators in addition to information providers.

While there is a substantial body of literature regarding the manner in which librarians facilitate and (increasingly) engage in the process of scholarly communication, there is less literature dedicated to the idea of librarians and archivists as bona fide *scholars*. Therefore, this study seeks to answer two broad research questions:

1. What are the scholarly communication practices of academic librarians and archivists?
2. What types of institutional support are provided to facilitate the scholarly communication practices of academic librarians and archivists?

It should be noted that the direct implications of this study are limited to the surveyed population of ARL librarians; any extrapolations must take this caveat into consideration. Nevertheless, the results of this study can inform the practices and policies surrounding the consumption and dissemination of research and reports of best practices by librarians and archivists at research universities. This field of inquiry is particularly relevant for administrators who are looking to formulate guidelines and policies relating to scholarly publishing and tenure. The results can also be used to inform educators and guide them in redesigning MLS curriculums in ways that more adequately prepare students for their future roles as academic librarians.

Literature Review

Disseminating and consuming scholarship. Academic librarians and archivists make substantial contributions to the Library and Information Science (LIS) literature, although there are indications that such contributions *may* be on the decline.¹¹ Publications by librarians increasingly tend to be concentrated in a few journals¹² and receive fewer citations than articles published by LIS faculty.¹³ The reading practices of academic librar-

ians also reflect this concentration, with librarians consistently following only a handful of research journals;¹⁴ in one study, “only 15% read more than four research journals.”¹⁵ In general, librarians and archivists tend to read and publish research that has practical interest and is directly related to their job duties.¹⁶ This is also a factor when academic librarians consider venues in which they intend to disseminate their research; the perceived value of a journal in relation to the profession is seen as one of the most important criteria for selecting a publication venue.¹⁷

Even if academic librarians are not traditionally viewed as scholars, there is much evidence to suggest that such individuals are, in fact, quite productive, particularly when considering that research and publishing are generally considered ancillary to other facets of a librarian’s job. A 1999 survey of Pennsylvania State University librarians reported that, “on average, the librarians spend 19.8 hours per month on their research, and fully 12 percent reported spending more than thirty hours per month.”¹⁸ In addition, at the time of the survey, 80 percent of the librarians at the university were working on research that was ultimately intended to be submitted for publication. This level of productivity was due to a number of factors; perhaps the most telling is that librarians at the university were *expected* to publish as part of their duties.¹⁹

A welcoming environment is also critical for librarians to engage in scholarly initiatives such as open access publishing. Although librarians are often seen as proponents of open access, research demonstrates that they do not submit their own research to open access journals with a greater frequency than other scholars do.²⁰ This may be due to the current state of the academic climate with respect to scholarly publications and the role that librarians play in this process. As noted by Mercer, “academic librarians are not likely to adopt activist behaviors without support from library and college or university administrators.”²¹

Tenure and institutional support.

Academic librarians are generally more likely to engage in scholarly communication if they are offered tenure and faculty status.²² Such librarians tend to continue to publish even after they have been awarded tenure.²³ Some librarians have reported that conducting and publishing research becomes habitual during the process of achieving tenure; others found that they genuinely enjoyed the process and consequentially developed an enthusiasm for research that remained even after tenure had been awarded.²⁴

Although the ACRL provides some basic recommendations,²⁵ “there are no clear-cut guidelines among institutions regarding what constitutes scholarship or service.”²⁶ This is complicated by the fact that only 48.2 percent of ARL libraries “reported having written policies regarding tenure and promotion.”²⁷ Despite this lack of formality, publications were required for tenure at a majority of institutions.²⁸ Some have questioned whether the tenure model is appropriate, given the other demands placed on librarians and archivists. It is also questionable whether the requirement to publish is in line with “the ideal of the profession.”²⁹ Finally, it is possible that it might be beneficial to all concerned if librarians were instructed to spend their energy on more traditional professional responsibilities, as opposed to focusing their efforts on the goal of achieving tenure.³⁰

At the heart of the problem is a curious state of affairs in which pressure to publish is frequently melded with a lack of support from a library’s parent institution. Even when librarians are offered institutional support, the tricky business of balancing original research with other job requirements frequently proves to be a hindrance to productivity.³¹ As noted in Floyd and Phillips’ survey of academic librarians, “the requirement to publish in order to be a successful academic often competes with the requirement to perform daily work in order to be a successful librarian.”³² Some have suggested

that the solution “lies in learning to write during short time spans, a proven technique that explodes the myth commonly held by instructional faculty and librarians that effective writing requires large blocks of time.”³³ A lack of institutional support does not necessarily equate to a situation in which unreasonable demands are placed onto librarians. The majority of librarians (54.3%) surveyed by Klobas and Clyde did not feel expected or encouraged to conduct research.³⁴

New forms of scholarly communication. Peer-reviewed journal articles have been consistently considered to be the most important dissemination medium for academic librarians seeking tenure and promotion.³⁵ All the same, a number of novel forms of scholarly communication are challenging this monopoly. Blogs, for instance, have been championed for their timeliness of content delivery (particularly necessary for technical content), ease of use, and potential for outreach to the patron community.³⁶ It has been argued that blogs and RSS feeds are “two of the technologies opening up professional discourse in library communities”³⁷ and supporting community building.³⁸ The flipside is that blogs and other contemporary forms of communication have been criticized for lacking the rigor of traditional modes of scholarship; blogs are frequently perceived as serving primarily as a means to disseminate information pertaining to news and current events, as opposed to acting as platforms for sharing original scholarship.³⁹ Studies have shown an age gap relating to blogs; younger librarians tend to promote blogging, while older librarians tend to be more reluctant to embrace the new technology.⁴⁰

It has been suggested that librarians and archivists can use preprints and self-archiving to quickly disseminate the results of their research.⁴¹ Institutional repositories are also useful tools for preserving and disseminating scholarly research. Because they are a relatively contemporary innovation, institutional

repositories are currently “proceeding along [their] own cycle[s] of maturation,” allowing librarians to mold the concept to the evolving needs of the scholarly communication paradigm.⁴² The issue of emerging technologies is one that has tremendous implications for the future of scholarly communication. Emerging technologies and other contemporary issues in scholarly communication are thereby one of the points of interest for this research.

Methods

To address the research questions, a questionnaire was designed and sent to ARL-affiliated academic librarians and archivists in the United States. The resulting data were analyzed using descriptive statistics.

Questionnaire. The questionnaire was designed with five main sections: 1) demographics; 2) consumption of scholarship; 3) dissemination of scholarship; 4) tenure and institutional support; and 5) emerging technologies.⁴³ The majority of the questions were meant to elicit data regarding the full spectrum of scholarly communication activities. The demographic questions were used to contextualize the response set.

Sample. The target population included all professional librarians and archivists at academic libraries in the United States. To identify a sampling frame that would identify those libraries most likely to support and encourage research initiatives, we focused on the 125 Academic Research Library (ARL) member institutions.⁴⁴ Of these 125 libraries, 26 that were either located outside the United States or unaffiliated with universities (such as the Smithsonian) were removed from consideration. Indiana University (Bloomington) was also excluded, to avoid the possibility of bias.⁴⁵ The official websites of the remaining 98 institutions were then consulted to locate the names, titles, and e-mail addresses for all professional librarians and archivists working at the main branch of the institutional

library. The professional status of each individual (as opposed to paraprofessional status) was ascertained via the job titles that were provided by the websites. If an individual's professional status was unclear or ambiguous, the individual was included in the survey. Seven schools that failed to provide contact e-mails were excluded. During the process of sending out the survey via e-mail, additional librarians were eliminated due to bounced e-mails or a response indicating that the individual did not fall within our inclusion criteria. In total, the sampling frame was composed of 4,643 librarians and archivists from 91 academic institutions.

Recruitment. All 4,643 individuals were sent personalized e-mails between March 3, 2012, and March 8, 2012. The e-mails included a brief introduction to the study and a link to the questionnaire, which was constructed and hosted on Google Docs. The survey closed on March 24, 2012, logging 603 total responses for a 12.9 percent response rate. Because the Google survey instrument does not provide individualized log data, we were unable to identify which specific librarians completed the survey. Due to this, no reminder e-mails were sent. It is worth noting that it has been documented that the majority of responses from surveys tend to stem from initial recruitment initiatives (as opposed to follow-up dispatches).⁴⁶

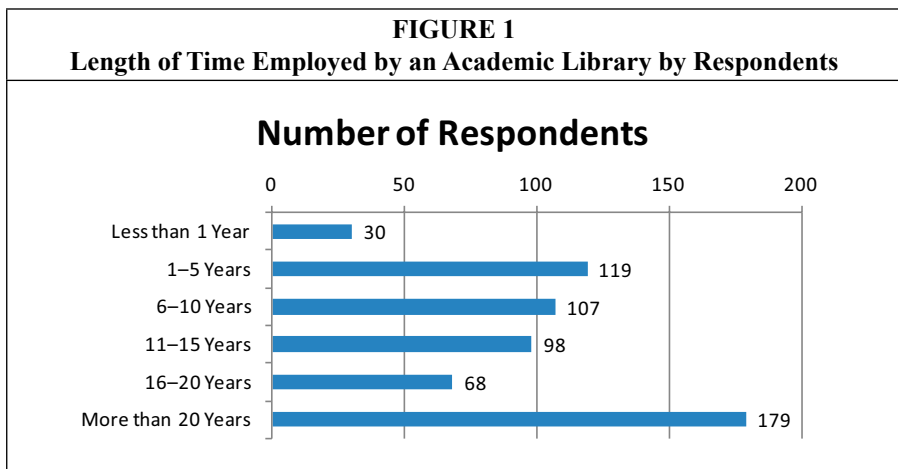
Although 603 responses were received, not all respondents answered every single question. For this reason, the number of respondents attributed to any given question may vary. Percentages also reflect this state of affairs (that is to say, percentages are based on the total number of people who answered a specific question, *not* on the 603 who took the survey).

Analysis. Counts and descriptive statistics were tabulated for each of the closed-ended responses. When warranted, analyses were made between questions. Iterative inductive coding was used to analyze the open-ended questions; that is, the responses were manually coded in a prescribed sequence and then recoded to ensure that all themes had an equal chance of being coded for each utterance.

Results

The results of the survey are split into four main sections: 1) demographics; 2) consumption and dissemination of research and best practices; 3) tenure; and 4) institutional support.

Demographics. To contextualize the data, respondents were asked a number of questions regarding their background and job experience. As shown in figure 1, the plurality of respondents (29.8%) had worked in an academic library for more than 20 years ($n=179$, out of the 601 who answered this specific question). Only



5.0 percent had worked in an academic library for less than a year.

On the whole, the respondents to our survey tended to be younger than ARL librarians in general. Nearly half (42.5%) of our respondents had upwards of ten years of experience, while approximately 37 percent of librarians in ARL's 2011–2012 survey had upwards of eleven years of experience.⁴⁷ The differences are more pronounced when considering greater lengths of time; 29.7 percent of our respondents had worked in a library for more than twenty years, while approximately 41 percent of ARL's librarians reported working in a library for more than twenty years.

Another question inquired as to the degrees obtained by the respondents and, for those who had received an MLS or related degree, the year in which the degree was obtained. Of the 602 librarians who responded to this question, 89.4 percent reported possessing an MLS/MIS/MLIS degree. Nearly half of the respondents (45.5%) had another master's degree,⁴⁸ and 87 respondents (14.5%) had a doctoral degree. The year in which the MLS/MIS/MLIS was obtained was gathered from 535 respondents. More than 40 percent received their degrees between 2000 and 2012.

A total of 392 respondents were female (65%), 207 were male (35%), and one identified as "other." These data are reflective of employment statistics for the field of librarianship.⁴⁹ This also compares favorably with the 2011–2012 ARL Annual Salary Survey, in which it was reported that, of professional faculty working at the "main" libraries of ARL institutions in the United States, 61.6 percent were female and 38.4 percent were male.⁵⁰

Consumption and dissemination of scholarship. The manner in which professional academic librarians remain current with research and best practices was examined. More than a quarter (26.6%, n=160) of the 601 respondents reported reading daily; this statistic includes *all* forms of communication, from scholarly

journal articles to blogs and social media. A vast majority (94.2%) consult professional literature on, at the very least, a monthly basis. Only 10 respondents (1.7%) reported "never" reading professional literature.

Respondents were offered a list of various publication formats and invited to select those formats that they used to remain current with relevant literature. The 599 responses indicated that peer-reviewed journals (80.6%, n=483), conference papers and proceedings (76.6%, n=459), magazine and trade journal articles (65.4%, n=392), websites (64.4%, n=386), and blogs (61.6%, n=369) were the most popular means of staying up to date on current scholarship.⁵¹

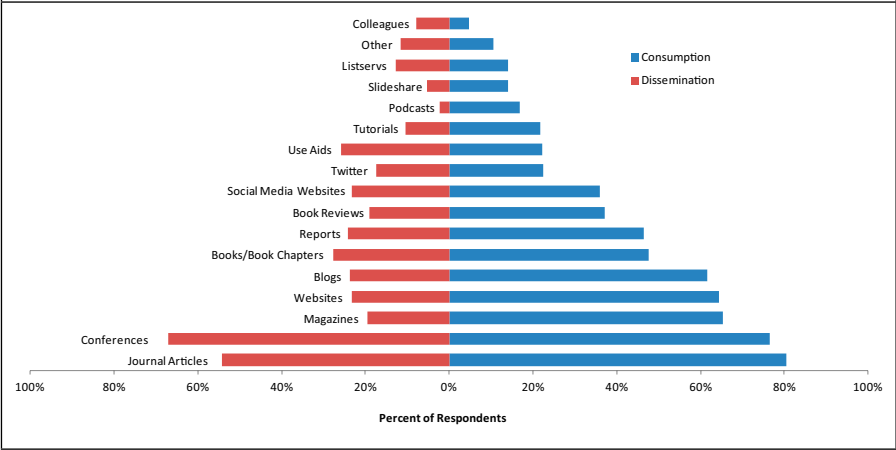
The dissemination habits of academic librarians and archivists are also useful to consider. Nearly three quarters (72.7%) of 600 respondents (n=436) reported sharing the results of research or reports of best practices. Less than a quarter (20.3% of 419) respondents to a separate question (n=85) published across *all* publication types at least once per month. A total of 227 respondents (54.2%) reported publishing "yearly" or "never."

Conference papers, posters, and presentations were the most popular modes of dissemination, with 65.9% of respondents (n=282, out of 428) indicating that they shared the results of their research in this manner. 54.2% (n=232) indicated that they published in peer-reviewed journals.⁵²

Figure 2 compares the consumption habits of the respondents with their dissemination habits. While conference papers and presentations were the preferred vehicle for dissemination, journal articles enjoyed a slight majority in terms of consumption. In addition, although respondents noted using podcasts, SlideShare, and Facebook for staying up to date, a much smaller proportion used these platforms for disseminating their research.

When asked to provide the names of the sources used to stay up to date, 499

FIGURE 2
Formats Used for the Dissemination and Consumption of Research and Best Practices (by Percentages of Respondents)



unique sources were named by the 591 respondents. Four of these were coded as general source categories (in other words, listservs, webinars, blogs, and books). The most frequently named source was *College & Research Libraries*. Many respondents also followed the *Chronicle of Higher Education*, and 70 followed *ALA*. Twitter was more popular than either *American Libraries* or *American Archivist*. Thirty-two respondents reported using Facebook to stay up to date on research and best practices. A number of respondents also noted that their area of scholarship is not the same as their area of practice—therefore, the sources they use to keep up to date

reflect their subject-specific emphases rather than research in librarianship.

To identify the most prominent publication venues, participants were asked to list the names of journals and magazines to which they submitted their research. In total, 284 unique sources were listed by the 256 librarians who responded to this particular question. The distribution reveals a typical bibliometric scattering, with 66 percent of the sources mentioned only once. Many of the journals in the “long tail” were specialized sources that did not deal directly with the practice of librarianship or research in information and library science.

FIGURE 3
Specific Venues Used for Consumption of Information

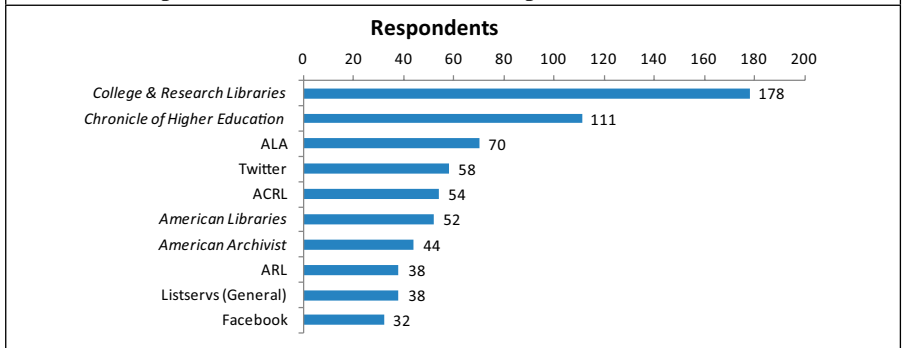
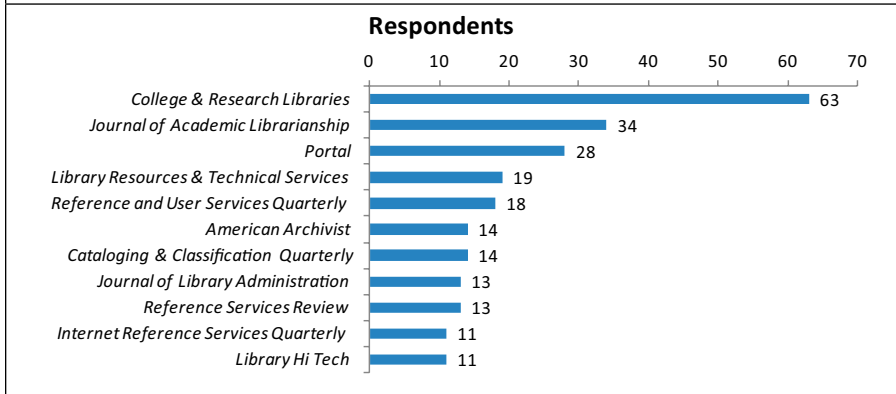


FIGURE 4
Specific Venues Used for Dissemination of Information



As shown in figure 4, *College & Research Libraries* was the most popular source for both consumption and dissemination. *American Archivist* was the only other source that was listed both as a forum for staying up to date and as a forum for disseminating the results of research and reports of best practice. Overall, respondents tended to use more informal sources for staying up to date (such as Twitter, listservs, and Facebook), as well as larger news and organizational sources (like *Chronicle*, ALA, and ACRL).

Respondents were also asked to identify the professional conferences that they attended in the last five years. Fifty-seven respondents did not fill in a response for this question. A number of respondents stated that they do not attend conferences, or simply wrote that enumerating a list of conferences attended would be impossible. Overall, 640 distinct conferences were enumerated by the 490 respondents, with the vast majority of these conferences (n=480; 75%) named only once. Only 23 conferences (3.6%) were attended by more than 10 people. Ninety-five respondents attended ALA's annual conference, while 61 attended the Midwinter meeting; a further 192 attended an ALA conference without specifying which specific conference was attended. ACRL was also well attended. The Society of American Archivists meet-

ing, the SLA meeting, and the Charleston Conference round out the "top five" list of conferences, while LOEX, MLA,⁵³ ARL, RBMS, and NASIG follow.

In addition to investigating the conferences *attended* by the respondents, it is interesting to consider the conferences at which librarians *presented* their research. In total, 322 conferences were listed by 337 respondents. Nearly 50 percent of conferences were listed by two or more respondents. There is a large degree of overlap between the conferences attended and the conferences presented at by the respondents. The conference most frequently used to disseminate research was ALA, with 291 unique individuals indicating that they presented at ALA-affiliated conferences. Conferences that focused on academic librarianship were also frequently used as dissemination platforms (conferences like ACRL and ARL). Archival and special library conferences (such as SAA and SLA) were popular as well.

A common criticism of traditional academic literature is that the "time-to-market" is too slow; that is, the publication process is frequently viewed as sufficiently lengthy to impede the timeliness and back-and-forth exchanges that are required for effective scholarly communication. More than a quarter (29.4%) of 306 respondents (n=90) indicated that

timeliness was a factor in their choice of publication venues (that is, that they sought venues with shorter publication times). Some librarians asserted that timeliness was their biggest concern in terms of selecting a dissemination venue, given that some forms of publication take more than a year to publish. This is particularly relevant for technology-related fields, in which research may lose its currency if it is not published expediently.

Some respondents wrote that the length and format of print publications were deterrents to publishing in those venues. By contrast, the format of blogs was often considered to be appropriate for the type of scholarship disseminated by information professionals. One respondent noted the impact of tenure on this decision-making process: “Now that I have tenure, I’m able to target open access publications and ones with smaller readership and now (sic) worry as much about the impact of my publication record on my ability to be promoted.” Other respondents noted the conflicting pressures of the tenure system: timeliness was important if tenure was looming, and there was also a need to seek out the most prestigious journals, which often had the longest publication delays.

Nevertheless, the majority (70.6%, $n=216$) of respondents indicated that time was *not* the most influential factor for choosing a publication vehicle. Some wrote that the intended audience was a critical criterion, while others were focused on the

potential impact that their research would have (and selected publication venues accordingly). Others noted that they simply did not sense urgency in disseminating their particular brand of research: one person wrote that librarianship “isn’t medical research.” Yet other respondents wrote that they were comfortable with the time delays inherent in many traditional modes of scholarship. One person observed that “to publish in the formal literature [involves] accepting a time lag for editing and peer review.” Many people noted that the issue of timeliness decreased once they had received tenure and no longer felt intense pressure to publish.

As one might expect, those librarians who found time to be an important consideration were more likely to tweet and use other emerging technologies (for which the time to publication is rather expedient), while those who were not quite as concerned with timeliness generally preferred to submit to conferences and journals, which usually have a longer time to publication.⁵⁴

Of interest is not only *how* librarians publish, but also for *whom* they publish. When asked which audiences were the focus of their research (respondents were allowed to select multiple options), 88.4 percent of the 412 respondents indicated that academic librarians were at least one of their target audiences. No other category was mentioned by more than 50 percent of the respondents. A number of respondents selected the

FIGURE 5
Target Audience for Dissemination of Research and Best Practices

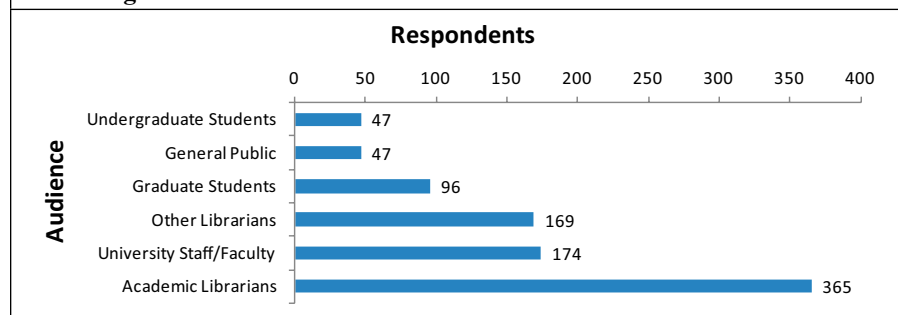
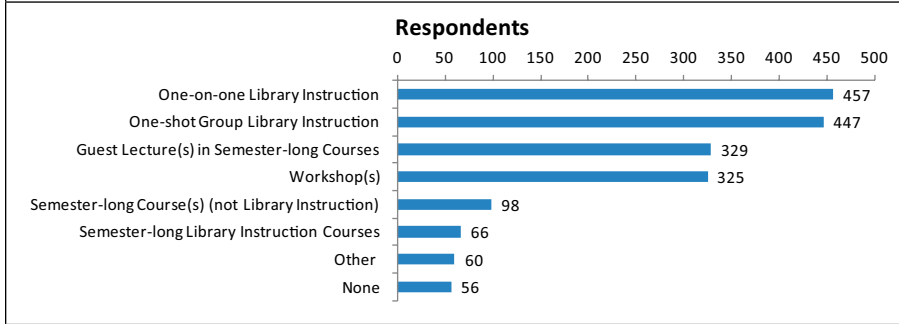


FIGURE 6
Teaching Duties of Respondents



“other” option, for which a write-in box was provided. Archivists, professional researchers, IT professionals, and funding agencies were all identified as additional audiences.

Teaching also serves as an important vehicle for disseminating information regarding research and best practices. For the purpose of this study, teaching activities were placed into six categories, shown in figure 6.

More than 9 out of 10 (91%) of the 597 respondents taught in some capacity in the last three years. More than 8 out of 10 (81%) taught in at least two capacities, and 12 percent taught in five or more capacities. Several responses indicated that the librarians were teaching in manners that were not encompassed by the options delimited by the survey. These forms of teaching included library instruction courses lasting half a semester or less, extra-institutional education,

and outreach to local school systems. For many individuals, teaching served as the primary opportunity for dissemination (though not necessarily of their original research); 143 respondents reported teaching but not sharing the reports of best practices or research via other means of dissemination. It should be noted that many of these duties might be seen more within the purview of instruction and other professional duties rather than to share their research with others.

Tenure. Close to half (40.9%) of 601 respondents were tenured or in tenure-track positions.

Of the 41 “other” responses, 23 reported a “tenure-like” position of “continuous appointment,” and 12 simply reported their appointment to be “tenure-like.” According to one respondent, the requirements of “continuous appointment” are similar “to those of tenure, the difference being that we are not faculty.”

FIGURE 7
Tenure Status of Respondents’ Positions

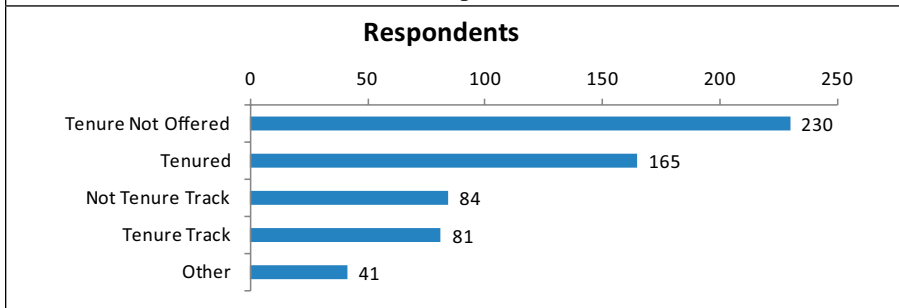
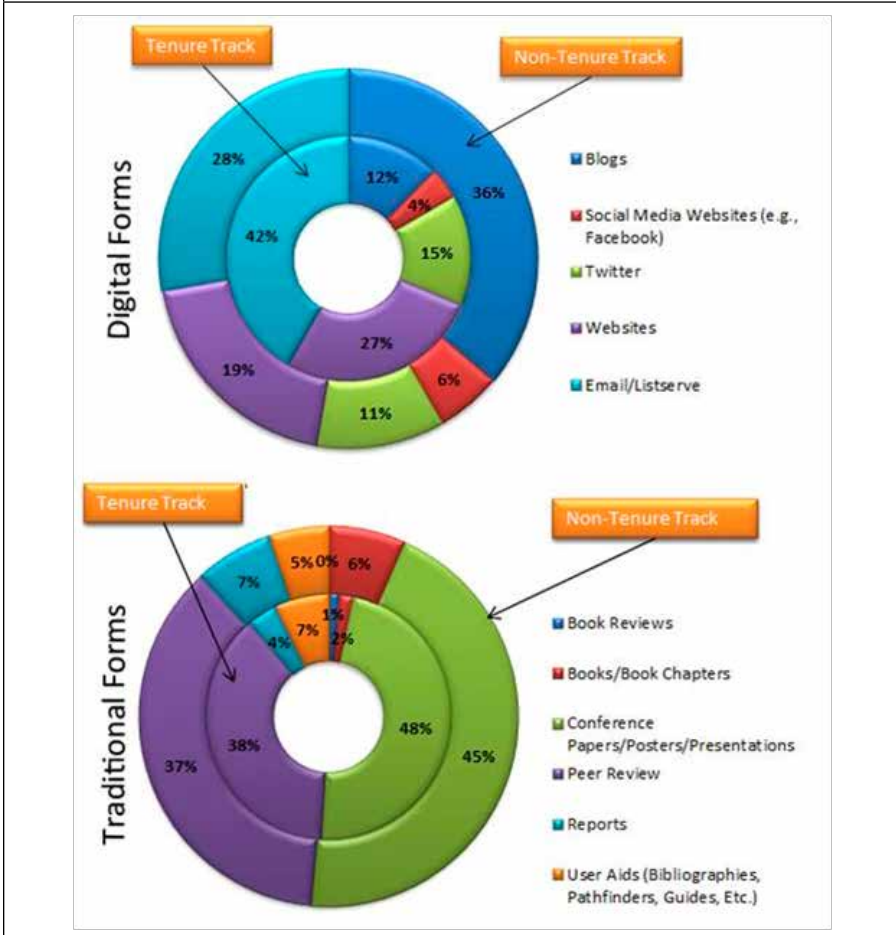


FIGURE 8
Formats Used by Respondents to Stay Up to Date and Share Research and Best Practices (Based on Tenure Status)



The degree to which dissemination patterns vary according to the tenure options available to academic librarians is an interesting factor to consider. A cross-analysis was conducted to establish the relationship between tenure status and the dissemination venues preferred by the various respondents. The top chart in figure 8 depicts the popularity of newer forms of communication, while the lower chart portrays the popularity of more traditional formats.

When limited to novel forms of communication, nontenured librarians and archivists preferred to use blogs and

other forms of social media. For their part, tenured and tenure-track librarians and archivists favored websites and e-mail. Interestingly, there was little variation between the two subpopulations when it came to traditional modes of communication; together, conference papers and peer-reviewed journals made up the overwhelming majority of preferred modes of dissemination.

Of course, the specific types of publications that are acceptable for the purposes of achieving tenure must be taken into account. More than half (56.4%) of 569 respondents ($n=321$) indicated that ten-

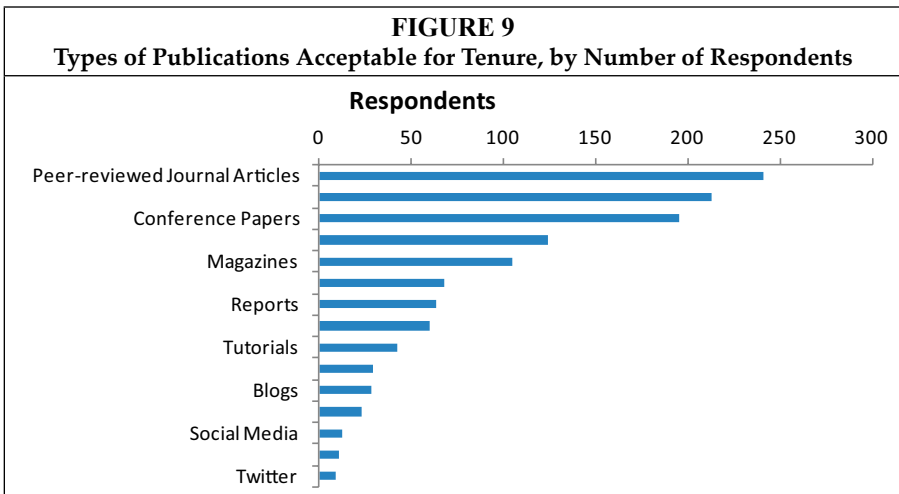
ure was not offered at their institution, that publications were not required for tenure, or that the respondent was unsure of the requirements. Of the remaining 248 responses, peer-reviewed journals, book and book chapters, conferences, book reviews, and trade magazines were the formats that were most commonly viewed as acceptable for tenure, as seen in figure 9.

Further analysis compared librarians' preferred consumption vehicles with the types of publications that were perceived as acceptable for the purposes of acquiring tenure. The results revealed that peer-reviewed journals, conference papers, and books and book chapters were popular both in terms of achieving tenure and in terms of staying up to date. The majority of respondents (n=369) indicated that they read blogs to stay current, although only 28 indicated that blogs were an acceptable means of publication for tenure. Similarly, websites were used as a means to stay up-to-date by 386 respondents, although websites were generally not perceived as acceptable means for dissemination in regard to tenure.

Institutional support. Although 96.2 percent of respondents indicated that their parent institution provided support for them to attend professional conferences and workshops, the overall

number of librarians who were supported for the purposes of *producing* original research was decidedly smaller. When asked what types of support, if any, were provided to assist librarians in producing original research or reports of best practices, 15.2 percent of the 458 respondents (n=65) wrote that there was no support available to them, while a further 5.0 percent (n=23) reported that there was very little support offered by their parent institution.

That said, 58.1 percent of respondents (n=266) noted that flexible work schedules, the ability to work from home, or release time at work were provided so that they could conduct original research. Seventy-one respondents (15.5%) reported receiving research funding or grants, with a small number noting that money was available for making purchases related to their research projects. Research discussion opportunities, mentoring, supportive colleagues, access to library services, and time off for professional development were also listed as forms of institutional support that facilitated the conduct of research. Overall, those who were in tenured, tenure-track, or "tenure-like" positions were offered institutional support more frequently than were those who were not in tenure-track positions (hardly a surprising result).



Discussion and Conclusions

The respondents to the survey were avid consumers and creators of research and reports of best practice. Journal articles and conference papers were the most commonly used format for both consumption and dissemination, but respondents reported using a large variety of formats to stay current on the latest research. The discrepancy between consumption and dissemination practices identified a gap: although respondents were likely to use a number of social media and emerging technologies to stay up to date, they were less likely to use these formats to disseminate the results of their research. This may be at least partially due to the pressures that tenure-track jobs engender. In general, respondents perceived traditional publication formats (such as journal articles, conference papers and proceedings, and monographs) as the forms of communication most appropriate for building a tenure portfolio. By contrast, those librarians who were not employed in tenure-track positions were more likely to use blogs and other social media websites as means of communication. This presents a potential limitation of current policies regarding tenure. Ideally, tenure policies should support the use of platforms that are most conducive for the efficient sharing of research and advancement of the profession, as opposed to modes of communication that have historical precedent as their primary advantage.

Proponents of novel forms of scholarly communication often use the shortened "time-to-market" as an argument in favor of contemporary technologies. However, timeliness of publication was not a concern for the majority of the librarians who participated in this survey. In general, respondents were most concerned about locating the right audience for their work and meeting their institution's requirements for tenure.

The majority of respondents received institutional support for conducting and disseminating research. Time allocation

and funding to attend conferences were the most frequently offered forms of support. It is left to be determined whether traditional expectations of academic librarians are diminishing to facilitate the increasing demands that are placed upon information professionals to conduct and disseminate original research.

In keeping with previous reports that research by academic librarians focuses on professional issues (that is to say, topics that would primarily interest other librarians and archivists), many respondents indicated that their research was targeted toward the field of librarianship. This would seem to imply a very limited audience for their work. However, respondents were also highly involved in teaching, which provides access to additional audiences (although the degree to which librarians are permitted to discuss their *own* research in a pedagogical setting was not explored by this study). More than 90 percent of respondents reported teaching in some capacity, and most taught in a number of different capacities. This high percentage should serve to inform MLS educators that a revamping of MLS curricula is imperative. Various studies, some conducted as early as 1975, have consistently shown that MLS curricula are sorely lacking in pedagogical classes; graduates of MLS programs often feel unprepared to provide instruction, although there have been signs that MLS programs are adapting to correct this perceived weakness.⁵⁵ As demonstrated by Julien and Genius, teaching self-efficacy increases with exposure to pedagogical techniques in the classroom.⁵⁶ Given the nearly ubiquitous role of teaching for all respondents across a range of job types, MLS programs may want to consider making instruction a core component of the MLS curriculum.

In light of the fact that more than 75 percent of respondents reported working in a professional academic capacity for more than five years, the degree to which social media and emerging technologies were used might be surprising. Blogs

were read by 62 percent of respondents, and 24 percent of respondents blogged. Social media platforms such as Facebook were used by 36 percent of respondents to stay up to date, and 23 percent used these platforms to share research. Twitter was used by approximately 20 percent of respondents for both consumption and dissemination. Nontext formats of communication were also popular: podcasts and SlideShare were used by 17 percent and 14 percent of respondents, respectively, to stay current on research and the results of best practices. These numbers may demonstrate a growing interest in novel and multimodal forms of scholarly communication. They may also provide evidence of an early-adopter role played by librarians.

Limitations. As a descriptive study, the results of this survey can only go so far in describing the current scholarly landscape as viewed by academic librarians. Although more than 600 responses were received, a larger sample size could have elicited different responses. In addition, the sampling frame focused on ARL institutions; accordingly, this survey certainly does not reflect all of the institutions in which librarians are conducting scholarship. Future research could explore a large sample across a more diverse set of institutions. Such research would broaden the scope of the generalizations that could be drawn from the study. Finally, even within the frame of ARL institutions, the survey was limited to staff members at main campuses; extending a similar survey to include librarians and archivists at branch campuses would expand the pool of sampled librarians and perhaps offer further insights into the scholarly

communications activities of academic librarians and archivists.

Future Research

The descriptive data presented in this paper is interesting and revealing in and of itself, but further work could be done with the information gathered and the questions that were asked. The findings present a plethora of possible research questions that, if explored, could help to advance scholarly communication theory. Compelling avenues to explore in future research include the degree to which librarians feel free to explore their own personal interests (like those who attend “niche” conferences and follow highly individualistic blogs), the degree to which tenure is seen as an incentive for librarians to publish, and librarians’ preferred formats of consumption and dissemination across various disciplines, age brackets, and institutions. Given the dynamic landscape of scholarly communication, it would also be useful to conduct a similar study several years from now and compare the results relating to the preferred publication venues and consumption strategies of respondents. Specifically, data relating to the technologies that grow in popularity (as well as the technologies that lose followers) will have implications not only for scholarly communication and academic librarians but for all disciplines for which information sharing across emerging technologies (such as social media and other Internet-based platforms) is relevant.

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Notes

1. Kara J. Malenfant, “Leading Change in the System of Scholarly Communication: A Case Study of Engaging Liaison Librarians for Outreach to Faculty,” *College & Research Libraries* 71, no. 1 (2010): 69, available online at <http://crl.acrl.org/content/71/1/63.full.pdf> [accessed 28 April 2012].

2. Maria Carpenter, Jolie Graybill, Jerome Offord Jr., and Mary Piorun, “Envisioning the

Library's Role in Scholarly Communication in the Year 2025," *portal: Libraries and the Academy* 11, no. 2 (2011): 678, available online at http://escholarship.umassmed.edu/cgi/viewcontent.cgi?article=1127&context=lib_articles [accessed 28 April 2012].

3. Joyce L. Ogburn, "Defining and Achieving Success in the Movement to Change Scholarly Communication," *Library Resources & Technical Services* 52, no. 2 (2008): 46, available online at <http://content.lib.utah.edu/cdm4/document.php?CISOROOT=/ir-main&CISOPTR=38615> [accessed 28 April 2012].

4. Marianne A. Buehler and Adwoa Boateng, "The Evolving Impact of Institutional Repositories on Reference Librarians," *Reference Services Review* 33, no. 3 (2005): 295, doi:10.1108/00907320510611320.

5. Mary Alice Ball, "Libraries and University Presses Can Collaborate to Improve Scholarly Communication or 'Why Can't We All Just Get Along?'" *First Monday* 9, no. 12 (2004): 51, available online at www.uic.edu/hbin/cgiwrap/bin/ojs/index.php/fm/article/view/1196/1116 [accessed 28 April 2012]; Ogburn, "Defining and Achieving Success," 51.

6. Kate Wittenberg, "Librarians as Publishers: A New Role in Scholarly Communication," *Searcher* 12, no. 10 (2004): 50, available online at www.highbeam.com/doc/1G1-12449374.html [accessed 28 April 2012]; Ji-Hong Park and Jiyoung Shim, "Exploring How Library Publishing Services Facilitate Scholarly Communication," *Journal of Scholarly Publishing* 43, no. 1 (2011): 77, doi:10.3138/jsp.43.1.76.

7. Rowena Cullen and Brenda Chawner, "Institutional Repositories, Open Access, and Scholarly Communication: A Study of Conflicting Paradigms," *Journal of Academic Librarianship* 37, no. 6 (2011): 462, available online at www.sciencedirect.com/science/article/pii/S009913331100156X [accessed 28 April 2012].

8. Georgie Donovan and Karen Estlund, "New Librarians and Scholarly Communication: Get Involved," *College & Research Libraries News* 68 (2007): 156, available online at <http://crln.acrl.org/content/68/3/155.full.pdf+html> [accessed 28 April 2012]; Mary M. Case, "Scholarly Communication: ARL as a Catalyst for Change," *portal: Libraries & The Academy*, 9 no. 3 (2009): 382, doi:10.1353/pla.0.0050.

9. June Garner, Karen Davidson, and Becky Schwartzkoph, "Images of Academic Librarians: How Tenure-Track Librarians Portray Themselves in the Promotion and Tenure Process," *Serials Librarian* 56, no. 1-4 (2009): 205, doi:10.1080/03615260802690694.

10. David W. Lewis, "A Strategy for Academic Librarians in the First Quarter of the 21st Century," *College & Research Libraries* 68, no. 5 (2007): 419, available online at <http://crl.acrl.org/content/68/5/418.full.pdf+html> [accessed 7 May 2012].

11. Ann C. Weller, Julie M. Hurd, and Stephen E. Wiberley, Jr., "Publication Patterns of U.S. Academic Librarians from 1993 to 1997," *College & Research Libraries* 60, no. 4 (1999): 360-61, available online at <http://crl.acrl.org/content/60/4/352.full.pdf> [accessed 28 April 2012]; Stephen E. Wiberley, Julie M. Hurd, and Ann C. Weller, "Publication Patterns of U.S. Academic Librarians from 1998 to 2002," *College & Research Libraries* 67, no. 3 (2002): 205, available online at <http://crl.acrl.org/content/67/3/205.full.pdf+html> [accessed 28 April 2012].

12. Wiberley et al., "Publication Patterns," 213.

13. Kelly Blessinger and Paul Hrycaj, "Highly Cited Articles in Library and Information Science: An Analysis of Content and Authorship Trends," *Journal of Academic Librarianship* 32, no. 2 (2010): 158, doi:10.1016/j.lisr.2009.12.007.

14. Andrea A. Wirth, Maureen Kelly, and Janet Webster, "Assessing Library Scholarship: Experience at a Land Grant University," *College & Research Libraries* 71, no. 6 (2010): 518, available online at

http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/19329/wirth_kelly_webster_AssessingLibraryScholarship.pdf?sequence=1 [accessed 28 April 2012].

15. Roland R. Powell, Lynda M. Baker, and Joseph J. Mika, "Library and Information Science Practitioners and Research," *Library & Information Science Research* 24 (2002): 71, doi:10.1016/S0740-8188(01)00104-9.

16. Joseph Fennewald, "Research Productivity among Librarians: Factors Leading to Publications at Penn State," *College & Research Libraries* 69, no. 2 (2008): 108, available online at <http://crl.acrl.org/content/69/2/104.full.pdf+html> [accessed 28 April 2012]; Kelly Blessinger and Michele Frasier, "Analysis of a Decade in Library Literature: 1994-2004," *College & Research Libraries* 68, no. 2 (2007): 166, available online at <http://crl.acrl.org/content/68/2/155.full.pdf+html> [accessed 28 April 2012]; Dale S. Montanelli and Collette Mak, "Library Practitioners' Use of Library Literature," *Library Trends* 36, no. 4 (1988): 781, available line at https://www.ideals.illinois.edu/bitstream/handle/2142/7567/librarytrends36i4j_opt.pdf?sequence=1 [accessed 28 April 2012]; Gaby Haddow and Jane E. Klobas, "Communication of Research to Practice in Library and Information Science: Closing the Gap," *Library & Information Science Research* 26, no. 1 (2004): 35, doi:10.1016/j.lisr.2003.11.010.

17. Pamela S. Bradigan and Carol A. Mularski, "Evaluation of Academic Librarians' Publications for Tenure and Initial Promotion," *Journal of Academic Librarianship* 22, no.5 (1996): 360, doi:10.1016/S0099-1333(96)90085-3.
18. Richard L. Hart, "Scholarly Publication by University Librarians: A Study at Penn State," *College & Research Libraries* 6, no. 5 (1999): 457, available online at <http://crl.acrl.org/content/60/5/454.full.pdf> [accessed 28 April 2012].
19. Fennewald, "Research Productivity," 107-08.
20. Jingfeng Xia, Sara Kay Wilhoite, and Rebekah Lynette Myers, "A 'Librarian-LIS Faculty' Divide in Open Access Practice," *Journal of Documentation* 67, no. 5 (2011): 801, doi:10.1108/00220411111164673.
21. Holly Mercer, "Almost Halfway There: An Analysis of the Open Access Behaviors of Academic Librarians," *College & Research Libraries* 72, no. 5 (2011): 451, available online at <http://crl.acrl.org/content/72/5/443.full.pdf+html> [accessed 28 April 2012].
22. Fennewald, "Research Productivity," 107.
23. Ibid.
24. Ibid.
25. ACRL Committee on the Status of Academic Librarians, "A Guideline for the Appointment, Promotion and Tenure of Academic Librarians," *College & Research Libraries News* 71, no. 10 (Nov. 2010): 552-60, available online at <http://crln.acrl.org/content/71/10/552.full.pdf+html> [accessed 28 April 2012].
26. Garner, Davidson, and Schwartzkoph, "Images of Academic Librarians," 206.
27. Ricky D. Best and Jason Kneip, "Library School Programs and the Successful Training of Academic Librarians to Meet Promotion and Tenure Requirements in the Academy," *College & Research Libraries* 71, no. 2 (2010): 104, available online at <http://crl.acrl.org/content/71/2/97.full.pdf+html> [accessed 28 April 2012].
28. Best and Kneip, "Library School Programs"; Bradigan and Mularski, "Evaluation of Academic Librarians' Publications," 360.
29. Julie J. McGowan and Elizabeth H. Dow, "Faculty Status and Academic Librarianship: Transformation to a Clinical Model," *Journal of Academic Librarianship* 21, no. 5 (1995): 345, doi:10.1016/0099-1333(95)90059-4.
30. Blaise Cronin, "The Mother of All Myths," *Library Journal* 126, no. 3 (2001): 144.
31. John Cosgriff, Donald Kenney, and Gail McMillan, "Support for Publishing at Academic Libraries: How Much Exists?" *Journal of Academic Librarianship* 16, no. 2 (1990): 94; Garner, Davidson, and Schwartzkoph, "Images of Academic Librarians," 206.
32. Barbara Floyd and John Phillips, "A Question of Quality: How Authors and Editors Perceive Library Literature," *College & Research Libraries* 58, no. 1 (1997): 81, available online at <http://crl.acrl.org/content/58/1/81.full.pdf> [accessed 29 April 2012].
33. W. Bede Mitchell and Mary Reichel, "Publish or Perish: A Dilemma for Academic Librarians?" *College & Research Libraries* 60, no. 3 (1999): 239, available online at <http://crl.acrl.org/content/60/3/232.full.pdf> [accessed 28 April 2012].
34. Jane Klobas and Laurel Clyde, "Beliefs, Attitudes and Perceptions about Research and Practice in a Professional Field," *Library & Information Science Research* 32, no. 4 (2010): 243, doi:10.1016/j.lisr.2010.07.004.
35. Fennewald, "Research Productivity," 107; Bradigan and Mularski, "Evaluation of Academic Librarians' Publications," 360; Best and Kneip, "Library School Programs," 104-05.
36. Jennifer Duncan, William Walsh, Tim Daniels, and Joe Becker, "Issues in Scholarly Communications: Creating a Campus-Wide Dialog," *Serials Librarian* 50 (2006): 246, doi:10.1300/J123v50n03_06; Sophie Brookover, "Why We Blog," *Library Journal* 132, no. 19 (2007): 28, available online at www.libraryjournal.com/article/CA6497263.html [accessed 28 April 2012]; Meredith Farkas, "The Bloggers among Us," *Library Journal* (2007): 40, available online at www.libraryjournal.com/article/CA6510669.html [accessed 28 April 2012]; Natalia Gelber, "Blogging on the Profession: A Closer Look into Personal Cataloging and Metadata Weblogs," *Technical Services Quarterly* 28, no. 4 (2011): 385-86, doi:10.1080/07317131.2011.597688; Jenna Ryan and Elizabeth Pankl, "Shhh! Librarians Blogging," *Louisiana Libraries* 69, no. 1 (2006): 7.
37. Amanda Clay Powers, "Social Networking as Ethical Discourse: Blogging a Practical and Normative Library Ethic," *Journal of Library Administration* 47, no. 3/4 (2008): 192, doi:10.1080/01930820802186522.
38. Michael Stephens, "The Pragmatic Biblioblogger: Examining the Motivations and Observations of Early Adopter Librarian Bloggers," *Internet Reference Services Quarterly* 13, no. 4 (2008): 329, doi:10.1080/10875300802326475; Farkas, "The Bloggers among Us," 42.
39. Arthur Hendricks, "Bloggership, or Is Publishing a Blog Scholarship? A Survey of Academic Librarians," *Library Hi Tech* 2, no. 3 (2010): 474-76, doi:10.1108/07378831011076701.
40. Hendricks, "Bloggership," 476.

41. Anne Sauer, "Why Archivists Should Be Leaders in Scholarly Communication," *Journal of Archival Organization* 7, no. 1/2 (2009): 53, doi:10.1080/15332740902897444.
42. Duncan et al., "Issues in Scholarly Communications," 248.
43. Due to the richness of the results received in the first four sections, the results on emerging technologies will be presented in a subsequent manuscript.
44. There are actually 126 institutions that are members of ARL. One ARL-affiliated institution was accidentally overlooked during the initial data collection process.
45. The authors of this study are affiliated with the aforementioned institution.
46. John Carlo Bertot and Paul T. Jaeger, "Survey Research and Libraries: Not Necessarily Like in the Textbooks," *Library Quarterly* 78, no. 1 (2008):103, doi:10.1086/523911.
47. "ARL Annual Salary Survey 2011-2012," eds. Martha Kyrillidou and Shaneka Morris, available online at <http://publications.arl.org/ARL-Annual-Salary-Survey-2011-2012/10> [accessed 20 August 2012].
48. For all but 37 of the respondents, the other master's was in addition to the MLS/MIS/MLIS.
49. "ARL Annual Salary Survey 2009-2010," comp. and ed. Martha Kyrillidou and Les Bland, *Association of Research Libraries* (2010): 10, available online at www.arl.org/bm-doc/ss09.pdf [accessed 30 April 2012].
50. Kyrillidou and Morris, "ARL Annual Salary Survey."
51. An "other" box was provided, and 168 respondents selected this option. Of these 168 responses, the two most frequently mentioned formats were listservs and colleagues (by way of informal face-to-face meetings, e-mail exchanges, and the like). It is fair to speculate that, had either of these been included as a stated option, their share of respondents would have been much higher.
52. As with the question regarding consumption, an "other" option was provided; these responses suggested that e-mail and listservs (n=55), personal networking (n=34), and in-house meetings (n=25) were means of disseminating research that the survey failed to explicitly enumerate in the list that was offered to respondents.
53. It should be noted that there are a number of library and nonlibrary conferences with this acronym. When differentiated (such as Music Library Association), these were counted separately. However, all instances of MLA without further explanation were included in this count. The same is true for the other acronyms (for instance, ALA could also be the Arizona Library Association).
54. The number of respondents is based on those who answered both questions about the significance of time and publication venues.
55. Scott B. Mandernack, "An Assessment of Education and Training Needs for Bibliographic Instruction Librarians," *Journal of Education for Library and Information Science* 30, no. 3 (1990): 194, available online at www.jstor.org/stable/40323446 [accessed 28 April 2012]; Robert E. Brundin, "Education for Instructional Librarians: Development and Overview," *Journal of Education for Library and Information Science* 25, no. 3 (1985): 180, available online at www.jstor.org/stable/10.2307/40323105 [accessed 28 April 2012]; Lynn Westbrook, "Passing the Halfway Mark: LIS Curricula Incorporating User Education Courses," *Journal of Education for Library and Information Science* 40, no. 2 (1999): 93-95, available online at www.jstor.org/stable/40324119 [accessed 28 April 2012].
56. Heidi Julien and Shelagh Genius, "Librarians' Experiences of the Teaching Role: A National Survey of Librarians," *Library & Information Science Research* 33, no. 2 (2011): 109, doi:10.1016/j.lisr.2010.09.005.