Author characteristics in three medical library periodicals

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What are the characteristics of authors published in medical library periodicals? Do health sciences librarians collaborate with others to compose articles? How much do author characteristics vary among different countries? A bibliometric study was conducted to obtain quantitative data describing authors published in the Bulletin of the Medical Library Association, the Journal of the Japan Medical Library Association, and the Medical Information Service during the years 1990 through 1992. Special attention was given to the mean number of authors per article, the proportion of articles with multiple authors, the distribution of institutional affiliations of authors, and the occupations of authors.

REVIEW OF THE LITERATURE

In recent years, many articles have chronicled the steady increase in the proportion of scientific articles published with more than one author. Analyzing the articles published between 1980 and 1985 in diagnostic radiology periodicals, Chew noted that the increase in number of authors has been far more rapid than the increase in the number of articles [1]. Yitzhaki identified long-term collaborative authorship patterns in the field of biological chemistry from 1905 to 1988 [2]. Wang studied the phenomenon of multiple authorship in Chinese scientific and technical periodicals in 1988 [3]. In examining 1,908 papers and letters published from 1983 through 1987, Halperin found that the number of authors varied by type of article, country, and authors' institution [4]. Mussenrakis examined twelve leading radiological journals, seeking an explanation for the rise in multiple authorship [5].

In the field of library and information science (LIS), Sakurai recorded the bibliographic features of the authors published in the Journal of the Japan Documentation Society in 1980 [6]. Olsgaard reviewed five major library science journals over a ten-year period, looking for author characteristics [7]. In testing the Olsgaard profile in 1981, Adamson essentially confirmed the findings with regard to geographic distribution and occupation of authors in library journals [8]. Zamora described various author characteristics in special libraries in 1982 [9].

Yamanaka analyzed the characteristics of 1,065 LIS articles in Japan in 1986 [10]. Korytnyk studied the publishing patterns of librarians with doctoral degrees and discovered that 17.7% of their articles were jointly authored [11]. Fang discussed characteristics of citations published in the Bulletin of the Medical Library Association (BMLA) from 1982 to 1986 [12]. Williamson found that nearly 19% of articles published in the Southeastern Librarian and the South Carolina Librarian had multiple authors [13].

Exercising the institutional affiliations of authors of research articles, Mularski found that non-LIS faculty members have been responsible for the largest proportion of LIS articles in recent years [14]. Buttlar studied sixteen library periodicals with respect to various characteristics of their authors, including sex, occupation, affiliation, and geographic location in 1991 [15]. Liu analyzed the cooperation level of authors published in LIS periodicals in China in 1991 [16]. Raptis explored authorship characteristics in international LIS periodicals in 1992 and compared the results to those of previous studies [17]. Dimitroff found that most research in health sciences librarianship was conducted by librarians affiliated with academic health sciences libraries [18].

METHOD

The Medical Information Service (MIS), Journal of the Japan Medical Library Association (JJMLA) and the BMLA were selected for this study because these periodicals have been in existence for at least ten years and are nationally known in the field of medical library science. The MIS, first published in 1979, is a brief periodical for medical librarians and medical library educators. The JJMLA, first published in 1954, is a general professional periodical for medical librarians. The BMLA, initiated in 1911, is a survey of research for health sciences librarians. Data entries selected for the study were full articles, symposium articles, case reports, brief communications, reviews, and others. The journals were reviewed over the period from January 1990 through December 1992 (MIS was examined in the period from January 1991 to December 1992). A total of 410 substantive articles and 682 authors from the thirty-six issues were recorded, exclusive of essays, editorials, obituaries, news items, and book reviews and commentary.

Each author counted as one data entry and each data entry consisted of the institutional affiliation and occupation of the author. If two occupations were listed as current, then only the first position was entered in the data. The occupational settings for the study were library science, health sciences, social science, and “other.” The four institutional affiliation settings for the study were academic health sciences...
libraries, hospital libraries, government and other libraries, and other institution or professional society.

RESULTS AND DISCUSSION

Number of authors

Table 1 shows the distribution of the multiple-author articles among the three periodicals. During the study period, the average number of authors per article in both the MIS and the JJMLA increased and the average number of authors per article in the BMLA varied. Table 1 shows an average of 1.74 authors per article in the MIS, 1.37 authors in the JJMLA, and 1.97 authors in the BMLA.

Comparing the data with earlier research findings, it appears that multiple authorship is increasing. Fang reported that the BMLA had an average of 1.38 authors per article from 1982 to 1986 [19], and Dimitroff found that the BMLA had 1.85 authors per research article from 1966 to 1990 [20]. Liu found 1.27 authors per article in the Bulletin of the University Libraries in China and 1.16 authors in both Library and Information Service and the Bulletin of the Library Science in China [21]. Midorikawa found that the average number of authors was 1.28 per article in Japan in 1984 [22]. The findings in the Midorikawa paper corroborated those reported by Halperin and Mussarakis, that the number of authors per article varied by country [23-24].

Multiple authorship

Table 1 also shows that 27.12% of the MIS articles were written by two authors and 11.86% by three authors. In the BMLA, 19.2% of the articles were written by three authors and 8.01% by four authors. In the JJMLA, 12.96% of the articles were written by a group of authors, perhaps due to the reports on annual meetings of the Japan Medical Library Association or other seminar reports. Descriptive statistics on multiple authorship in the three periodicals and the comparative data from previous studies are listed in Table 2.

Table 2 shows that sixty-nine articles (55.20%) of the total had more than one author in the BMLA, a higher percentage than that found by Dimitroff in 363 research articles in the BMLA [25]. Eighty-one articles (45.76%) had more than one author in the MIS, and thirty articles (27.88%) had multiple authors in the JJMLA. These percentages are higher than those found by Yamanaka, Iijima, Koryntyk, Williamson, Buttlar, and Liu [26-31]. A possible explanation for the variations is the multidisciplinary nature and complexity of some forms of research published in medical library and information science.

Institutional affiliation of authors

The institutional affiliation of authors plays a major role in the accreditation of LIS publications. Swigger pointed out that the need for a body of theory and proven techniques based upon careful research, upon
which practice in librarianship and information service can be based, has long been recognized among library scientists [32]. There was considerable variation in number of authors among the four different institutional affiliations, as shown in Table 3.

In the BMLA, 188 (76.42%) of the authors, the highest proportion among the three periodicals, were from academic health sciences libraries or library schools, and eleven (4.47%) were from hospital libraries. These results were comparable to those of Dimitoff, who analyzed research articles from the years 1966 to 1990 and found that 64.7% of contributors were from academic health sciences libraries or library schools and 61% were from the hospital libraries [33].

In the MIS, 142 (46.25%) of the authors, the highest proportion among the three periodicals, were researchers working in libraries or information institutions or societies and thirty-five (11.44%) were hospital librarians. In the JJMLA, twenty-four (18.6%) of the authors, the highest proportion among the three periodicals, were librarians working in hospital libraries. The results differed considerably from the findings of Burdick, who found that hospital librarians in nonacademic settings reported research activity least frequently [34]. In Japan and China, hospital librarians not only have a Hospital Library Association but also have a periodical for publishing articles about research activities in hospital libraries.

Occupation of authors

The occupations of authors are shown in Table 4. Results shows that 224 (72.96%) MIS contributors were engaged in library and information science and 73 (23.13%) were from the health sciences. The possible explanation for this comparatively high percentage of health sciences contributors may be the many contributors with degrees in health sciences who work in medical information institutions in China. In the JJMLA, contributors from library and information science totaled 117 (90.71%); only one contributor was in the health sciences. In the BMLA, contributors engaged in library and information science totaled 199 (80.89%), and 28 (11.38%) contributors were from the health sciences.

Comparing those results to the previous studies, Zamora found that nonlibrarians constituted 16.4% of contributors from 1970 to 1979 [35]. Adamson recorded that nonlibrarians made up 4.6% of contributors in 1980 [36]. Swigger and Mularski found that non-LIS faculty were responsible for the largest proportion of LIS articles in the years 1977 to 1988 [37-38]. Bullt found that nonlibrarians were 14.11% from 1987 to 1989 [39], and Raptis that they were 8.15% from 1989 to 1990 [40]. Given the nature of the three periodicals examined in the present study, it is not surprising that few articles were written by nonlibrarians.

CONCLUSIONS

Collaboration cannot be isolated from sociocultural factors. The mean number of authors per article, called the “Collaboration Index” by Lawani [41], varies within the three medical library periodicals examined. Each periodical reflects the writing habits of the health sciences librarians in the country where the periodical is published, though none of the periodicals puts geographical restrictions on contributors. According to Schrader, in most fields of the natural and human sciences, collaboration is taken to be a sign of development and maturity [42]. Although the rate of increase in LIS collaboration would seem somewhat slower and the proportions of co-authored articles lower than those of natural science disciplines, it is higher now than indicated in the results of earlier LIs studies. This variation might be due to the multidisciplinary nature and complexity of some forms of research in medical library and information science.

The institutional affiliation of authors is a very important factor in the accreditation of LIS publications. In the BMLA, 76.42% of contributors were from academic health science libraries or library schools. In the MIS, 46.25% of authors were working in libraries or information institutions or societies. In the JJMLA, 18.6% of authors, the highest rate among the three periodicals, were working in hospital libraries.

Generally speaking, the number of authors per article could be affected by various factors, including
the nature of the research problems, the language and type of the articles, the type and nature of the periodicals, institutional affiliations of authors, availability of funding, and sociocultural factors. Future studies would greatly enhance understanding of this phenomenon if these factors were considered as possible influences on scientific collaboration.

ACKNOWLEDGMENTS

The author wishes to thank Shigeaki Yamazaki, editor-in-chief of the JMLA, for his constructive contributions at the beginning of the paper and invaluable discussion and comment; Kazuo Urata for his substantial contribution in reviewing this study critically; and all members of the Medical Information Center for Education and Research of Jikei University School of Medicine in Japan for their valuable technical assistance.

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Received January 1995; accepted October 1995

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Bull Med Libr Assoc 84(3) July 1996