

Authorship in *College & Research Libraries* Revisited: Gender, Institutional Affiliation, Collaboration

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This article updates earlier studies by Gloria Cline and Paul Metz on the characteristics of authorship of articles published in *College & Research Libraries*, focusing on gender, institutional affiliation, and extent of collaboration. Between 1989 and 1994, representation by academic librarians and authors affiliated with library schools increased, collaboration became predominate, and for the first time the number of primary women authors equaled that of men. Considering all coauthors, female authors outnumbered men. The largest proportion of authors were women academic librarians who coauthored articles. Women, however, were underrepresented among authors affiliated with library schools and among academic administrators.



In the fortieth anniversary of *College & Research Libraries* (C&RL), Gloria Cline examined various characteristics of articles published in journal volumes 1 through 39 (1939–79), as well as characteristics of the citations from those articles.¹ Among the various characteristics of C&RL articles she examined were the author's sex, institutional affiliation, and extent of collaboration as measured by coauthorship. Cline presented the data in five-year intervals to detail changes and trends in publication and to compensate for anomalies from year to year.

Ten years later, on the fiftieth anniversary of C&RL, Paul Metz selectively updated Cline's work, examining the above-

mentioned variables and the extent of quantitative methodologies used in articles published in volumes 40 through 49 (1980–88).² One of the most significant findings in Metz's study was the dramatic increase in the representation of women authors in C&RL since 1979. In the journal's first forty years of publication, male authors consistently averaged around 80 percent. Between 1980 and 1984, the percentage dropped to 65, and between 1985 and 1988, to 56 percent. Metz predicted that if the trend continued, within the next five-year period a balance in the gender of authors should be reached. Overlapping and extending Metz's data, Peter HERNON and Mary Bailey Croxson report that between 1980 and 1991, 53 percent of articles ac-

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cepted for publication in *C&RL* were authored by men.³

Although no anniversary is in the offing, the next five-year period has passed since Metz presented his data. This study will provide an update to Cline and Metz's evaluation of authorship in *C&RL*, focusing on gender, institutional affiliation, and collaboration for the years 1989-94.

Gender Studies of Authorship

A number of studies have examined gender differences in library publishing. The methods employed and the particular populations studied have varied, making direct comparisons difficult. Nevertheless, the studies reveal broad trends and relevant variables that help explain gender differences.

Several studies examined gender differences in publication productivity among library administrators and educators. In a study of publications by aca-

Although male authors were still predominate, accounting for 56.3 percent of all articles published, in two of the journals women authors were actually in the majority.

dem administrators (in ARL institutions) between 1975 and 1980, Betty Jo Irvine discovered that men were significantly more likely than women to have one or more publications.⁴ She also reported that women administrators were significantly more likely to publish than the general population of women librarians. Christine A. Korytnyk's study of library school faculty publications in the 1970s, and Jana Varlejs and Prudence Dalrymple's 1983 study reported similar findings.⁵ But in her study of library school faculty publications between 1980 and 1984, Kathleen Garland presented evidence that problematized the pattern of male dominance.⁶ Men had more total publications during the four-year period—1,659 compared to 1,273 for

women. But when Garland weighted the type of publications (i.e., monographs given higher weight than journal articles), the mean weighted scores for women were greater—.783 compared to .649 for men. In addition, 42 percent of the men in the sample had no publications, whereas only 40 percent of the women were unpublished.

A second set of studies examined the characteristics of authorship of particular library journals. John and Jane Olsgaard's study of five major library science journals in the 1970s revealed that men were more highly represented than women in each of the journals.⁷ Martha C. Adamson and Gloria J. Zamora applied the Olsgaards' methodology to an examination of authorship in five journals of interest to special librarians during the 1970s.⁸ Although male authors were still predominate, accounting for 56.3 percent of all articles published, in two of the journals women authors were actually in the majority. Women authors contributed 56.9 percent of the articles in the *Bulletin of the Medical Library Association* and 59.3 percent of the articles in *Online Review*. Thus, the particular type of library journal appears to make a difference.

Lois Buttlar's study of sixteen journals, from January 1987 through June 1989, representing the wide range of library types and interests, supports Adamson and Zamora's findings and provides some points of comparison for examining *C&RL*.⁹ The majority (52.17%) of the total authors were women.

Equally significant was the wide range of differential publication by gender among the different journals. For example, more than 75 percent of the authors of articles in *Libraries & Culture* were men, whereas more than 78 percent of the authors in the *School Library Media Quarterly* were women.¹⁰ By way of comparison, the study reported that 45.5 percent of the authors in *C&RL* were women. Buttlar also found that academic librarians published more than 61 percent of

TABLE 1
Gender of Primary Authors,
1939-1979

Date	Male	Female
1939-44	78%	22%
1945-49	77	23
1950-54	78	22
1955-59	87	13
1960-64	85	15
1965-69	77	23
1970-74	80	20
1975-79	79	21
1980-84	65	35
1985-88	56	44
1989-94	50	50

all articles, and only 21.8 percent were published by authors affiliated with library schools. Single authors produced a little more than 60 percent of the articles. In addition, among academic librarian authors, top administrators were by far the most prolific occupational category.

Methods

In their methodology, Cline and Metz collected data only on bona fide articles. The authors excluded editorials, news items, and book reviews or review essays. For each article, they recorded the primary author's gender and institutional affiliation. They categorized institutional affiliation by the following types: academic libraries, other (nonlibrary), library schools, government libraries, special libraries, public libraries, and library associations. For collaborative works, they documented the number of coauthors. The researchers cumulated the data in five-year intervals and presented them in frequency tables indicating trends in authorship by gender, institutional affiliation (type), and extent of collaborative authorship. In this report, for comparative purposes, data will be presented in tabular form which will include figures from Cline's study (1939-79), Metz's study (1980-88), and this study (1989-94).

To examine more closely the nature of authorship, cross-tabulations are made of gender with institutional affiliation, collaboration, and academic administrators. In addition, total counts are made of all authors (single authors and coauthors). Cline and Metz assumed that the first-named, or primary, author is the major contributor to a coauthored article and, therefore, "secondary" authors are not represented in the data collected for gender and institutional affiliation. However, there is no reason to make this assumption. The ordering of names of coauthors may be alphabetical, based on relative prestige of the contributors, or may even be arbitrary. There is a considerable body of literature that addresses the issues of multiple authorship and collaboration in the publication of scholarly works.¹¹ However, there appears to be no consensus on how to count or assign credit relative to name order. Normative standards for name ordering vary across disciplines. The American Psychological Association, for example, explicitly states that multiple authors in psychology publications should be ordered according to the degree of contribution to the publication. Mathematicians, statisticians, and physicists prefer alphabetical name order. Because there are no clear norms in the field of librarianship, disregarding coauthors misrepresents the extent and nature of authorship. This is particularly the case given the increasing proportion of coauthored as opposed to single-authored articles found across disciplines.¹²

A final note of caution is in order regarding data collection. Although the

TABLE 2
Total Authors by Gender, 1989-94

Total	Male	Female
381	182	197
	(47.8%)	(51.7%)

Note: The gender of 2 authors (.5% of total) was indeterminate.

TABLE 3
Type of Institution of Primary Author

	1939-79	1980-88	1989-94
Academic Libraries	58.70%	56.12%	69.40%
Other (nonlibrary)	11.27	17.29	8.3
Library Schools	8.56	10.11	18.1
Government Libraries	6.25	0.27	1.2
Special Libraries	3.38	6.38	1.2
Public Libraries	3.16	1.06	0.8
Library Associations	1.41	1.33	0.8

type of institutional affiliation of authors was relatively clear, the determination as to whether the author was an upper-level administrator was not. The position designations used in this study were university librarian, director or dean, and associate or assistant to these positions. Because nomenclature of job titles varies among academic institutions, the determination of "administrator" did require judgment in some cases and is thus subject to possible error.

Gender

Table 1 presents the combined data on the gender of primary authors from Cline (1939-79), Metz (1980-88), and this study (1989-94). Between 1989 and 1994, 242 articles were published in *C&RL*. Of that total, exactly half of the authors were men and half were women. For the first time in the journal's history, women were equally represented as primary authors.

Table 2 presents the gender of the total number of authors, including single and coauthors, who published articles between 1989 and 1994. Of the 381 total authors, 197 (51.7%) were women. Even if the two (.5%) authors of indeterminate gender were added to the men's column, women authors would still outnumber

men. Although the differences are not statistically significant, the data do indicate that the trend toward increased representation of women authors in *C&RL* continues.

Institutional Affiliation

Table 3, following Cline and Metz, presents data on the type of institutional affiliation of the primary authors. Academic librarians, as one might expect, have been consistently well represented in authorship in *C&RL*. However, since 1988, their proportion has increased nearly 14 percent. Similarly, authors affiliated with library schools increased nearly 8 percent. Between 1989 and 1994, academic librarians and library educators together accounted for 88 percent of all the published authors.

Table 4 details institutional affiliation by gender for both primary authors and total authors for the two major types of

TABLE 4
Authorship by Institutional Affiliation and Gender, 1989-94

	Primary Author			All Authors		
	Male	Female	Total	Male	Female	Total
Academic	80 (48%)	88 (52%)	168	123 (46%)	146 (54%)	269
Library School	25 (57%)	19 (43%)	44	31 (55%)	25 (45%)	55
All Instit.	121 (50%)	121 (50%)	242	182 (47.8%)	197 (51.7%)	381

Note: Of "All Authors," the gender of 2 (.5%) was indeterminate.

TABLE 5
Single Authorship, 1939-1994

Time Period	Articles with No Coauthors
1939-44	95.7%
1945-49	95.6
1950-54	93.5
1955-59	92.7
1960-64	94.0
1965-69	85.9
1970-74	79.1
1975-79	72.7
1980-84	68.1
1985-88	54.1
1989-94	40.5

institutions—academic librarians and library schools—for the 1989-94 period. Whether considering primary authors or total authors, men continue to be more highly represented among authors from library schools. However, the situation is reversed for authors from academic libraries. The largest number and proportion of total authors are women academic librarians.

Collaboration (Coauthorship)

Table 5, following Cline and Metz, presents data on the extent of collaborative authorship. In order to be consistent with Cline and Metz's data presentation, the table presents the percentage of single authorship. As indicated earlier, the clear trend toward coauthorship continues in the 1989-94 period. This is consistent with publication trends in various disciplines.¹³

TABLE 6
Total Coauthors by Gender, 1989-94

<u>Coauthored Articles</u>				<u>Coauthors</u>		
Male Only	Female Only	Mixed	Total	Male	Female	Total
17	25	55	98	108	133	243
(17%)	(26%)	(56%)		(44%)	(55%)	

Note: The gender of 2 coauthors (1%) could not be determined.

Table 6 details coauthorship by gender. More than half of all the coauthored articles were mixed in terms of gender. In other words, both men and women collaborated in producing the articles. Interestingly, 26 percent of the coauthored articles had only women collaborators, compared to 17 percent that were solely male collaborations. A far larger proportion of total collaborators were women—55 percent compared to 44 percent. The collaboration of women authors tips the balance in terms of the overall representation of women authors in C&RL. More than 67 percent of women authors collaborated in the production of articles.

Academic Administrators

Finally, table 7 presents gender differences in publishing by academic admin-

TABLE 7
**Gender of Academic Library
Administrators, 1989-94**

Total	Male	Female
72	44	28
	(61%)	(39%)

istrators in C&RL during the 1989-94 period. It is commonly assumed that administrators, because they have more resources available to pursue publishing and because publishing is more likely to be expected of them, would tend to publish more than other academic librarians. Also, the fact that women have made significant inroads into top academic positions might help explain the increase in women academic authors.¹⁴ As mentioned earlier, Irvine's and Buttler's findings tend to support this. Neither case, however, is supported by the data from this study. Of the total academic authors

in this study, only 27 percent were top administrators, with men comprising 61 percent of these authors.

Discussion

The trend toward increasing representation of women authors in *C&RL* which Metz observed between 1980 and 1988 continued in the subsequent six-year period. For the first time, between 1989 and 1994, the number of primary women authors equaled that of men and the total of women authors outnumbered men. Considering the total population of women

Women tend to be more heavily represented in, for example, journals specializing in library education or school librarianship.

librarians (88% of all librarians), obviously women authors are still considerably underrepresented.¹⁵ But from an historical perspective, the increasing number of women who have published in *C&RL* is nothing short of dramatic.

Other studies have shown that gender differences in publication vary according to the particular subject area of the journal. Women tend to be more heavily represented in, for example, journals specializing in library education or school librarianship. Yet, there is evidence of a general increase in women authors across the range of library journals. In Buttlar's study of sixteen journals between 1987 and 1988, four of the titles matched those

in the Osgaard study of the 1970s. In each journal, the proportion of women increased, ranging from 11 to 18 percent. Authorship in *C&RL* is clearly part of a general trend. The major difference between men and women authors in this study was the higher incidence of collaboration among women. And, somewhat surprisingly, women academic administrators were considerably underrepresented.

The obvious question not addressed in this study is: Why the change? Are demographic or organizational variables explanatory? Did the feminist movement, which exhorted women to be more involved in publishing and aspire to management, affect a change in motivation?¹⁶ Mary Biggs's review of the literature of publishing by women academics in general revealed that women publish less because they "tend to cluster in the more teaching-oriented, less research-oriented schools and in the disciplines or interdisciplinary specialties least productive of publication."¹⁷ Biggs suggests that this may be true of library school faculty, and by extension, academic librarians. Is this pattern true of women librarians? Is it changing? What is the significance of the higher incidence of collaboration among women authors found in this study? The literature is generally silent on these questions. However, the trends in authorship are becoming increasingly clear. Research now is needed to go beyond description to determine the explanatory variables related to these trends.

Notes

1. Gloria S. Cline, "College & Research Libraries: Its First Forty Years," *College & Research Libraries* 43 (May 1982): 208-32.

2. Paul Metz, "A Statistical Profile of College & Research Libraries," *College & Research Libraries* 50 (Jan. 1988): 42-47.

3. Peter Herson and Mary Bailey Croxson, "Publication in College & Research Libraries: Accepted, Rejected, and Published Papers, 1980-1991," *College & Research Libraries* 54 (July 1993): 303-21.

4. Betty Jo Irvine, *Sex Segregation in Librarianship: Demographic and Career Patterns of Academic Library Administrators* (Westport, Conn.: Greenwood Pr., 1985), 129-34.

5. Christine A. Korytnyk, "A Comparison of the Publishing Patterns between Men and Women Ph.D.'s in Librarianship," *Library Quarterly* 58 (Jan. 1988): 52-65; Jana Varlejs and Prudence

Dalrymple, "Publication Output of Library and Information Science Faculty," *Journal of Education for Library & Information Science* 27 (fall 1986): 71-89.

6. Kathleen Garland, "Gender Differences in Scholarly Publications among Faculty in ALA Accredited Library Schools," *Library & Information Science Research* 12 (Apr./June 1990): 155-66.

7. John N. Olsgaard and Jane Kinch Olsgaard, "Authorship in Five Library Periodicals," *College & Research Libraries* 41 (Jan. 1980): 49-53.

8. Martha C. Adamson and Gloria J. Zamora, "Publishing in Library Science Journals: A Test of the Olsgaard Profile," *College & Research Libraries* 42 (May 1981): 235-42.

9. Lois Buttlar, "Analyzing the Library Periodical Literature: Content and Authorship," *College & Research Libraries* 52 (Jan. 1991): 38-53.

10. *Ibid.*, 41.

11. Martha A. Harsanyi, "Multiple Authors, Multiple Problems—Bibliometrics and the Study of Scholarly Collaboration: A Literature Review," *Library & Information Science Research* 15 (fall 1993): 325-54.

12. *Ibid.*, 326.

13. *Ibid.*

14. Among ARL institutions, for example, the percentage of women top administrators increased from 48.7 in 1989 to 50.2 in 1994. See Association of Research Libraries, *ARL Annual Salary Survey 1989* (Washington, D.C.: ARL, 1990), 36; Association of Research Libraries, *ARL Annual Salary Survey 1994* (Washington, D.C.: ARL, 1995), 34.

15. U.S. Bureau of the Census, *Statistical Abstract of the United States: 1994* (Washington, D.C.: U.S. Bureau of the Census, 1994), 407.

16. See, for example, Darlene E. Weingang, ed., *Women and Library Management: Theories, Skills and Values* (Ann Arbor, Mich.: Pierian Pr., 1982).

17. Mary Biggs, "The Scholarly Vocation and Library Science," *Advances in Librarianship* 15 (1991): 39.

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ACRL University Library Statistics, 1994-95

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