

Analyzing the Library Periodical Literature: Content and Authorship

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Sixteen library periodicals were analyzed with respect to various characteristics of their authors, including sex, occupation, affiliation, and geographic location. Subject coverage was also examined, as well as research methodologies employed (if any), and page length of the article. A total of 1,725 articles are written by 2,072 authors, of whom 961 (47.83%) are male and 1,048 (52.17%) are female. In spite of the fact that librarianship is female-dominated, there are almost as many articles written by men as by women, although a slow closing of the gap between the proportions of male and female contributors, especially among special librarians, is apparent. No differences in the percentages of research-based studies or non-research based writing by either sex are evident. Academic librarians account for the major share of publication activity (over 61%), although on a percentage basis, library school faculty are the most productive. Full professors publish the most in library schools, closely followed by assistant professors. The Northeast and the Midwest claim the largest share of authors, not too surprising with the large share of academic institutions and library schools located in these two geographic regions. Research-based articles are on the increase, with survey methodology reported the most frequently. The subjects of automation, management, and cataloging are still the most popular. Individual journal titles are also analyzed with respect to the types of authors they publish.



Sharing information in the library profession is largely dependent on the library periodical literature. The advantages

of the journal include its currency, its capability of addressing many and varied topics, and its ability to disseminate widely the findings of investigations of major problems or specific aspects of them.¹ It is also an important means of helping to close the gap between researchers and practitioners.² The proliferation of library literature is evidence of the growing maturity of librarianship. Norman D. Stevens points out that library publishing evolved slowly in quantity and quality from an emphasis on bib-

liographies and other "tools of the trade" to materials of a more scholarly nature "designed for use by librarians and information scientists in the performance of their professional duties and in their professional education and development."³

The profuse, rich, and diverse body of literature that now exists can be attributed to several factors. One, of course, is the requirement of library and information science faculty to publish in order to receive tenure and career advancement. Some writers suggest that the increased trend toward faculty status for academic librarians is partly responsible; others argue that some libraries provide a work environment that encourages experi-

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mentation with new approaches and technological innovations thus stimulating publication as a means of communicating new ideas, techniques, and findings.⁴

The need to study the literature of librarianship and to monitor trends and changes related to its characteristics and its authors is recognized and well documented.⁵ David Kaser used the literature to review a century of academic librarianship in his bicentennial article, as one of several such analyses.⁶ Studies that determine "who publishes where and what they publish" also provide a profile of what Richard Cole and Thomas Bowers call "the sociology of the literature."⁷ The periodical literature in the field of librarianship has been analyzed from several points of view. Some investigators, such as Charles McClure and Ann Bishop,⁸ John Budd,⁹ and Thomas Childers¹⁰ have studied its status. Others, including Stephen Atkins,¹¹ Gloria Cline,¹² and Patricia Feehan, W. Lee Gragg, W. Michael Havener, and Diane Kester,¹³ have analyzed its subject focus, or its format (research-based article, essay or opinion article, etc.). Some scholars have examined research methodologies employed and the use of statistics,^{14,15} while John and Jane Olsgaard's study¹⁶ and those of Paula de Simone-Watson^{17,18} Martha Adamson, and Gloria Zamora,¹⁹ have described various characteristics of authors, such as sex, age, education, occupation, affiliation, and geographic distribution.

Some studies combined two or more approaches, such as the one by Soon Kim and Mary Kim, which compared two consecutive decades of trends in authors' occupations and research methodologies employed in *College & Research Libraries*, and the Feehan, et al., study in which ninety-one library science journals published in 1984 were analyzed for trends in research subjects and methodologies.²⁰ Martyvonne Nour conducted a quantitative analysis of research articles in forty-one core journals published during 1980 to determine methodologies and subject classification, and also analyzed the references, end notes, and bib-

liographies following each article.²¹ Bluma Peritz, in her comprehensive doctoral dissertation, analyzed the American and British library science periodical literature from many aspects, including growth over the years, research methodology, subject, author affiliation, accompanying citations, and type of user.²²

The present study makes a unique contribution by examining the entire contents of periodicals, including non-research articles, research-based articles, reviews, and various communications such as editorials, letters, announcements, and news. Sixteen basic library science journals were analyzed for a two-and-a-half-year period from 1987 to 1989 with respect to authorship, topical coverage, and type of research methodology employed, when applicable. An attempt was made to answer the following questions: Is there a difference in the amount of publishing done by males and females in the library literature? What are the occupations, affiliations, and geographic locations of contributing authors? Which category of librarians and related professionals is the most productive? How much do library educators publish by rank? Which library schools have the most productive faculty members in terms of publication? Which journals are most likely to publish contributions from a certain category of author with respect to sex, occupation, or geographic location; to focus on particular subjects; or to publish research-based as opposed to nonresearch articles?

METHODOLOGY

Sixteen journals were selected, with first preference given to general titles that not only represent the profession as a whole but also include at least some research-based articles. Thus, two major titles, *Library Journal* and *American Libraries*, were excluded because they contain numerous, brief nonresearch items. An attempt was made to represent the major types of libraries and categories of library and information science (e.g., academic, public, school, and special li-

baries; administration, public services, systems, technical services). The literature was also examined for lists of "core" publications and journals so designated in prior studies. Peritz had determined that thirty-nine titles represented core journals.²³ David Kohl and Charles Davis²⁴ identified the thirty-one most prestigious journals based on the rankings of ARL (Association of Research Libraries) library directors and deans of library and information science schools, a listing used subsequently by Stuart Glogoff²⁵ and Atkins.²⁶ Journals selected for this study include:

College & Research Libraries
Information Technology and Libraries
Journal of Academic Librarianship
Journal of Education for Library & Information Science
Journal of Library Administration
Journal of American Society for Information Science
Libraries and Culture
Library and Information Science Research
Library Quarterly
Library Resources & Technical Services
Library Trends
Public Library Quarterly
RQ
School Library Media Quarterly
Serials Librarian
Special Libraries

The overlap with titles used in previous studies is very high. Thirteen of the titles correspond to those ranked as the top fifteen by library school deans and are also listed as those most valued by ARL directors. Fourteen of the sixteen are on the list of 1980 core journals identified by Nour, and ten are on the list of eleven titles Watson identified as major journals in the field.

Each journal issue was examined for the period January 1987 through June 1989. The author's sex, occupation, affiliation, and geographic location, as well as the subject coverage of the article, research methodology employed, if any, and the page length of the article were recorded for each item (article, editorial). Although the extent of coverage given to reviews is covered, individual reviewers

are excluded in the present study. For each article, a code sheet was completed to gather the above data which were then entered into the KSU main-frame computers for frequency distributions and cross tabulation analysis. Sex of the author was based on the first name. In a few instances the gender associated with the name was unclear. These cases were labeled "nondesigned," after every effort was made to identify gender.

A list of twenty-six occupations and fifteen affiliations was compiled based on actual examination of a sample set of journals, and cross tabulations were run to determine how many librarians in a particular occupation (e.g., reference, catalog, etc.) worked in a particular setting (academic library, special library, etc.). In an attempt to be consistent with earlier studies, geographic locations were classified from one to five based on the regions designated by the ALA Committee on Accreditations of graduate library school programs.²⁷ The states that comprise each region are:

1. Northeast: Connecticut, Delaware, Washington, D.C., Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont;

2. Southeast: Alabama, Florida, Georgia, Kentucky, North Carolina, South Carolina, Tennessee, Virginia, West Virginia;

3. Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;

4. Southwest: Arizona, Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma, Texas; and

5. West: Alaska, California, Colorado, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming. In the case of schools of library and information science, names of individual schools were also tabulated.

A research-based article was defined as one in which a formal research methodology was used in order to collect and/or analyze data (e.g., survey or interview, experiment, content analysis, statistical analysis of existing data, devel-

opment of linear programming or other mathematical model, case study, historical study with extensive primary and secondary sources, citation analysis or bibliometrics, and an observation/field study) as opposed to an opinion paper, description of the status quo, editorial, book review, or news/announcements.

Because all components of the literature were considered, including brief pieces, subjects were analyzed by the total percentage of pages of coverage each represented. Subject categories were based on analysis of the articles themselves in a manner similar to Atkins' study of subject trends over a ten-year period (1975-1984).²⁸

FINDINGS

Information was recorded for a total of 1,725 articles in sixteen journals (see table 1). Specific authors were not attributed to 198 of the items (instances presumably where the journal editorial staff is responsible for content). The 1,527 articles where authorship is indicated were written by a total of 2,072 authors, taking into consideration cases of multiple authorship. It was found that each article had an average of 1.3 authors.

Sex of Author

Of the 2,072 authors, 961 are male (47.83%) and 1,048 (52.17%) are female,

TABLE 1
DISTRIBUTION OF ARTICLES
BY NUMBER OF AUTHORS

Authors	Articles	
	No.	%
No author indicated	198	11.48
Single author	1,045	60.58
Two authors	375	21.74
Three authors	78	4.52
Four authors	23	1.33
Five authors	6	.35
Total	1,725	100.00

as compared to the ten-year study by the Olsgaards, where the percentage of women publishing ranged from 21.2% to 41.3%.²⁹ Four of the five journals in the Olsgaard study overlap with those in the present study (*C&RL*, *LQ*, *Library Trends*, and *RQ*). Table 2 provides the distribution of the sex of authors contributing to different journals. *Libraries and Culture* has the largest percentage of male authors (75.38%), followed by the *Journal of the American Society for Information Science* with almost two-thirds of its contributors being men. Findings regarding the latter journal support a 1982 study by Gloria Zamora and Martha Adamson,³⁰ which showed a generally increasing trend in women contributors to *Special Libraries* (47.5% at the time of their article)—a trend which rose to 60% by 1989. However, the ratio of females to males in SLA membership is about four

TABLE 2
DISTRIBUTION OF MALE AND FEMALE
AUTHORS BY JOURNAL

Journal	Males		Females		Not Determined
	No.	%	No.	%	
<i>College & Res. Libs.</i>	106	54.50	84	45.50	7
<i>Info. Tech. & Libs.</i>	64	48.85	67	51.15	0
<i>Jour. of Acad. Lib.</i>	81	54.00	69	46.00	6
<i>J. Amer. Soc. Inf. Sci.</i>	127	64.68	67	35.32	21
<i>J. Ed. For Lib. & Inf. Sci.</i>	42	30.66	95	69.34	4
<i>J. of Lib. Admin.</i>	56	53.33	49	46.67	2
<i>Libraries & Culture</i>	49	75.38	16	24.62	4
<i>Lib. & Inf. Sci. Research</i>	48	53.09	39	46.91	8
<i>Library Quarterly</i>	38	67.86	18	32.14	2
<i>Lib. Resources & Tech. Ser.</i>	38	31.93	81	68.07	1
<i>Library Trends</i>	67	47.86	73	52.14	2
<i>Public Library Quarterly</i>	23	57.50	17	42.50	1
<i>RQ</i>	59	40.97	85	59.03	6
<i>Sch. Lib. Media Quarterly</i>	27	21.60	98	78.40	2
<i>Serials Librarian</i>	90	42.86	120	57.14	7
<i>Special Libraries</i>	46	39.66	70	60.34	4
All Journals	961	47.83	1048	52.17	

to one.³¹ On the other hand, as might be expected, *School Library Media Quarterly* has the largest share (89.40%) of female writers, with *Library Resources & Techni-*

In spite of the fact that librarianship is female dominated, there are almost as many articles written by men as by women.

cal Services in second place with 68.07%. In spite of the fact that librarianship is female dominated, there are almost as many articles written by men as by women, and no differences in the percentages of research or nonresearch based writing by either sex are evident.

Sex and Occupation of Authors

Cross-tabulations of authors by sex and occupation (see table 3) reveal that 56% of the library directors who publish are male, although males account for 20% or less of the total library work force.³² The percentage of female authors increases somewhat for those in

assistant director or other secondary-level administrative positions. The largest percentage of females in management positions is in the technical services. Again, female special librarians publish slightly more than 50% of the literature, although their representation in ALA is more than 75%.³³ In the library school setting, where male and female distribution is approximately equal,³⁴ males publish only slightly more than females. It is interesting to note that while male library school deans outnumber females, female deans are more highly represented in the periodical literature.³⁵ In addition, for faculty outside of library schools the proportion of male/female authorship approximates the actual breakdown of male and female higher education faculty for all disciplines which, according to the U.S. Department of Education, is approximately 72% male to 28% female.³⁶

Occupation and Affiliation of Authors

Twenty-six different occupations were cross tabulated with fifteen different affiliations of the 2,017 authors for whom these data were available. They are listed in order of frequency in table 4. Li-

TABLE 3
DISTRIBUTION OF AUTHORS BY SEX AND OCCUPATION

Occupation	Males		Females	
	No.	%	No.	%
Lib. Deans/Dirs.	131	56.47	101	43.53
Central Administrators	62	44.93	76	55.07
Head, Public Services	29	34.12	56	65.88
Reference Librarians	77	45.03	94	54.97
Head, Technical Services	26	28.89	64	71.11
Tech. Services Librarians	32	32.00	68	68.00
Head, Systems	17	45.95	20	54.05
Systems Analysts	7	31.82	15	68.18
Head, Collection Development	14	41.18	20	58.82
Collection Dev. Librarians	10	52.63	9	47.37
Non-Designated Librarians	84	52.17	77	47.83
Library School Deans	21	42.00	29	58.00
Library School Faculty	210	52.63	189	47.37
Graduate Students	10	33.33	20	66.67
Other Faculty	96	69.06	43	40.94
Non-Librarians	25	48.08	27	51.92
Special Librarians	31	47.69	34	52.31
School Media Specialists	6	13.64	38	86.36
Editors	21	42.00	29	58.00
Children's Librarians	0	00.00	4	100.00
Consultants	29	72.50	11	27.50
All Other	28	65.12	14	34.88
Total	966	48.18	1,039	51.82

TABLE 4
MOST FREQUENT OCCUPATIONS/AFFILIATIONS IN RANK ORDER

Rank	Occupation/Affiliation	No.	%
1	Faculty, Library and Info. Sci. Schools	377	18.69
2	Ref./Pub. Serv. Librarians, Acad. Libraries	241	11.95
3	Academic Library Deans/Directors	187	9.27
4	Tech. Serv. Librarians, Acad. Libraries	165	8.18
5	Non-Lib. and Info. Sci. Faculty	151	7.49
6	Special Librarians, Special Libraries	101	5.01
7	Directors/Admins., Special Libraries	82	4.07
8	Lib. and Info. Sci. Deans/Directors	63	3.12
9	Editors/Staff, Publishers	62	3.07
10	Consultants	49	2.43
11	Coll. Mgmt. Librarians, Academic Libraries	48	2.38
12	Non-Desig. Librarians, Academic Libraries	47	2.33
13	Systems Librarians, Academic Libraries	45	2.23
14	School Media Specialists, Schools & Districts	39	1.93
15	Graduate Student, Lib. and Info. Sci. Schools	31	1.54
16	Admins., Publishers	30	1.49
17	Public Library Directors/Admins.	28	1.39
18	Special Librarians, Academic Libraries	27	1.34
19	Non-Librarians, Special Libraries	22	1.09
20	Admins., Professional Associations	21	1.04
21	Reference Librarians, Public Libraries	19	.94
22	Admins., School Med. Centers and School Dists.	18	.89
23	Non-Librarians, Networks, Utilities, Consortia	17	.84
24	Systems Librarians, Special Libraries	17	.84
25	Admins., Networks, Utilities, Consortia	16	.79
26	Tech. Services Librarians, National Libraries	13	.64
27	Reference Librarians, Special Libraries	13	.64
28	Tech. Services Librarians, Special Libraries	12	.59
29	Admins., Non-Lib. and Info. Sci. Depts.	10	.50
30	Admins., Consulting Firms	10	.50
31	Tech. Services Librarians, Public Libraries	9	.45
32	Dir./Faculty, Learning Resource Centers	7	.35
33	Reference Librarians, National Libraries	5	.25
34	Children's Librarians, Public Libraries	4	.20
35	Systems Librarians, Networks, Util., Consortia	4	.20
	All Other	27	1.34
	Total	2,017	100.00

brary and information science faculty total 377, representing the largest category overall. Of the faculty, 140 full professors are the largest group, followed by 118 assistant professors, fifty-two associate professors, and sixty-seven whose rank is not indicated. If sixty-three deans (or directors) and thirty-one graduate students (almost all at the doctoral level) are also included, there is a grand total of 471 contributors (23.35%) from library schools.

Reference and public service librarians in academic library settings total 241, representing the second largest category of authors overall, and also the primary category in *College & Research Libraries* and, not surprisingly, *RQ*. Reference librarians in all settings total 278, as com-

pared to 199 technical services librarians. A total of 187 authors fall into the category of academic library deans/directors and their assistants and associates, the third largest category. There are 165 technical services librarians, bringing librarians (excluding faculty) in academic settings to a total of 760 (37.68%), regardless of position. Together academic librarians and authors in library schools account for 61.03% of all journal publishing.

Another group of 151 faculty members represents those in other departments—primarily computer science, communication, educational and/or instructional technology programs. Authors in special library settings are responsible for approximately 13% of the literature;

public librarians, an additional 3.37%.

Library and information science faculty head the list of authors in *Journal of Education for Library and Information Science*, *Libraries and Culture*, *Library and Information Science Research*, *Library Quarterly*, *Public Library Quarterly*, and the *Journal of the American Society for Information Science*. In the latter journal, authorship is almost evenly attributed as well to non-library science faculty, because many of the contributors are computer science faculty or from other academic departments. Likewise, the *Public Library Quarterly* has an almost equally large group of library directors and administrators contributing to that journal. Library directors, deans or other administrators are the major contributors in the *Journal of Academic Librarianship*, the *Journal of Library Administration*, in *Library Trends*, and in *Special Libraries*. In *Information Technology & Libraries* systems librarians and department heads in academic settings account for the majority of contributors; in *Library Resources & Technical Services* and in *Serials Librarian* technical services librarians and department heads in academic settings published the most.

Location of Authors

The largest number of authors is in the Northeast. The next largest group is in

the Midwest, followed by authors in the West, the Southeast, and finally the Southwest. Generally speaking these findings support those of the Olsgaard, and Adamson and Zamora studies. Because academic librarians and library school faculty publish the most, the concentration of authors in the Northeast and Midwest is due to the number of large academic library collections in institutions in these areas (thirty-one of top fifty)³⁷ and the preponderance of library schools (sixteen in the Northeast and thirteen in the Midwest).³⁸ Likewise, the largest number of the twenty-six public libraries with 1 million or more volumes are found in the Northeast (eight) and the Midwest (nine).³⁹ The number of authors by journal in each region, as well as Canada and all other foreign countries (as one group), is indicated in table 5. Six of the journals clearly have their largest share of contributors in the Northeast: *Information Technology and Libraries*, *JASIS*, *Library Resources and Technical Services*, *School Library Media Quarterly*, *Serials Librarian*, and *Special Libraries*. The largest group of authors contributing to *College & Research Libraries* is almost equally divided between the Northeast and the Midwest. The *Journal of Academic Librarianship*, *Journal of Education for Library and Information Science*, *Library and Information*

TABLE 5
GEOGRAPHIC DISTRIBUTION OF AUTHORS BY JOURNAL

Journal	NE	SE	M	Location SW	S	C	Other
<i>Coll. & Res. Libs.</i>	46	27	56	15	47	3	3
<i>Info. Tech. & Libs.</i>	38	15	37	19	21	8	3
<i>J. of Acad. Lib.</i>	33	16	78	9	14	6	1
<i>J. Amer. Soc. Inf. Sci.</i>	89	15	32	18	22	1	22
<i>J. Ed. Lib. & Inf. Sci.</i>	28	11	47	20	13	12	12
<i>J. of Lib. Admin.</i>	20	19	17	29	14	2	2
<i>Libraries & Culture</i>	9	3	16	9	12	1	18
<i>Lib. & Inf. Sci. Research</i>	12	13	21	16	11	4	13
<i>Library Quarterly</i>	7	5	30	1	7	4	1
<i>Lib. Res. & Tech. Ser.</i>	55	13	32	5	5	2	1
<i>Library Trends</i>	45	12	48	11	18	2	4
<i>Public Lib. Quarterly</i>	4	3	4	12	8	2	3
<i>RQ</i>	29	14	66	17	10	5	1
<i>Sch. Lib. Media Quart.</i>	43	27	20	19	9	1	1
<i>Serials Librarian</i>	70	32	38	11	32	4	21
<i>Special Libraries</i>	55	10	24	9	14	3	1
Total	583	235	566	220	257	62	122
Percent All Journals	28.5	11.5	27.7	10.7	12.6	3.0	6.0

Science Research, *Library Quarterly*, *Library Trends*, and *RQ* draw the bulk of their contributors, at least for the time period under study, from the Midwest. The largest percentage of contributors to *Libraries and Culture* is actually from countries other than the United States and Canada, giving it the most international perspective of all the journals in the study. The largest percentage of U.S. contributors to *Libraries and Culture* is located in the Midwest. It should be noted that *Journal of the American Society for Information Science*, *Journal of Education for Library and Information Science*, *Library and Information Science Research*, and *Serials Librarian* also had a large number of international contributors. Only two of the journals attract large shares of contributors from the West: *Journal of Library Administration* and *Public Library Quarterly*.

The distribution of library science faculty by geographic region and the identification of specific library schools with rank of faculty members are provided in

tables 6 and 7, respectively. The Northeast and the Midwest have the largest number of authors, with the Midwest slightly ahead.

Watson notes that studies of publishing by academic institutions are "generally conducted to provide some measure of the excellence of the academic programs in question on the presumption that faculties that are productive in publishing will provide a high-quality educational program for students."⁴⁰ While institutional requirements and the extent of the library and information science program are definitely factors in publishing conducted at individual institutions, the quality of the program is obviously also an important variable. When examining the distribution of library school faculty by academic institutions, the faculty in library schools at North Carolina and Wisconsin have the largest share with twenty-seven authors each, followed by Louisiana and Illinois with twenty-six and twenty-five authors respectively. Other library schools with

TABLE 6
LIBRARY AND INFORMATION SCIENCE SCHOOL
AUTHORS BY GEOGRAPHIC LOCATION

Region	No.	%
1. Northeast (Conn., Del., D.C., Maine, Md., Mass., N.H., N.J., N.Y., Pa., R.I., Vt.)	119	25.27
2. Southeast (Ala., Fla., Ga., Ky., N.C., S.C., Tenn., Va., W. Va.)	63	13.38
3. Midwest (Ill., Ind., Iowa, Kans., Mich., Minn., Nebr., N.Dak., Ohio, S.Dak., Wis.)	129	27.39
4. Southwest (Ariz., Ark., La., Miss., N.M., Okla., Texas)	61	12.95
5. West (Alaska, Calif., Colo., Hawaii, Idaho, Mont., Nev., Oreg., Utah., Wash., Wyo.)	39	8.28
6. Canada	28	5.04
7. All other countries	32	6.79
Total	471	100.00

TABLE 7
LIBRARY AND INFORMATION SCIENCE FACULTY/GRADUATE
STUDENT AUTHORS BY POSITION

Position	No.	%
Deans/Directors*	63	13.38
Professors	140	29.72
Associate Professors	52	11.04
Assistant Professors	118	25.05
Non-Designated Faculty Rank	67	14.23
Graduate Students	31	6.58
Total	471	100.00

*Includes associate and assistant deans in cases where no other faculty rank was indicated.

ten or more authors include (in rank order) Michigan, Drexel, Indiana, Syracuse, Rutgers, Simmons, South Carolina, UCLA, Western Ontario, UC (Berkeley), Chicago, Iowa, and Texas (Austin). Authors affiliated with these schools account for 64.53% of all faculty contributions to the literature. The remaining 35.47% are distributed among fifty-two U.S. and thirty non-U.S. schools (see table 8).

Research Methodology

Of the 1,725 articles included in the study, a total of 500 meet the criteria for

inclusion in the category of research-based articles. The majority of the writings, 1,225 items, are not research-based and consist of news announcements, letters, and descriptive or opinion papers. When analyzing the literature in terms of the percentage of total pages, as opposed to number of articles devoted to research and nonresearch, total page content devoted to nonresearch is 61.65% (as opposed to 71% when analyzing by articles), indicating that research-based articles are lengthier than nonresearch-based ones (see table 9). Some studies employ more than one

TABLE 8
FACULTY BY RANK AND MOST PRODUCTIVE SCHOOLS

School	Deans	Faculty	Graduate Students	Total	%*
N. Carolina	1	26	0	27	5.73
Wisconsin	2	25	0	27	5.73
Louisiana	5	19	2	26	5.52
Illinois	5	19	1	25	5.31
Michigan	0	21	1	22	4.67
Drexel	0	19	2	21	4.46
Indiana	8	12	1	21	4.46
Syracuse	1	18	1	20	4.25
Rutgers	1	15	0	16	3.40
Simmons	0	16	0	16	3.40
S. Carolina	1	14	0	15	3.18
UCLA	1	6	8	15	3.18
W. Ontario	2	10	2	14	2.97
UC, Berkeley	0	9	1	10	2.12
Chicago	0	10	0	10	2.12
Iowa	1	9	0	10	2.12
Texas	0	8	2	10	2.12
Total	28	256	21	305	64.53†

*Percentage is based on total library school authors (471).

†Represents schools with ten or more authors; other 35.47% is distributed among fifty-two U.S. and thirty non-U.S. additional schools.

TABLE 9
BREAKDOWN OF RESEARCH AND NONRESEARCH
CONTENT BY PAGES OF COVERAGE

Content	Pages	%
Nonresearch	10,459	61.65
Survey	1,908	11.25
Experiment	629	3.71
Content Analysis	143	.84
Statistical Analysis	285	1.68
Mathematical Model	293	1.73
Case Study	281	1.66
Historical Study	1,480	8.72
Cit. Anal./Bibliometrics	246	1.45
Observation/Field Study	125	.74
Bibliographies	827	4.87
Interview	148	.87
Model Dev./Validation	142	.84
Total	16,966	100.00

research methodology, which accounts for the fact that 526 methodologies are noted in 500 research studies. No attempt was made to analyze the type of statistics employed, if any, for collecting or interpreting data.

Table 10 shows the breakdown of research-based articles by journal title. Collecting data by means of a survey is still the most popular means of conducting research. It had more pages devoted to it than any other methodology in *College & Research Libraries*, *Information Technology and Libraries*, *Journal of Education for Library and Information Science*, *Library and Information Science Research*, *Public Library Quarterly*, *RQ*, *School Library Media Quarterly*, and *Special Libraries*. Approximately 30% of the articles are research-based, an increase from the 1984 findings of Feehan, et al., who reported that 23.6% of the articles in their study were research oriented,⁴¹ and from the 24.4% Nour found in 1980.⁴² It also agrees with Coughlin and Snelson who found that of the papers presented at ACRL conferences, 31.5% to 33% have been devoted to research.⁴³ The current study supports Peritz' indication that journal articles are increasingly based on research,⁴⁴ a finding confirmed by Kim and Kim's analysis of *College & Research Libraries* between 1957 and 1976.⁴⁵

Historical studies are also prevalent,

with a large number of them in *Libraries and Culture*, and, to a lesser degree, in *Library Quarterly* and *Library Trends*. Subject bibliographies are also a common feature of the library and information science literature. *Journal of Academic Librarianship* has a regular column providing subject bibliographies, as does the *Serials Librarian*. The *Journal of the American Society for Information Science* led in the use of the scientific experiment, although a much larger share of the journal's content is devoted to mathematical and programming models. The *Journal of Library Administration* devotes the most space to case studies.

Subject Coverage

Subject coverage was analyzed by computing the percentage of pages devoted to a total of 130 subjects. Because of the diversity in the extent of articles, it was decided that measuring subject coverage by the number of pages devoted to each subject would be a more accurate assessment of how much is written about a topic. The twenty-five most popular subjects are indicated in table 11. Cataloging, automation, management, and library and information science education head the list. This supports, in part, Atkins' major study of subject trends⁴⁶ which determined that management, information retrieval, databases,

TABLE 10
DISTRIBUTION OF RESEARCH-BASED ARTICLES
BY JOURNAL IN RANK ORDER

Journal	No.	%
<i>Journal of Amer. Soc. for Inf. Science</i>	61	12.2
<i>College & Research Libraries</i>	57	11.4
<i>Journal of Academic Librarianship</i>	45	9.0
<i>Library & Information Science Research</i>	41	8.2
<i>Libraries and Culture</i>	36	7.2
<i>Library Trends</i>	35	7.0
<i>RQ</i>	35	7.0
<i>Information Technology & Libraries</i>	31	6.2
<i>Serials Librarian</i>	31	6.2
<i>Journal of Ed. for Lib. & Inf. Science</i>	29	5.8
<i>Library Quarterly</i>	27	5.4
<i>Library Resources & Tech. Services</i>	24	4.8
<i>School Library Media Quarterly</i>	18	3.6
<i>Public Library Quarterly</i>	12	2.4
<i>Special Libraries</i>	10	2.0
<i>Journal of Library Administration</i>	8	1.6
Total	500	100.00

TABLE 11
DISTRIBUTION OF COVERAGE BY TWENTY-FIVE MOST
POPULAR SUBJECTS AND OTHER MAJOR CATEGORIES BY PAGES

Rank	Content	Coverage in Pages	%
1	Cataloging	719	4.24
2	Automation	686	4.04
3	Management/Personnel	544	3.21
4	Lib. and Inf. Sci. Ed.	538	3.17
5	Comparative Librarianship	472	2.78
6	Collection Management	443	2.61
7	Reference Service	413	2.43
8	Networks/Networking	393	2.32
9	Online Public Access Catalogs	385	2.27
10	Professional Associations	376	2.21
11	Users	365	2.15
12	Information Retrieval	313	1.84
13	Serials Control	300	1.77
14	Children's and Young Adult Services	291	1.72
15	Escalating Costs (Serials, etc.)	268	1.58
16	Research	266	1.57
17	Change/Futures	258	1.52
18	Bibliographic Instruction	235	1.39
19	Special Collections	235	1.39
20	History	224	1.32
21	Reference Sources	223	1.31
22	Indexing	217	1.28
23	Buildings	210	1.24
24	CD-ROMs	182	1.07
25	Cooperation	176	1.04
	Total Most Popular Subjects	8,732	51.47
	All Other Subjects (105)	5,306	31.27
	Reviews	1,672	9.86
	Subject Bibliographies	869	5.12
	News/Announcements	222	1.31
	Editorials/Letters to editor	165	.97
	Total All Categories	16,966	100.00

and cataloging were the most popular. However, Atkins perceived that management and cataloging were slowly declining, while articles of a technological nature had almost tripled in frequency. Fifteen of the twenty-five subjects most popular in the current study also appear on a comparable list in the Atkins' study. While Feehan et al.⁴⁷ found that as much as 28.5% of their sample dealt with automation, this is not the case in the present study. However, if all automation-related topics are combined, close to 20% is obtained. For example, automation could also be considered as a secondary subject because it is so closely associated with cataloging, online reference service, networks/networking, online public access catalogs, information retrieval, change/futures, reference sources, indexing, CD-ROMs, and cooperation. Automation, as a sub-

ject, appears in twelve of the sixteen journals, as do cataloging and management. While collection management does not receive as much page coverage, it does appear as a subject in thirteen of the sixteen journals. This is not surprising in light of continued rapid technological change and the need to disseminate information about new innovative procedures and techniques.

In answer to whether there are any subjects which men tend to write about more than women, or vice versa, the subjects in table 12 represent the greatest disparity between the two sexes. The primary differences, not unexpectedly, are in the heavy coverage by female authors of children's and young adults' services (90.91%) and bibliographic instruction (83.67%). A large share of female authors (78.95%) also write about library standards. Men dominate in doc-

TABLE 12
SUBJECTS WITH DIFFERENTIAL COVERAGE BY AUTHOR GENDER

Subject	Males	%	Females	%	Total Authors	%
Automation	43	40.57	63	59.43	106	100
Bibliog. Inst.	8	16.33	41	83.67	49	100
Bibliog., Subject	21	33.87	41	66.13	62	100
Bibliometrics	15	60.00	10	40.00	25	100
Cataloging	34	43.04	45	56.96	79	100
Child./YA Serv.	1	9.09	10	90.91	11	100
International Libr.	25	75.76	8	24.24	33	100
Continuing Ed.	5	27.78	13	72.22	18	100
Costs	24	72.73	9	27.27	33	100
Document Retrieval	9	100.00	0	00.00	9	100
Library History	10	83.33	2	16.67	12	100
Info. Retrieval	39	69.64	17	30.36	56	100
Lib. and Inf. Sci. Ed.	32	36.78	55	63.22	87	100
Research	32	64.00	28	36.00	50	100
Prof. Assns.	16	34.78	30	65.22	46	100
Serials Control	10	27.78	26	72.28	36	100
OPACS	16	32.00	34	68.00	50	100
Standards	4	21.05	15	78.95	19	100

ument retrieval (100%), library history (83.33%), and international librarianship (75.76%).

In analyzing subject coverage by occupation there are no surprises with respect to typical occupations of the authors. Directors frequently write about management and networking. Reference department heads and reference librarians write about reference service and bibliographic instruction, while technical services librarians and department heads comprise the largest category of writers on cataloging. Systems librarians and managers write about automation—specifically cataloging, CD-ROMs, and circulation. Library and information science deans write about the image of librarians and about library and information science education, which is also covered by faculty members. In analyzing individual journals for popular subjects, articles related to public services (including access to the online catalog) are well represented in *College & Research Libraries*. Coverage of public services is also prevalent in *Journal of Academic Librarianship*, closely followed by content related to management. As expected, the *Journal of the American Society for Information Science* is heavily weighted with content devoted to information retrieval; the *Journal of Education for Library and Information Science*

emphasizes education in the field, and the *Journal of Library Administration* is strong in coverage of management issues.

The primary differences, not unexpectedly, are in the heavy coverage by female authors of children's and young adult's services (90.91%) and bibliographic instruction (83.33%).

The extensive international coverage of *Libraries and Culture* is clearly demonstrated by 326 pages devoted to comparative and international librarianship, followed by a large number of historical studies. User studies constitute the major group of subjects treated in *Library and Information Science Research*; management and personnel are the most prevalent topics in *Library Quarterly*, followed closely by library and information science education. Also not surprising is the dominance of cataloging in *Library Resources & Technical Services*, public libraries in *Public Library Quarterly*, and reference service and reference questions in *RQ*. Most subject coverage in *Li-*

brary Trends pertains to library buildings, which can be attributed to a single-theme issue with a large number of articles devoted to that topic. While the *School Library Media Quarterly* and *Special Libraries* contain a majority of items devoted to professional associations, the next largest areas of coverage in each are school librarianship and management, respectively. In *Serials Librarian*, cataloging and serials control and management are almost equally matched in coverage.

Some subjects appear in a majority (nine or more) of the journals: automation, cataloging, children's and young adult services, circulation, collection management, comparative and international librarianship, cooperation, library and information science education, library and information science periodicals, research, management/personnel, networks/networking, online public access catalogs, and professional associations.

CONCLUSIONS

In summary, major findings indicate that males and females tend to publish about an equal number of articles and about an equal percentage of research-based articles in the library periodical literature. The present study confirms a slowly closing gap between the proportions of male and female contributors, particularly among special librarians, although female authors are still poorly represented in SLA. Are women publishing more because in recent years they have filled more positions as heads of organizations, or because they feel more autonomy in their jobs due to increased participatory management? While findings indicate an increase in women authors in each of the journals, the real difference can also be attributed to the wider selection of journal titles and, particularly, the inclusion of those covering aspects of librarianship clearly dominated by females, e.g., *School Library Media Quarterly*, and *Library Resources & Technical Services*. However, as Olsgaard noted, data compiled by the National Center for Educational Statistics indicate that the proportion of

women in librarianship in general is about 84%,⁴⁸—much higher than that of men. Data compiled by the American Library Association indicate that this breakdown (in academic and public libraries) is about 75% female and 25% male.⁴⁹ In the present study, males published about 2.7 times more than females; therefore, a much larger percentage of males than females are publishing, in spite of the fact that this gap seems to be closing, however slowly. These findings suggest the need for further research into possible explanations for this discrepancy, including women's attitudes toward publishing or their desires to make career advancements and assume more responsible positions. Men and women on library school faculties tend to publish on a more comparable basis.

The major share of publication activity (more than 61%) is accounted for by academic librarians (37.68%, which is greater than their representation in the overall population of either professional or all academic librarians)⁵⁰ and library and information science faculty (18.69% or 21.81% including school deans), closely approximating previous findings.⁵¹ While full professors publish the most, an almost equally large number of assistant professors are publishing. Because most faculty members aspiring to tenure are probably assistant professors, their higher publishing rate can be attributed to this need for career advancement and security, including the possibility of spin-off articles from dissertations. Academic librarians are publishing more compared to previous studies, supporting the suggestion that the increase in the percentage of rank and file librarians as compared to the early dominance of library administrators⁵² is due to a larger number of academic librarians who have attained positions with faculty status and increased expectations for research and publication. The trend toward these new requirements was noted as early as 1980.⁵³ On the other hand, Rayman and Goudy found that only 15% of ARL librarians surveyed responded that publication

was essential.⁵⁴ Other factors include the likelihood that academic institutions are incorporating thrusts for research in their mission statements, as well as the possibility that the general emphasis on participative management styles has heightened librarians' sense of professionalism and responsibility for contributing to the development of the field. Although there are many more academic librarians than library science faculty, the latter publish a larger percentage of articles, a finding which is not too surprising because more rigorous publication requirements are made of them for promotion and tenure. The rate of publishing by graduate students has remained relatively consistent over the last thirty years.⁵⁵ Although it might be hypothesized that this would increase with new emphases on research, new technological tools to facilitate research, and more courses that address quantitative analysis and methodology, a possible explanation for this stable publication rate is the graduate student's motivation to finish their programs and enter the work force before they devote their energies to research and publication.

More authors are located in the Northeast and the Midwest than in any other geographic region, confirming the results of earlier studies. Library schools most productive in terms of publication are at North Carolina and Wisconsin-Madison. Of the sixteen schools identified as most productive in terms of faculty publication, ten are located in either the Northeast or the Midwest, where there are sixteen and thirteen schools, respectively. With a large share of academic librarians in the major academic institutions also located in the Northeast and the Midwest, it is not surprising to find that these two geographic regions rank first and second. There is a 67% overlap with schools that Watson found most productive, the difference possibly due to the inclusion of editorials, regularly appearing columns, and other types of materials in the present study.

Research-based articles are on the increase, although they did decline after a

peak of 35% in the late 1970s.^{56,57} That this decline occurred commensurate with a decline in federal and other sources of research funding may explain this peak and slump, followed by a moderate upward trend as scholars identified new ways to finance research. Both sexes write nearly equal percentages of research and nonresearch articles.

The general emphasis on participative management styles has heightened librarians' sense of professionalism and responsibility for contributing to the development of the field.

Atkins claims that "a study of subject trends in library and information science publishing is a way for the library profession to learn more about itself."⁵⁸ A fair amount of subject coverage overlaps with previous studies. Recent popular topics are library and information science education, online public access catalogs, CD-ROM, bibliographic instruction, children's and young adults' services, and literature dealing with future change. While authors' interest in writing about information retrieval has declined somewhat, the subjects of automation, management, and cataloging continue to occupy the minds of contributing authors and, of course, editors. Continued interest in automation is predictable in light of ongoing technological innovations and the filtering down of automation to smaller libraries. Attention to human relations skills and management is also understandable as libraries are moving toward more participative decision-making and less hierarchical structure. The reasons for the continued increase in cataloging articles are less clear, but possibly due to the increase in publishing by rank and file practitioners, and the trend toward merging, or at least softening, the distinction between the traditional divisions of public and technical services.

Is this an indication that librarianship is moving beyond an interest in immediate problems of the job at hand, and another positive sign of a maturing profession?

With catalogers being moved to public services areas and tending to perform all activities, professional or otherwise, at one subject or branch location, they have now become involved with the on-line public access catalog. Reference librarians, likewise, are providing input into more adequate online subject ac-

cess, a continued concern for catalogers. Increased attention to international librarianship (ranked in fifth place) confirmed the Atkins study. Is this an indication that librarianship is moving beyond an interest in immediate problems of the job at hand, and another positive sign of a maturing profession?

Periodic analysis of the subject content of library literature and its authors seems particularly important not only because it documents the historical development of librarianship, but also because it reflects trends in the concerns and issues that concern and confront library and information science educators and practitioners.

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