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The comparative importance of books: clinical psychology in the health sciences library

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Clinical psychology has received little attention as a subject in health sciences library collections. This study seeks to demonstrate the relative importance of the monographic literature to clinical psychology through the examination of citations in graduate student theses and dissertations at the Fordham Health Sciences Library, Wright State University. Dissertations and theses were sampled randomly; citations were classified by format, counted, and subjected to statistical analysis. Books and book chapters together account for 35% of the citations in clinical psychology dissertations, 25% in nursing theses, and 8% in biomedical sciences theses and dissertations. Analysis of variance indicates that the citations in dissertations and theses in the three areas differ significantly ($F = 162.2$ with 2 and 253 degrees of freedom, $P = 0.0001$). Dissertations and theses in biomedical sciences and nursing theses both cite significantly more journals per book than the dissertations in clinical psychology. These results support the hypothesis that users of clinical psychology literature rely more heavily on books than many other users of a health sciences library. Problems with using citation analyses in a single subject to determine a serials to monographs ratio for a health sciences library are pointed out.

INTRODUCTION

The serials-to-monographs ratio is a perennial concern of collection managers in health sciences libraries. As serials prices continue to rise faster than inflation and new titles proliferate, librarians struggle to allocate acquisitions funds to meet user needs. Ideally, the distribution of funds between serials and monographs would be commensurate with the importance of each of these types of materials to the library's clientele. Citation analysis has been proposed as one method of indicating the use and thus importance of, different formats of library materials [1, 2]. Although the limitations of this method have been reported numerous times [3-5], it is still seen by many to be "a useful tool for evaluation of library collections and subject literatures" [6], if used with caution.

One problem with citation studies as an indication of library use by format is the tendency to apply re-

sults found in one subject area to entire library collections. Burdick et al., for example, recommend a serials-to-monographs ratio of 88:12 for health sciences libraries based on citation and observational studies of internal medicine. This recommendation is in contrast to the average allocations of 79% of acquisitions budgets for serials and 21% for monographs reported for academic health sciences libraries in the decade preceding their study [7]. While the 88% serials allocation cited in Burdick's study may be an indication of the importance of the journal literature for internal medicine, it does not follow that this pattern applies to all subjects in the health sciences. Many health sciences libraries support educational programs and health professionals in areas other than medicine. Efforts underway to characterize the growing literature of the allied health professions are beginning to provide evidence of differences among some of these subjects [8].

The literature of clinical psychology, however, has

received little attention in the health sciences library setting. Previous format citation studies have usually treated the subject of psychology as a whole. They have tended not to examine specialties within the discipline, and none has looked at clinical psychology in relation to other subjects in the health sciences. The present study examines format citation patterns in theses and dissertations in a health sciences library in an attempt to demonstrate the relative importance of the monographic literature to clinical psychology. Comparisons are made to results of previous studies in the social sciences and psychology, and conclusions regarding the use of citation analyses to determine a serials to monographs ratio are drawn.

PREVIOUS STUDIES

The fact that the relative importance of monographs and serials varies by broad disciplinary divisions is well known. It is generally accepted, for example, that researchers in the humanities rely more heavily on books than those in the sciences. Psychology is often (but not always) considered one of the social sciences [9]. In terms of percentages of citations to books, studies have shown the social sciences to be midway between the humanities (60%–70%) and the sciences (5%–20%) [10]. A problem with comparing results of these format citation studies is that different definitions for the terms "monograph," "book," "serial," "journal," and "article" could have been used by different investigators. Even so, the overall percentages point to a fairly consistent citation practice.

Social sciences

Earle and Vickery studied social sciences publications in the United Kingdom and found 46% of citations to be to books [11]. Citation analyses carried out through the large Design of Information Systems in the Social Sciences (DISISS) program in the 1970s reported the cited works from journals in the social sciences to be 39% monographs [12] and cited works from social sciences monographs to consist of 51% monographs [13]. In a review of a number of studies, Fitzgibbons found a range of 31% to 46% of citations reported in the social sciences were to books [14].

Psychology

Citation analyses of the psychology literature have shown a pattern of citations to books similar to, although perhaps somewhat less than, that found in the social sciences in general. Xhignesse and Osgood's study of psychology journals showed that 65% of the citations were to journals and 35% to all other formats [15]. The DISISS-related analysis of monographs in psychology found 37.7% of the cited works were monographs [16], whereas the same program's study

of psychology serials found 28.9% of the citations were to monographs [17]. In looking at psychology journals published in 1972, Miwa et al. reported 42.7% of citations were to books, but, by 1977, 33.9% were to books [18]. A lower percentage of citations to books was reported in a study of psychology articles published by the faculty of a single university in 1989: 13% of the citations were to books, 11% to edited volumes, and 76% to journals [19].

Several investigators have studied citation patterns in psychology graduate student theses as indicators of library use. Of these, at least two have reported percentages of citations by format. Peritz and Sor, examining master's theses in psychology at four Israeli universities, found 17.8% of the citations were to books, 10.9% were to papers in collective works, and 56.2% were to papers in periodicals [20]. Thomas reported that 62.4% of the citations in psychology master's degree theses written at a university in the United States were to journals [21].

Clinical psychology

While the studies mentioned above pertain to psychology in general, there are also indications in the literature of the relative importance of books to the more specific field of clinical psychology. Cox identified the most frequently cited authors and their publications in the *Journal of Consulting and Clinical Psychology*, a major periodical in the field, from 1970 to 1974. Of the nineteen most frequently cited publications, ten were books, one was a book chapter, two were manuals associated with psychological inventories, and six were journal articles. In addition, the top seven publications in terms of number of citations were books [22]. Prescott and Griffith conducted a survey of clinical psychologists' information needs and practices and reported that books or book chapters accounted for 43% of the publications read over the previous week that contributed to clinical work [23]. In another survey, designed to determine how much clinical psychologists read research articles and relied on other information sources, Cohen asked the respondents to rank eight information sources in terms of importance to their work. He found that 57% of respondents ranked "theoretical, practical books" among their top three sources, while 55% ranked research articles similarly [24].

THE PRESENT STUDY

The Fordham Health Sciences Library (FHSL) supports the School of Medicine, the College of Nursing and Health, graduate programs in biomedical sciences, and the School of Professional Psychology at Wright State University. It is a medium-sized academic health sciences library. The School of Professional Psychology

(SOPP) offers a program of instruction in clinical psychology leading to the doctor of psychology (PsyD) degree. The graduate program in the College of Nursing and Health leads to a master's of science degree. Biomedical sciences programs include those at the master's (M.S.) degree level (anatomy, biochemistry and molecular biology, microbiology and immunology, and physiology and biophysics) and an interdisciplinary program leading to the doctor of philosophy (Ph.D.) degree.

In their work in this setting, the authors noticed what seemed to be a different pattern of reliance on library materials between the students in the SOPP and most of the rest of the library's clientele. Books and book chapters appeared to be of greater importance to the SOPP students as they pursued their dissertation research. Lending some support to this idea was the fact that the American Psychological Association had started to include books and chapters within edited books in a systematic way in the PsycINFO database and to publish the *PsycBOOKS* index in the mid-to-late 1980s [25].

The hypothesis developed that users of the clinical psychology literature relied more on books and book chapters than most other users in a health sciences library. If this hypothesis were true, it could have implications for acquisitions budget allocations in health sciences libraries with significant services to programs or professionals in clinical psychology. The authors decided to test this hypothesis at the FHSL by examining the citations from dissertations produced by SOPP students and comparing them with citation analyses of the Wright State master's degree theses in nursing, and M.S. theses and Ph.D. dissertations in biomedical sciences.

METHODS

Dissertations and theses written between 1986 and 1996 were sampled randomly from the FHSL collection in three groups: 90 SOPP dissertations, 91 nursing master's degree theses, and 90 biomedical sciences theses or dissertations (45 M.S., 45 Ph.D.). The total number of dissertations and theses in the collection for this time period by program was 250 SOPP, 370 nursing, and 126 biomedical sciences (61 M.S., 65 Ph.D.). All citations from each paper in the sample groups were classified by format using the following categories: book, book chapter, journal article, or other. The form of citation determined the format assignment; for example, items cited as books, according to APA style [26], or other recognizable standard of citation, were counted as books. Items classified as "other" included audiovisuals, conference proceedings, court decisions, dissertations or theses, newsletters, newspapers, online databases, technical or government reports, tests

Table 1
Cited format types by graduate programs

Program	Cited format type				Total
	Books	Book chapters	Journal articles	Other	
SOPP					
Number	1,116	544	2,976	143	4,779
(Percent)	(23.35)	(11.38)	(62.27)	(2.99)	(100)
Nursing					
Number	624	185	2,193	265	3,267
(Percent)	(19.10)	(5.66)	(67.13)	(8.11)	(100)
Biomedical sciences					
Number	266	578	9,001	228	10,073
(Percent)	(2.64)	(5.74)	(89.36)	(2.26)	(100)

or inventories, and unpublished works. The information gathered was entered into a spreadsheet, and percentages of citations for the various formats were calculated. The counts of books and book chapters were combined into one category for the statistical analysis. An analysis of variance (ANOVA) was conducted to determine if the mean number of journal article citations per book citation differed significantly by graduate program. Tukey's multiple comparison procedure was conducted to determine which programs differed. Ninety-five percent confidence intervals were computed on the mean number of journal article citations per book citation for each program. The statistical analysis was conducted using SAS Version 6.12.

RESULTS

The numbers and percentages of citations for each format by graduate program are shown in Table 1. Books and book chapters together accounted for 35% of the citations in the SOPP dissertations, 25% in the nursing theses, and only 8% in the biomedical sciences theses and dissertations. The results from the analysis of variance indicated that the citations in theses and dissertations from the three programs differed significantly ($F = 162.12$ with 2 and 253 degrees of freedom, $P = 0.0001$). Results from Tukey's multiple comparison procedure indicated that the biomedical sciences theses and dissertations cited significantly more journals per book than the theses in nursing or the dissertations in SOPP. Also, the nursing theses cited significantly more journals per book than the SOPP dissertations. The assumptions of the ANOVA model were met after using a log transformation on the number of journal article citations per book citation. The mean numbers of journal article citations per book citation, with the 95% confidence intervals, are shown for each program in Table 2.

Table 2
Mean number of journal article citations per book citation by graduate program

Program	Mean journal citations/book citations	95% confidence interval minimum	95% confidence interval maximum
SOPP	2.61	2.1	3.3
Nursing	3.88	3.3	4.6
Biomedical sciences	33.27	26.9	41.2

DISCUSSION

As noted in the introduction, there are many limitations associated with citation analyses. An advantage to studies of citations from graduate student theses or dissertations is that they tend to be "collection centered" [27]. One would expect graduate students to be more dependent on the use of local collections than faculty or practicing professionals—their citations may provide a more accurate indication of local collection use. A recent study has concluded that citations in theses and dissertations might even be reasonable indicators of faculty research use of journal collections [28]. The key word here is "indicators." Librarians, and collection managers in particular, should be quick to point out that citation is not equivalent to library use, but an indicator of use [29]. This same collection-centered nature of thesis and dissertation studies, on the other hand, may be seen as a disadvantage if students have limited their literature reviews to locally available and easily obtainable items [30].

The results of the present study of dissertations in clinical psychology are similar to those found in other studies of citations from journal articles and monographs in psychology and the social sciences in general reviewed above. This similarity provides some reassurance that the authors' citation practices were not skewed appreciably by the conditions of local collections.

CONCLUSIONS

This study provides further evidence of the relative importance of books and book chapters to the discipline of clinical psychology. The format citation percentages found in PsyD dissertations at Wright State University (35% books and book chapters, 62% journal articles) are comparable to those reported in previous studies of psychology in general and the social sciences. The graduate program in clinical psychology at Wright State University appears to be closer to the social sciences than the biomedical sciences in terms of format citation patterns.

In addition, the mean number of journal articles citations per book citations is significantly different for

theses and dissertations in the disciplines of clinical psychology, nursing, and biomedical sciences at Wright State University. This result lends support to the hypothesis that users of clinical psychology literature rely more heavily on books and book chapters than do many other users of a health sciences library. Of course, further studies at a variety of locations will be needed to confirm this assertion more fully.

The variation in format citation patterns from discipline to discipline within the health sciences, as shown in this study and others [31], in addition to the limitations of citation as a measure of library use, make it doubtful that citation analyses in a single subject can be used to determine a relevant serial to monograph ratio for a health sciences library. In particular, librarians responsible for collections that include clinical psychology should be aware that a ratio of serials to monographs based on studies of the biomedical literature is likely to be inappropriate for a segment of their users.

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