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The Influences of Traditional Services on Library Use

This study, on the relationship between user preferences, library characteristics, and the frequency of library use, employing a sample of 655 students in five medical schools, supports in a tentative fashion some traditional principles relating library characteristics to frequency of use. Other factors assumed to influence library use, such as the availability of audiovisual materials or the physical comfort of the library, do not appear to be related to frequency of use.

THE SUCCESSFUL PLANNING AND DESIGN of any information system must ultimately depend on an understanding of user needs and preferences in seeking information. One important measure of a library's success as an information system is the degree to which its various services and facilities are used by its potential user group. This measure is simultaneously a good indicator of how well the library's planners and operators understand user needs related to information seeking.

A recognition of this relationship between users' needs and preferences in information

seeking and actual library use has long been a subject in library literature. Indeed, we might consider articles in which limited use of a library is attributed to some "fault" in the library information system as a separate "diagnostic-prescriptive" category in library literature.

For example, in attempting to relate students' library use to their academic achievement, Ritter found no correlation between library book borrowing and grade point average.¹ Ritter's prescription for increased use puts the burden on "the classroom . . . as of supreme importance for motivating the use of the library whether by way of formal requirements or by way of subject interest." Lubans makes a similar recommendation, after studying the percentages of nonusers in a technical-engineering course of study.²

Other prescriptions include centralizing collections for students' "convenience" and providing users with "those books that have a frequency of use that is so low, or a cost that is so high, as to prohibit individual purchase."³

Rzasa and Moriarty offer a simple formula for increasing library use: Decide what kind of reader group you wish to attract, increase the portion of the collection that will interest that group, and let the group know the books are available.⁴

Martin and his coauthors repeat the fre-

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quently heard but seldom heeded advice that librarians offer courses in methods of information seeking.⁵

Articles like these share the assumption that, if a library will only institute such-and-such a change, it will foster increased and more efficient use of its services. The operative word here is *assumption*. Although much of their advice may indeed effect the desired results if implemented, the authors of these articles offer no empirical support to encourage librarians to embrace such "improvements" and to similarly persuade administrators and budget committees.

The library field has yet to assemble convincing evidence that the traditional "principles" upon which libraries continue to be planned and operated have a direct relation to user needs. Certainly, we know that some percentage of each library's potential user group uses some of its services. What we do not know—although the literature makes frequent guesses—is why libraries are not used more often and more efficiently and whether we can really expect a suggested improvement to make a difference.

PURPOSE AND THEORY

The purpose of the study reported here is to begin to investigate the assumed cause-effect relationship between these traditional principles and frequency of library use. It is part of a larger study in which we have examined the impact of various characteristics of the information environment on the development of the information-seeking styles of medical students in a number of U.S. medical schools.⁶

It is reasonable to theorize that a person's preferences in acquiring needed information—that is, the pattern or style of information seeking—have not developed at random. Indeed, we suggest that a person's style of searching for information is a direct result not only of the kind of information needed; it is also influenced by current and past constraints on seeking information and by that person's previous experience with (i.e., success or failure in using) various sources and information-seeking methods.

Because the library is considered a major information resource in any academic or professional training environment, a portion

of the larger study was devoted to examining the library's significance in the patterns of information seeking that were reported by the sample of medical students. Specifically, the library study reported here was designed to test the general notion that the more a library implements the principle of providing service to all potential users, the more frequently it will be used. This principle was expressed in the form of the following propositions (in which may also be found the "prescriptions" that often appear in the literature for improving library utilization rates):

1. The more extensive a library's collection, the more frequently the library will be used.

2. The more a library makes audiovisual materials available to its users, the more frequently the library will be used.

3. The more effective a library's recall policy for the timely return of materials from all borrowers, the more frequently the library will be used.

4. The more a library makes recent and current materials available to its users, the more frequently it will be used.

5. The more assistance a library staff provides to users in their search for information sources, the more frequently the library will be used.

6. The more comfortable the physical environment of the library, the more frequently it will be used.

7. The more user seating a library provides, the more a library will be used as a reading/study room.

8. The more a library is used as a reading/study site, the more it will be used for other services.

DATA COLLECTION

Five major medical schools in the Midwest and on the West Coast were chosen as sites for collecting the student sample data as well as the information on the medical libraries that the students used. School D was the site of the smallest sample group—120; it was followed by school E with 125, school C with 176, school B with 266, and school A with 314.

On-site associates of the research project administered a written questionnaire to all students in each school who were willing to

participate; the sample included students from the first through the fourth year of training. (Total usable responses were 655 out of 1,001, or a response rate of 65 percent.)

In order to describe their information-seeking patterns, students were asked to respond to a number of questions that simply required checking off appropriate characteristics from a list of those that might describe their habits, their sources, and other factors relevant to their information seeking.

A few other questions asked for responses in other forms. To indicate how often they used specific information sources, for example, students were asked to check the column that represented the appropriate number of uses per period. Some questions asked that sources be given numerical ranks according to their importance to students, and others asked that they briefly describe their typical approach to seeking information to solve a specified problem.

We chose to have students report on their own use of sources rather than to depend on records of use of sources (e.g., books checked out) because the latter approach would have described students' use of only a few sources of information. The point of the entire study was to arrive at as comprehensive a picture as possible of students' preferences in using all the sources available to them, including those for which no records would be kept, such as their using their personal libraries and their consulting their professors. Since the library study was only a portion of the larger study, we gathered all data on student use patterns—whether of libraries or other sources—in a uniform fashion, through student self-reports.

As was mentioned above, the library sample that is represented in this portion of the study consists of the five medical school libraries that served the student sample. (Some hospital libraries in institutions where students were assigned for clinical training also participated in the study; data from these sources will be analyzed in a later report.)

Information was collected from the medical school libraries by way of a mailed, self-administered questionnaire that was completed by the director of library services or

some other designated person. The questionnaire consisted of two sets of identical questions—one in which information about services during an earlier period was requested, the other in which current information was to be provided. The purpose of collecting retrospective data was to identify any significant changes in library services during the period in which data were being collected from the student sample. However, almost no changes were reported, and the information regarding libraries used in this analysis all comes from the current data portions of each questionnaire.

The questionnaire items were developed to provide data on each indicator in the three categories of information according to which the libraries would be compared—holdings, staff service to users, and library physical characteristics. The result was an instrument that could provide us with a comprehensive summary description of each medical library; only those portions of the data appropriate for comparison with student data have been used in this report. The concept of designing most questions in multiple parts, so that each consecutive part represented a greater degree of service, was modeled on the approach used by Orr and his colleagues in an earlier study.⁷ Unlike our instrument, however, their questionnaire was administered by an interviewer.

An example of this kind of multilevel question is the request that the librarian describe (simply by checking the appropriate box or boxes) the kinds of services that the library staff will provide to the user who needs some references on a particular topic.

The librarian may check one, a few, or all of the following: (a) will provide guidance in compiling a list; (b) will find a reference list already compiled elsewhere; (c) will do a quick subject search and thus provide some references; and (d) will compile a comprehensive list.

In addition, such questions describing service to users asked that each user group that benefits from the service be identified, again by checking the appropriate box. In this way, services that were provided to some users (physicians and/or faculty) and not to others (students, interns, and residents) were distinguished from those services that were equally available to all users.

DATA ANALYSIS

Schools were ranked in descending order according to positive or favorable student comments for each of the variables. The data for each student variable were submitted to a standard chi-square test.

Because there were only five data points in the medical school library sample, these data were not amenable to statistical analysis. Ranking of libraries was simply accomplished by assignment of points for services provided, according to the libraries' responses to the questionnaire. The sum of points on a particular variable (detailed examples appear in the discussion of results) was the basis for ranking libraries according to their own reports of service and such other factors as the library's physical characteristics. There was only one exception made to this ranking scheme; this appears in the following discussion of libraries' holdings, in which libraries are compared on actual number of items in three categories of their collections and then ranked accordingly.

The final step in the data analysis consisted of comparing the order of rank generated by student responses to a particular variable with the order of rank based on each library's reports regarding that variable. For example, libraries were ranked according to students' perception of the availability of an adequate audiovisual collection in their library. Libraries were also ranked according to their own description of the audiovisual collection they provided to various groups of users.

These two rankings—the one based on student perceptions and the other based on library self-reports—were then compared to see if the libraries' order of rank in each was the same or comparable. Theoretically, the order of rank generated from student and library responses should be identical since they were evaluating or describing the same library characteristic. However, we found some dissimilarities and, in these cases, we attempted to suggest plausible reasons for the differences.

The next step was to compare the libraries' ranking based on frequency of use as the students had reported it, first with the student perception ranking and then with

the library self-report ranking. We made these comparisons for every variable, i.e., according to each library characteristic identified in this study. By doing so, we hoped to discover whether either of the two rankings based on descriptions of library service—or neither of them or both—might be good predictors of frequency of library use. For example, if the ranking based on student perceptions of a particular library characteristic seemed more in line with the frequency of use rank than was the library self-report ranking, we again speculated about the possible reasons for this relationship.

RESULTS

To arrive at a ranking of the libraries according to frequency of use by those responding, the questionnaire asked the respondents to indicate how often they used their school library "to obtain and work with medical information." The respondents had a choice of checking one of the following: not at all, less than once a month, one to three times a month, one to three times a week, four to five times a week, or daily.

Frequency of Use

The summary of responses on frequency of library use is shown in table 1. Responses for the three periods of most frequent use (*e*, *f*, and *g* in the table) were added for each library and divided by the total responses for that library to compute a percentage. A chi-square test indicated a difference among the responses that was significant at the .005 level ($\chi^2 = 64.52$).

In assigning ranks on this and all other student-reported measures, a tie rank was assigned when a library was within three percentage points of a library scoring more. In table 1, for example, library B is given the same rank as library E, which is only two percentage points "better" in frequency of use. Therefore, the students rank the libraries on their frequency of use as follows: A = 5, B = 3, C = 2, D = 1, and E = 3.

Library Holdings

Because the basic service that a library can perform for its users depends on its collection, the libraries were ranked on their collections by comparing three indicators of

TABLE 1
FREQUENCY OF USE OF SCHOOL LIBRARY

Frequency of Use	A		B		Libraries C		D		E	
	No.	%	No.	%	No.	%	No.	%	No.	%
(a) No answer	5	.03	5	.03	1	.01	3	.03	8	.06
(b) Not at all	26	.13	4	.02	5	.06	0	—	9	.07
(c) Less than once/month	44	.22	25	.16	8	.10	5	.05	21	.17
(d) 1-3 times/month	53	.27	59	.37	25	.32	22	.23	37	.30
(e) 1-3 times/week	49	.25	50	.31	33	.43	41	.43	37	.30
(f) 4-5 times/week	15	.08	9	.06	2	.03	14	.15	9	.07
(g) Daily	5	.03	9	.06	3	.04	10	.11	4	.03
Total Responses	197	1.01	161	1.01	77	.99	95	1.00	125	1.00
<i>e+f+g</i>										
T		.35		.42		.49		.68		.40
Rank		5		3		2		1		3

$$\chi^2 = (64.52), df = 16, P = .005.$$

each collection: (a) total number of bound volumes, (b) number of serials, and (c) average number of reserve titles per semester. The information the libraries provided to this question and the consequent rankings (for each indicator as well as overall) appear in table 2.

The overall rank on a measure of holdings was as follows: A = 5, B = 4, C = 1, D = 2, and E = 3. This overall rank is based upon an average of the individual rankings on each of the three indicators, generated by permitting each of the three indicators to assume equal importance. This strategy is supported in part by the fact that each of the three individual rankings has some similarity to the frequency of use ranking, which suggests that each may have an independent influence on frequency of library use.

The ranking on the library holdings measure was compared to the ranking for the students' frequency of use. (A ranking for students' perception of the size of library holdings was omitted because such a ques-

tion would have provided meaningless information.) The ranking on library holdings tended to correspond to the libraries' ranking on frequency of use (see table 2). These results seem to support our first proposition: The more extensive a library's collection, the more frequently it will be used.

Audiovisual Materials

A ranking based on libraries' responses regarding their audiovisual material collections took into account information about each library's providing the following: (a) films; (b) microfilm; (c) audio tapes; (d) equipment for using the above in the library; (e) above A-V materials for use outside the library; (f) equipment for using available materials outside the library; and (g) assistance in obtaining A-V materials from another source if they are not in the library's collection.

To arrive at a rank, a "yes" response to each of the above indicators was assigned one (+1) point; a "no" response was as-

TABLE 2
LIBRARY DATA FOR RANK ON HOLDINGS

Indicator of Holdings	Libraries				
	A	B	C	D	E
(a) Bound volumes	66,685	187,305	235,368	250,000	73,000
(a) Rank	5	3	2	1	4
(b) Serials	1,808	1,300	3,996	2,471	2,000
(b) Rank	4	5	1	2	3
(c) Reserves/semester	300	300	2,700	800	300
(c) Rank	3	3	1	2	3
Overall Rank	5	4	1	2	3
Frequency of Use Rank	5	3	2	1	3

signed minus one (-1); and an answer that indicated that the library provided the service to some users (e.g., physicians and faculty) but not to others (e.g., medical students) was assigned minus two (-2) points, because such "differential service" invariably excluded student users from its benefits.

The ranking of the five libraries was then based on the sum of the points assigned to all indicators for one measure. Thus, as may be seen in table 3, on the measure of availability of audiovisual materials, the libraries are ranked as follows: A = 3, B = 2, C = 1, D = 5, and E = 3.

Students' perception of the adequacy of a library's audiovisual material collection was elicited in the student questionnaire by an item asking for agreement or disagreement with the perception that the library had "inadequate audiovisual aids." Their responses appear in table 4. Because a "yes" response indicates an unfavorable perception of a library's audiovisual holding, the library with the lowest percentage of affirmative responses is ranked first, and so on.

The libraries are ranked as follows, based on students' perception of the adequacy of their audiovisual collections: A = 2, B = 2, C = 1, D = 5, and E = 4.

A comparison of the three rankings for this measure (based on library self-reports, on students' perception, and on frequency of use) appears at the foot of table 4. The library ranking closely matches the students' ranking based on their perception of the adequacy of audiovisual materials at their libraries.

However, neither of these two rankings

TABLE 3

LIBRARY DATA FOR RANK ON AVAILABILITY OF AUDIOVISUAL MATERIALS

Indicators of Availability of Audiovisual Materials	Libraries				
	A	B	C	D	E
(a) Film	-1	1	1	-1	-1
(b) Microfilm	-1	1	1	-1	-1
(c) Audio tapes	1	1	1	1	1
(d) Equipment in library	1	1	1	1	1
(e) A-V materials outside library	1	1	1	-1	-1
(f) Equipment outside library	1	1	1	-1	-1
(g) Assistance in obtaining elsewhere	-1	-1	1	-1	-1
Total	-1	5	7	-3	-1
Rank	3	2	1	5	3
Frequency of Use Rank	5	3	2	1	3

Note: Yes = +1. No = -1. Differential policy = -2.

matches the frequency of use ranking closely enough to support our second proposition: The more a library makes audiovisual materials available to its users, the more frequently it will be used. It is possible to interpret this finding by saying that some schools probably maintain audiovisual materials in departments and/or laboratories separate from the library. If this is the case, students would perceive the library's audiovisual collection as adequate because they had access to such materials elsewhere and had used them.

Therefore, if audiovisual materials are maintained elsewhere, a limited A-V collection in the library is not a good predictor of frequency of overall library use. If such materials are not maintained elsewhere, the A-V ranking would probably be a good pre-

TABLE 4
STUDENT DATA FOR RANK ON INADEQUATE AUDIOVISUAL AIDS

Students' Perceptions*	A		B		C		D		E	
	No.	%	No.	%	No.	%	No.	%	No.	%
No	288	.92	237	.89	169	.96	99	.82	107	.86
Yes	26	.08	29	.11	7	.04	21	.18	18	.14
Total	314		266		176		120		125	
Yes										
T		.08		.11		.04		.18		.14
Student Rank	2		2		1		5		4	
Library Rank	3		2		1		5		3	
Frequency of Use Rank	5		3		2		1		3	

*For student data, $\chi^2 = (17.23)$, $df = 4$, $P = .005$.

dicator. We assume that in some schools students do have access to adequate audiovisual materials elsewhere in the school, and that in these schools the students might not judge library holdings of audiovisual aids—however limited—as “inadequate.”

Recall Policy

A ranking based on libraries' responses regarding their recall of overdue materials was developed by a comparison of the following two factors: (a) routine recall of overdue materials from all borrowers; and (b) routine imposition of fines for overdue materials on all borrowers.

A positive response to each of the above was assigned one (+1) point; a negative response was assigned minus one (-1); a response that indicated different policies for different user groups (that is, student borrowers' materials were recalled and fined when overdue, while physicians' and faculty's were not) was assigned minus two (-2). As previously, the ranking of the five libraries on this measure was based on the sum of the points assigned to the two indicators (table 5). The libraries were ranked as follows: A = 5, B = 4, C = 2, D = 1, and E = 2.

Students expressed their opinion of their library's recall system by agreeing or disagreeing with the statement that their library has “a poor system of book and journal recall, especially for books borrowed by faculty.” Their responses appear in table 6. Agreement with the statement represents an unfavorable opinion of the library's recall system, so that the library with the lowest

TABLE 5

Indicators of Recall Policy	Libraries				
	A	B	C	D	E
(a) Will recall overdue materials	-2	-1	1	1	1
(b) Will fine for overdue materials	-2	-1	-2	-1	-2
Total	-4	-2	-1	0	-1
Rank	5	4	2	1	2

Note: Yes = +1; No = -1; Differential policy = -2.

percentage of positive responses is ranked first, and so forth. According to the students' perceptions of the recall system, the libraries are ranked as follows: A = 3, B = 4, C = 1, D = 4, and E = 2.

A comparison of student and library rankings on this measure with the frequency of use ranking appears at the foot of table 6. Although some similarity may be seen between the students' ranking and the rankings based on library self-reports, the match in order of ranks is not close. However, students' frequency of use compares closely with the library ranking, which seems to indicate that library self-reports regarding recall policy are the better predictor of frequency of use in this instance.

We might speculate that student perception of the effectiveness of the recall policy does not match the library self-reports, because students' experience with the system is somewhat limited. In other words, materials essential to course work may be routinely available through a reserve system in which materials change hands quite frequently.

TABLE 6
STUDENT DATA FOR RANK ON POOR RECALL SYSTEM
ESPECIALLY ON MATERIALS FACULTY BORROWED

Students Perceptions*	A		B		C		D		E	
	No.	%	No.	%	No.	%	No.	%	No.	%
No	254	.82	208	.78	166	.94	95	.79	110	.88
Yes	57		59		10		25		15	
Total	311		267		176		120		125	
Yes										
T		.18		.22		.06		.21		.12
Student Rank	3		4		1		4		2	
Library Rank	5		4		2		1		2	
Frequency of Use Rank	5		3		2		1		3	

*For student data, $\chi^2 = (29.32)$, $df = 4$, $P = .005$.

TABLE 7
STUDENT DATA FOR RANK ON RECENT BOOKS
AND JOURNALS BEING UNAVAILABLE

Students' Perceptions*	A		B		Libraries C		D		E	
	No.	%	No.	%	No.	%	No.	%	No.	%
No	228	.73	219	.82	169	.96	103	.86	110	.88
Yes	83		47		7		17		15	
Total	311		266		176		120		125	
Yes										
T		.27		.18		.04		.14		.12
Student Rank	5		4		1		2		2	
Frequency of Use Rank	5		3		2		1		3	

*For student data, $\chi^2 = (44.96)$, $df = 4$, $P = .005$.

Availability of Recent Materials

Useful data were not obtained from libraries on their activities in acquiring and making available current materials to users; therefore, a library ranking was not generated for this measure. Students were asked for their opinion in this regard, however, which they expressed by agreeing or not with the statement that "most recent books and journals are unavailable." The tabulation of their responses appears in table 7; the students ranked the libraries as follows: A = 5, B = 4, C = 1, D = 2, and E = 2.

Although the match is not exact, there is a close similarity between this students' ranking order and the ranking by frequency of use (A = 5, B = 3, C = 2, D = 1, and E = 3). This similarity tends to support the proposition that a library will be used more frequently the more that recent/current books and journals are made available to users.

Staff Service to Users

To generate a ranking on the measure of a library's staff effort to acquaint users with the holdings and instruct them in the use of services, each library was asked to report its activity in regard to the following service indicators: (a) availability of formal courses in the use of the library and of information sources; (b) availability of informal user orientation; (c) availability of a map of the library and of various collections; (d) distribution of "new acquisitions/services" lists to all users, not just faculty and/or physicians; and (e) library staff's willingness to give a user various degrees of assistance in developing a reference list on a specific

subject—guidance in compiling it, finding a list compiled elsewhere, doing a guide subject search for some references, and compiling an exhaustive list.

Again using the method of assigning points according to a library's response to each indicator (see table 8), the following library ranking was generated: A = 4, B = 1, C = 2, D = 5, and E = 2.

Students were asked to express their opinion of staff effort on their behalf by either agreeing or disagreeing with the statement that there was "no staff effort to acquaint students with holdings." As can be seen in table 9, the resulting ranks (A = 5, B = 4, C = 1, D = 1, and E = 3) do not match the library ranks, but they are very similar to the frequency of use rank.

We may conclude from this comparison that students' perceptions of staff effort on their behalf may have greater impact on

TABLE 8
LIBRARY DATA FOR RANK ON STAFF EFFORT
TO ACQUAINT USERS WITH HOLDINGS

Indicators of Staff Effort	Libraries				
	A	B	C	D	E
(a) Formal information course	-1	-1	-1	-1	-1
(b) Library orientation	1	1	1	1	1
(c) Library/collections map	-1	1	1	1	1
(d) New acquisitions list	1	1	1	-1	-2
(e) Reference assistance					
Guidance	1	1	1	1	1
Existing list	1	1	1	1	1
Quick search	1	1	1	1	1
Exhaustive list	-1	-1	-2	-2	1
Total	2	4	3	1	3
Rank	4	1	2	5	2

Note: Yes = +1; No = -1; Differential service = -2.

TABLE 9
STUDENT DATA FOR RANK ON STAFF EFFORT
TO ACQUAINT USERS WITH HOLDINGS

Students' Perceptions*	A		B		Libraries C		D		E	
	No.	%	No.	%	No.	%	No.	%	No.	%
No	246	.79	220	.83	166	.94	113	.94	112	.90
Yes	65	.21	46	.17	10	.06	7	.06	13	.10
Total	311		266		176		120		125	
Yes T		.21		.17		.06		.06		.10
Student Rank	5		4		1		1		3	
Library Rank	4		1		2		5		2	
Frequency of Use Rank	5		3		2		1		3	

*For student data, $\chi^2 = (32.54)$, $df = 4$, $P = .005$.

their use of the library than will a library's formal policy regarding direct staff assistance to individual users. We might also speculate that formal policy may not always be reflected in practice; various constraints of cost, time, and staff size may render library policies in this regard impractical to implement thoroughly. Students perceive the benefits of implementation, not the good intent of policy.

Of course, it is also possible that some students do not seek staff assistance because they mistakenly anticipate their requests' being rejected. Nevertheless, this misconception by students is due at least in part to lack of information from the library staff about services they are willing to provide. Or it might derive from those students' limited or vicarious experience—one or two negative incidents with staff.

Whichever combination is the source of decreased library use, the results of ranking on this measure seem to support the proposition that the more users perceive library staff members are willing to help them in their information seeking, the more frequently they will use the library.

Physical Environment

The libraries' physical environments were compared and a ranking was generated by the request that each library describe the following characteristics about itself that would influence a user's perception of the comfort of the physical environment: (a) whether the user has the option of sitting and working in partial isolation from the normal noise and traffic of a library, in no

isolation, or in relatively complete isolation; (b) whether the library's collection is centralized in one building; (c) whether, to obtain a document, users may choose to find it in the stacks themselves, verbally ask a staff member to find it, or complete a written form requesting that a staff member retrieve the document; (d) whether the library provides group study areas; (e) whether the library is air-conditioned throughout user areas; (f) whether eating facilities are conveniently adjacent to the library; and (g) whether smoking is permitted in some user areas.

The method of assigning points was used to develop a ranking for this variable, as it was for the others. For indicators (a) through (d), plus one (+1) was assigned for a positive response and minus one (-1) for each negative response. Indicators (e), (f), and (g) were combined into the comfort index to prevent their having as much individual influence in generating a final rank as any of the more important indicators, (a) through (d). A comfort index of plus one (+1) was assigned if a library provided two of the three comfort indicators; minus one (-1) was assigned when only one comfort factor was provided; and minus two (-2) was assigned if none of the comfort indicators were present.

In addition, each library provided information about the number of square feet it allotted to user seating. Libraries A and C reported providing 7,500 square feet and 7,400 square feet, respectively, for which they were each assigned a plus one (+1). Libraries B and D indicated their user seat-

TABLE 10
LIBRARY DATA FOR RANKING ON LIBRARY'S
BEING PHYSICALLY SATISFACTORY

Indicators of Quality of Physical Environment	A	B	Libraries C	D	E
(a) seating choice					
partial isolation	1	1	1	-1	-1
no isolation	1	1	1	1	1
isolation	1	1	-1	-1	-1
(b) centralized collection	1	1	-1	-1	1
(c) to obtain document					
user access to stacks	1	1	1	1	1
verbal request of staff	-1	-1	1	-1	-1
request form	-1	-1	1	-1	-1
(d) group study areas	1	1	1	-1	-1
(e) comfort index*	1	-1	-2	1	1
(f) user seating†	1	-1	1	-1	-2
Total	6	2	3	-4	-4
Rank	1	3	2	4	4

*Comfort Index was generated by assigning points for the following measures: availability of air conditioning throughout user areas, access to adjacent eating facilities, and availability of separate smoking/no-smoking areas.

†Points were assigned for availability of user seating space as follows: A (7,500 sq. ft.) = 1; B (4,400 sq. ft.) = -1; C (7,400 sq. ft.) = 1; D (4,500 sq. ft.) = -1; E (500 sq. ft.) = -2.

ing areas were 4,400 square feet and 4,500 square feet, respectively; these facilities were assigned a minus one (-1) on this indicator. Finally, 500 square feet were allotted to user seating at Library E, which was assigned (-2).

As table 10 indicates, the points thus assigned were added, and the resulting sums generated the following ranking: A = 1, B = 3, C = 2, D = 4, and E = 4.

Students were asked to indicate their perceptions of the quality of their library's physical environment by agreeing or disagreeing with the statement "The library is physically unsatisfactory." A comparison of their responses yielded the following rank-

ing: A = 1, B = 3, C = 2, D = 5, and E = 3 (table 11).

A comparison of the ranking based on students' perceptions of their libraries' physical comfort with the ranking based on library data shows that they match very closely in order of rank (table 11).

However, neither of these rankings compares closely with the ranking based on students' frequency of use; we, therefore, cannot claim support for the hypothesis that the physical environment—either the conditions under which materials are used or the constraints that govern a student's immediate access to the materials—has a significant influence on library use. Nonethe-

TABLE 11
STUDENT DATA FOR RANK ON LIBRARY'S
BEING PHYSICALLY UNSATISFACTORY

Students' Perceptions*	A		B		Libraries C		D		E	
	No.	%	No.	%	No.	%	No.	%	No.	%
No	288	.93	215	.81	155	.88	80	.69	97	.78
Yes	23		51		21		36		28	
Total	311		266		176		116		125	
Yes										
T		.07		.19		.12		.31		.22
Student Rank	1		3		2		5		3	
Library Rank	1		3		2		4		4	
Frequency of Use Rank	5		3		2		1		3	

*For student data, $\chi^2 = (44.62)$, $df = 4$, $P = .005$.

less, there is some indication that physical factors may influence *how* a library is used, when it is used.

The objective ranking of libraries according to availability of user seating (A = 1, B = 3, C = 1, D = 3, and E = 5) tends to match the students' ranking based on their use of the library as a reading room (A = 2, B = 2, C = 1, D = 3, and E = 5) (table 12). Neither of these rankings matches overall frequency of use, which seems to indicate that use of the library for this special purpose does not necessarily foster use in general.

SUMMARY AND CONCLUSIONS

The results reported above seem to indicate that at least some of the traditional principles that govern library operation have a basis in fact. As one would expect, the larger library collections seem to attract greater frequency of use. So too does the more effective recall system appear to relate to increased utilization rates among the students reporting in this study. Again in regard to library materials, students seem to use a library more frequently in relationship to its making available more recent/current materials. Less expected a finding is the lack of a match between frequency of use and evaluation either by students or librarians of audiovisual holdings and equipment.

In regard to services other than materials, students and their libraries appear to disagree about how much assistance the respective library staffs provide to student users; and it is the students' perceptions of

this factor—more than the libraries reports—that tend to be more in line with the frequency of library use.

Finally, in regard to the libraries' physical environment, students and libraries seem to agree about the comfort level of the physical space and the degree to which library use is either supported or constrained by physical limits. Nevertheless, neither of these rankings of libraries seems to match the frequency of use ranking, which leads us to suggest that the physical environment is not a significant determinant in library use.

The only relationship that the data appear to support is that of available user seating/work space to the frequency with which a library is used as a reading room. Again, neither of these seems to match overall frequency of use, however; so we must reject the proposition that use of a library for one purpose (such as a reading room) will necessarily engender its use for other purposes.

Because the library sample in this study is small and the indicators used are broad enough to permit preliminary investigation of the relationship between principles of service and library use, the conclusions summarized above are necessarily tentative. However, they are useful for several reasons. They give some empirical support to several—though not all—assumptions that have been translated into library policy for several decades. They also suggest that two of these assumptions could stand further investigation.

Although the literature has frequently suggested that the library should add to

TABLE 12
STUDENT DATA FOR RANK ON REGULAR
USE OF LIBRARY AS READING ROOM

Students' Responses*	Libraries									
	A		B		C		D		E	
	No.	%	No.	%	No.	%	No.	%	No.	%
No	129	.30	115	.30	58	.21	51	.30	68	.37
Yes	298		264		216		118		114	
Total	427		379		274		169		182	
Yes										
T		.70		.70		.79		.70		.63
Student Rank	2		2		1		2		5	
Library Rank†	1		3		1		3		5	
Frequency of Use Rank	5		3		2		1		3	

*For student data, $\chi^2 = (14.86)$, $df = 4$, $P = .005$.

†Based only on comparison of user seating and work areas (See Table 10, footnote†).

their primary services audiovisual materials and their related, often expensive, equipment, our findings suggest that such materials are not a significant determinant of frequency of library use. Either the time may not yet be ripe for students' widespread use of such materials, or, as we mentioned previously, audiovisual materials—at least in the university medical center—are more appropriately controlled by individual departments. Whichever the reason, it may not yet be time to set a high priority on allocating major funds for this purpose.

Another study result worthy of further investigation is the lack of support for our proposition that the more comfortable the physical environment, the more frequently a library will be used. Considering that in recent years, libraries have spent considerable sums on expanding and refurbishing their facilities partly in the belief that this proposition is true, perhaps the profession might reconsider that assumption and conclude that an attractive and comfortable physical environment may have many other

advantages, but its power to increase library use is limited.

We suggest that this reconsideration is important also in light of the fact that students and library staff do not seem to agree about how well the libraries are serving all their users. It is interesting to note that agreement exists when the object of the evaluation is something inanimate that can be counted or measured—such as various categories of holdings or square feet of space.

However, when the object of evaluation is related to personal contact between library staff and student users, libraries do not seem to fare as well in students' opinion as their policies indicate they should. And, in this case—the significance of staff service—students use the library as their perception of staff assistance dictates. We are led to suggest that libraries take the advice that frequently appears in the literature and develop more effective mechanisms by which to assist student users directly in their information seeking.

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