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What Scheme Do We Prefer?
An Examination of Preference Between
Library of Congress and *Dewey Decimal Classification*
Among U.S.-Based Academic Library Employees

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Abstract: Though several studies have been published on the topic of reclassification of academic library collections over the past eight decades since it first gained popularity, none have explored the preferences of academic library employees toward classification schemes beyond a merely superficial level. The preferences of library employees must serve some role in organizational decision-making. By distributing a mixed-methods survey to academic library employees across the United States, the researchers in the present study provide insight into employee preferences. The findings of the study may provide insight into library trends and the future of library classification schemes.

1.0 An examination of preference formation among U.S.-based academic library employees

Dewey Decimal Classification has been on the decline in U.S.-based academic libraries for over six decades. In 1955, Thelma Eaton found that 80% of academic libraries used *Dewey Decimal Classification*; by 1975 this had dropped to 41% (Comaromi, Michael and Bloom 1975), and in 1995 was only 25% (Dewey 1996). A recent study by the researchers on the present study examined the schemes at 3,793 two-year and four-year institutions in the United States and found that only 13.5% of academic libraries in the U.S. use *Dewey Decimal Classification*. There has been a tremendous decline in the use of *Dewey*—roughly 1.5%

year-over-year—but does the movement away from this scheme correlate with the preferences of academic library employees and, if so, why? What do "we" prefer? An empirical examination of the preference of library employees may put evidence to what many catalogers already believe, or present counter-indications that might have influence on classification decision-making.

2.0 Literature review

2.1 Preference for library classification

There are several key differences between *Dewey Decimal* and Library of Congress *Classification* schemes that may in-

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fluence preferences among academic library employees. The most obvious difference between *Dewey* and Library of Congress *Classification* is the notation of the systems. LCC uses alphanumeric notation, which provides greater flexibility than *Dewey*'s numeric-only scheme. The alphanumeric combination of LCC lends to a much broader offering of classes (twenty-six options for a letter versus only ten for a number). *Dewey* has far fewer classes (fewer than one-fifth of the classes of LCC) (Joudrey, Taylor and Miller 2015). Thus, simply by the design it would seem more intuitive to use LCC for larger collections that need more detail and *Dewey Decimal Classification* for smaller collections that are less concerned with breadth.

Dewey Decimal Classification and Library of Congress *Classification* can also be analyzed from a historical context to ascertain their intended uses. For instance, there is a strong argument to be made that *Dewey Decimal Classification* was never designed to be used with large collections. As discussed in the prior paragraph, *Dewey* has a limited number of classes that often do not capture all the categories of a modern, large-scale library collection. Melvil Dewey, when developing the system nearly 150 years ago, had likely not encountered a library with a collection of more than one million volumes. According to the 1904 World Almanac (published three decades after the *Dewey Decimal System of Classification* was first published), only five libraries in the world had collections exceeding one million volumes and only one of which, the Library of Congress with one million volumes, was in the United States (The Press Publishing 1903). The largest academic library in the United States was Harvard University's, with just over 500,000 volumes. The New York State Library and Columbia University Library, the two institutions where Dewey spent most of his career, both had far fewer than 500,000 volumes (423,000 and 295,000 respectively). In fact, only eighty-nine universities in the United States (9% of all universities at the time) even had a dedicated library for their students.

Contrast this with today, when there are nearly 3,800 academic libraries in the United States and even smaller universities often amass collections exceeding one million volumes. Dewey's institution, Columbia University, now has a collection of over eleven million volumes (American Library Association 2018b). The Library of Congress has nearly thirty-five million volumes and over 100 libraries have more than three million volumes. The world of library science in which Dewey developed his system was vastly different from that of today. Is it possible that library employees recognize that the system was not devised for large academic libraries and this informs their preferences?

Another prevalent consideration is bias in the classification schemes. Several recent articles discuss a bias within *Dewey Decimal Classification* that is less prevalent in Library of Congress *Classification* (Mai 2013; Mai 2016; Higgins 2016; Fox 2015). Dewey was developed in the 1870s and at the center of a Christian and Eurocentric world in New York, United States. Resultantly, the scheme lacks the breadth of classification particularly for non-Christian religions and non-white cultures. This has led to several authors having a negative opinion of the system regardless of the actual intricacies of *DDC*.

Preferences could be shaped by several practical factors, including cost, size of collection, specialties of staff, and standards among libraries and consortia. Libraries are reliant on the abilities of their employees and, given library and information education in the United States, many of the potential employees are leaving schools with an emphasis in one scheme more so than the other (Turvey and Letarte 2002). This is often Library of Congress *Classification*, due to the relationship with library schools to academic libraries on campus and the prevalence of LCC in these libraries. As such, the early-career employee pool favors LCC, and, thus, it is easier to find a cataloger with expertise in this system than in *DDC*.

Libraries may also consider what system is most accessible to them. Many books in the United States come with preassigned classmarks/call numbers, particularly in Library of Congress *Classification* as each book that institution receives is automatically assigned an LCC call number (Library of Congress [2018]). This assists the cataloger in streamlining the classification process and getting the book on the shelf. Thus, the materials selected may dictate the classification scheme used as well as the factors imposed by the library itself.

2.2 Theories of preference formation from outside library and information science

While practical factors may partly or completely describe the preferences for classification schemes, several psychological and sociological theories also attempt to describe preferences and how they form. This study will examine these theories to determine whether any evidence of the phenomena can be extrapolated from the findings.

Stigler and Becker, in their seminal 1977 article "De Gustibus Non Est Disputandum," argued that preferences are relatively stable and only change to maximize utility. Their economic view of preferences is widely debated even four decades after its publication (Gimper 2007). Based on this conceptualization of preference development, preferences towards classification would be strongly influenced by perceived greater utility of a scheme (i.e., rating a scheme higher should be correlated with a much greater likelihood of preferring that scheme).

Another potential explanation of preference formation is the extensiveness theory. This type of theory (which has many variations) emphasizes both quantity and quality of

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experiences in influencing preference (Hoeffler et al. 2013). This theory applied to library classification preferences might manifest in not just the system used but the position held, the size of the library, and its geographic region, all of which may influence how or to what extent the scheme is used. In the mere exposure effect, the researchers expect the strongest correlation of preferences to be the system currently used, with much weaker correlations for other variables. Certainly, the two theories are related, but the extensiveness theory is more of a proactive phenomenon versus mere exposure, which is passive. The researchers in this study hypothesize that that the preferences of academic library employees will lend more credence to mere exposure than extensiveness.

The mere exposure effect was first described by Zajonc (1965). According to Zajonc, the mere exposure effect is a psychological principle that suggests that (3), "mere repeated exposure of the individual to a stimulus is a sufficient condition for the enhancement of his attitude toward it." According to Zajonc, this effect is largely independent to the type of stimulus (and what is receiving the stimulus—e.g., the phenomenon has been found across the animal kingdom) and has little to do with whether the stimulus is pleasurable, neutral, or even detrimental. It suggests that preferences form largely without an objective evaluation of what is better, rather favoring what is familiar.

Some evidence of these theories may be found in the results of the present study. For instance, if the scheme used by library employees correlates with the scheme preferred, this might lend some support for the mere exposure effect in the formation of classification preference. If respondents prefer the system that they rate highly on both ease of use and effectiveness of organization, this might lend some support to the extensiveness theory of perceived quality. Ultimately, what this study will do best, however, is give a more complete picture of what library employee preferences are currently. In this respect, the researchers hypothesize that trends from *Dewey Decimal Classification* to Library of Congress *Classification* correlate to a trend in preference that will be reflected in the results as a strong preference for Library of Congress *Classification*.

3.0 Methodology

To explore academic library employee preferences toward classification schemes the following research questions were developed:

1) What are academic library employee preferences toward *Dewey Decimal Classification* and Library of Congress *Classification*?
2) Are academic library employees' classification preferences correlated with the system they currently use?

To assist in addressing these questions, the researchers also developed four subquestions:

1) Do academic library employee preferences have a strong correlation with the type of institution which the employees work (community college vs. four-year institution)?
2) Do academic library employee preferences have a strong correlation with employment status (faculty/staff vs. dean/director)?
3) Do academic library employee preferences have a strong correlation with the number of years' experience an employee has achieved?
4) Do academic library employee preferences have a strong correlation with the size of the college or university in which the employee is currently working?

To investigate these research questions, the researchers utilized a mixed-methods survey. This survey consisted of seven demographic questions, seven quantitative evaluative questions, and two qualitative evaluative questions. The demographic questions asked for basic (non-identifying information) about the survey respondents: system currently used in your library, educational attainment (MLS vs. non-MLS), position status (faculty/staff/director/dean), amount of experience working in libraries, type of the college/university employed (two-year vs. four-year). The seven quantitative questions were divided into four Likert scale items that ask respondents to rate *Dewey* and Library of Congress *Classification* schemes on "ease of use" and "effectiveness of organization" as well as three multiple choice questions that ask respondents to select their preferred scheme (*Dewey Decimal Classification*, Library of Congress *Classification*, no preference) in general, as an academic library user[1] and as an academic library employee. If an individual had no experience with a classification scheme, they were asked to select zero on the Likert Scale items, and this response was then removed from the data during analysis.

The two qualitative questions ask respondents to provide a text response for the following questions:

1) In reference to the previous question ("Please indicate which of the following systems of classification you prefer AS AN ACADEMIC LIBRARY FACULTY/STAFF MEMBER"), please provide any additional information about why you prefer one classification scheme over the other
2) If your library considered, is considering, or made the switch from one classification scheme to another scheme during your tenure at the library, please describe what factors you believe contributed to the decision whether or not to make the switch (e.g. "We switched from x classification system to y classification system because ....)

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The survey was distributed via email to 1,855 academic library employees across the United States. These individuals were selected using a list of academic libraries derived from the American Library Directory (Torpie at al. 2018) using definitions of two-year and four-year public and private institutions supplied by Carnegie Classifications (Indiana University 2017). Libraries that met this criterion (n=3,793) were assigned a number. These numbers were entered into a random number generator that then selected 200 initial survey colleges.

Email addresses were collected for all employees at the 200 colleges using publicly available information on their websites. An email was sent to everyone on this list, asking them to complete the survey and encourage their colleagues to do the same. The survey was also distributed, via the CJCLS Listserv) to community and junior college librarians to increase the response number for this demographic and improve the quality of comparisons.

The survey was created using the Qualtrics online survey tool. This tool helped significantly with the data analysis process. Quantitative data were compiled and sorted based on demographic categories as well as stored as part of the total calculations. To analyze the qualitative data, the team followed a seven-step integrated, analytic-inductive approach adapted from the work of Marshall and Rossman (2006). Both team members read all the survey responses to get a sense of the responses. Then both team members reread the data marking all direct responses to the question. Looking for patterns in the data, direct responses were organized into categories that emerged. Each response was sorted into the appropriate category using the respondents' actual words. The results were reviewed, looking for overlap and redundancy and to refine and revise the category titles. From the survey, instances of verbatim narrative were selected to illustrate categories. These findings are displayed in the results section below.

With the data compiled based on demographic factors, measures of statistical significance were calculated. These measures enabled the researchers to determine relationships between demographics factor and preferences, thus testing the hypothesis of the mere exposure effect. Additionally, correlation coefficients were found to further demonstrate relationships.

4.0 Results

The survey received responses from 814 respondents (response rate = 44%). According to American Library Association statistics, this represents approximately 1% of the total academic library employees in the United States (American Library Association 2018a). Of the respondents, 12.4% work at an academic library that uses *Dewey Decimal Classification*, 81% work at a library that uses Library of Congress *Classification*, and 6.7% use another or both schemes. This proportion of library classification use compares favorably to recent statistics found by the researchers in this study, which visited the websites of 3,793 academic libraries and found that 13.5% currently use *Dewey Decimal Classification* to classify new acquisitions. The rate of 13.5% would fit comfortably within the margin of error of the present study and thus demonstrates the representative distribution of survey respondents.

The respondents were not required to answer any question on the survey. While the quantitative questions were marked as "required," respondents who lacked experience with one of the schemes were asked to select "0" on the Likert scale, and all zero scores were removed from the final results. The qualitative questions are experiential (meaning that many respondents may not have the experiences necessary to properly answer the questions), yet still received a sizeable response rate. Question one (what factors do you believe contributed to your preferences) received 570 responses, which translates to 70% of the total respondents. Question two (what factors influenced a reclassification decision) received 352 responses, or 43% of the total respondents.

Tables 1 and 2 below display the complete statistics of the quantitative questions for all 814 respondents. The general survey respondents preferred Library of Congress *Classification* to *Dewey Decimal Classification* at a nearly 13:1 ratio. On a five-point Likert scale, the respondents favored *LCC* by nearly one point on ease of use and over one point on effectiveness of organization. Even with a fairly large survey group, it is notable that the standard deviation of the Likert data sets is quite dramatic (1.37, 1.45 for *DDC* ratings; 0.91, 1.0 for *LCC*). The researchers believe these large standard deviations may be attributable to the polarization of opinions toward library classification schemes. Those who strongly preferred one scheme not only gave it a high rating (4.5-5.0/5.0) but gave the other scheme a very low rating (1.0-1.5/5.0). This interpretation is supported by the qualitative data, which demonstrates the polarity of opinions toward the two major library classification schemes.

Tables 3 and 4 below display the full qualitative findings from the survey. The first qualitative question asks respondents to provide more information about why they believe they prefer one classification scheme over the other. The categories that emerged from the data were typically associated strongly with one of the two schemes. For instance, those who stated that granularity effects their preference typically preferred Library of Congress *Classification*, whereas those who named "ease to learn/use" typically preferred *Dewey Decimal Classification*.

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Likert Scale 1 and 2: Rate these schemes according to ease of use			
Scheme	Mean	Standard Deviation	Variance
Dewey Decimal System of Classification	2.92	1.34	1.8
Library of Congress System of Classification	3.86	0.91	0.83
Likert Scale 3 and 4: Rate these schemes according to effectiveness of organization			
Field	Mean	Standard Deviation	Variance
Dewey Decimal System of Classification	2.66	1.45	2.11
Library of Congress System of Classification	3.88	1	1.01

Table 1. Likert data for complete survey.

Scheme You Prefer in General		
Scheme	Percent Prefer	Number Prefer
Dewey Decimal System of Classification	5.93%	48
Library of Congress System of Classification	82.84%	671
No Preference	11.23%	91
Scheme You Prefer as An Academic Library User		
Scheme	Percent Prefer	Number Prefer
Dewey Decimal System of Classification	9.38%	76
Library of Congress System of Classification	78.40%	635
No Preference	12.22%	99
Scheme You Prefer as An Academic Library Employee		
Scheme	Percent Prefer	Number Prefer
Dewey Decimal System of Classification	8.89%	72
Library of Congress System of Classification	80.99%	656
No Preference	10.12%	82

Table 2. Non-Likert quantitative data for complete survey.

Question 12: In reference to the previous question ("Please indicate which of the following systems of classification you prefer as an ACADEMIC LIBRARY FACULTY/STAFF MEMBER"), please provide any additional about why you prefer one classification scheme over the other.
Number of Question Respondents = 570 (70%); Total Number Response Items = 605;
Number Who Accepted the Survey = 810; Number Who Declined Survey = 4;
Number of Respondents Who Skipped Question 12 = 240

Question 13: If your library considered, is considering, or made the switch from one classification scheme to another scheme during your tenure at the library, please describe what factors you believe contributed to the decision whether or not to make the switch (e.g. "we switched from x classification system to y classification system because…").
Number of Question Respondents = 352 (43%); Total Number Response Items = 135;
Number Who Accepted the Survey = 810; Number Who Declined Survey = 4;
Number of Respondents Who Skipped Question 13 = 458

These qualitative data show the manifestation of a preference but do not necessarily show the etiology of said preference. In other words, we cannot say based on this information whether granularity informed a preference for Library of Congress *Classification* or whether a preference for Library of Congress *Classification* informed a concern about granularity. Preferences may incite a confirmation bias, which causes the individual to notice faults in the other classification scheme while not recognizing faults in the system they prefer.

The second set of qualitative data displays reasons why libraries do or do not reclassify. Cost is listed as the top reason, both the argument that it is too expensive to reclassify and the argument that it is cheaper to switch schemes because—for instance—many materials now come with Library of Congress *Classification* call numbers already assigned. A common report is that academic libraries are reclassifying in phases. This is demonstrated in the dual classification to single category. Libraries will, for a time, have a certain portion of the collection in *DDC* and the rest in *LCC* and slowly reclassify the entire collection over the period of several years.

Given the demographic factors, the researchers were able to perform a series of statistical analyses to determine the relationship between demographics and preferences. The first of these analyses is the relationship between the system currently used and the system preferred, shown in Table 5 below. Respondents that currently use *Dewey Decimal Classification* prefer *Dewey* to Library of Congress *Classification* for ease of use 3.68 to 3.23, while those who use

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Category (9)	Number	Illustrative Quotes
Granularity	134	"LC has more divisions, able to more easily understand the groupings;" "LC provides a level of granularity for each subject."
Familiarity	122	"Because it is the only one I know;" "I grew up doing summer reading programs in the public library, and high school library where I volunteer was also Dewey;" "I am more aware of Dewey since I use it every day, and it just seems more intuitive."
Length of Call Numbers	83	"The length of the decimal in calling out topical minutia is ridiculous;" "It is too easy to make mistakes with lengthy numeration;" "Even foreign students have an easier time with Dewey. Numbers are a universal language."
Ease to Learn/Use	77	"The Dewey Decimal System applies a concise scale, from the general to the specific, toward any given book's subject, simply by extending its chain of numbers from the general to the specific. It is a marvelously intelligent telescope whose focus be extended easily and brilliantly. In contrast, using the Library of Congress system is like asking a mathematician to abandon math's superb 1-10 number system, and perform all mathematical executions using Roman Numerals;" "I like DDC better because we have a lot of issues with students associating letters from LC with the first letter of a topic… they look for literature in "L." because it makes more sense in their brain. It's a harder system to teach."
Compatibility with subjects taught	52	"DDC does not function as well for music;" "My concern with DDC at an academic institution is the cumbersome nature of a system that originally left so little space for science and technology."
Popularity	37	"It is the most widely used system among academic libraries. When our students transfer to complete their degrees, they will be familiar with the system already (Community College);" "LC is the standard, consistently used in academic libraries."
Collection Size	37	"In very large libraries, the LC system facilitates more specific categories;" "In a large research library, I think the use of Dewey classification would be insufficient to managing the complexity of the collections."
Colocation	36	"I like having literature works shelved alongside works of criticism for them;" "I feel that the LC system gives a better location and more options for classification."
Bias	27	"Both classifications have limitations in that they were created by educated, white, Christian men in English-speaking countries, thus both systems have biases and reflect white privilege;" "Dewey is frankly a mess when it comes to adequately representing cultures and communities outside of the white, Eurocentric, Christian, 'norm.'"

Table 3. Data analysis for qualitative survey question 12.

LCC prefer it 3.98 versus 2.8 for *Dewey*. People who use *Dewey* prefer it 31% more on average for ease of use, while those who use Library of Congress *Classification* prefer it 23% more than those who use *Dewey*. Those who use *Dewey* prefer it for effectiveness of organization 35% more than those who use LCC, while those who use LCC prefer it 21% more. Though more people who use *DDC* prefer LCC than the system they currently use, the percentage who prefer *Dewey* (29%) is much higher than those using Library of Congress *Classification* who prefer *Dewey Decimal Classification* (5%). The opposite is also true, with those using Library of Congress *Classification* preferring it 87% of the time versus only 47% for those who currently use *Dewey*. On all thirteen statistical measures, significance was found.

Statistics for the demographic of educational attainment (MLS vs. non-MLS) are displayed in Table 6 below. The Likert scale ratings of preference show very little difference based on degree attained. There are, however, five of nine multiple choice options where statistical significance is found. This might mean that while perception of quality is the same for both groups, the scheme ultimately preferred is somewhat influenced by educational attainment. Specifically, non-MLS employees tend to prefer *DDC* more than those who have an MLS degree.

Table 7 displays the findings based on employee status of director versus employee. None of the thirteen measures showed any statistical significance, suggesting that the employee's position has negligible correlation with preferences.

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Category (7)	Number	Illustrative Quotes
Cost	42	"We switched some branch libraries from Dewey to LC because our Technical Services staff said it was more cost effective in terms of processing and cataloging;" "The librarians would like to switch but it's a big undertaking. We are supposed to get a new building in the next decade and have talked about making the switch at that time;" "With smaller and smaller book budgets and a move towards eBooks, our print collection keeps getting smaller, which makes it not worth the effort."
Ease to Learn/Use	35	"Switched from Dewey to LC to get more exact classifications;" "Switch was made five years ago, and it was done to receive shelf-ready materials."
Popularity	25	"We made the switch because LC would better prepare our students for using other libraries. The DDC system is rarely used;" "Major academic libraries such as Harvard and Yale use it. We want to be in their company;" "Most other community colleges in our state were LC and we were joining the consortium and sharing a catalog, so we switched."
Dual Classification Scheme to Single	17	"Right now we use both LC and Dewey. (Dewey for our children's literature collection.) We are considering switching over to all LC for easier access;" "We did have a small number of left-over DDC items in the library several years ago. Those were converted to LC… having two classification systems was confusing for patrons and staff alike, and once resources were secured to do the work, conversion was done to alleviate that confusion and integrate the materials with other collections."
Familiarity	6	"Because many users were already familiar with LC;" "We switched from an in-house scheme to LC… because many users were already familiar with LC."
Higher Authority	6	"At a previous institution, the academic dean suggested changing from Dewey to LC because 'all good academic libraries use LC;'" "We did have requests from faculty over the years to make the switch."
Technology	4	"At my previous library, when I got a bachelor's degree in business, they started cataloging the new business books in LC. Years later, when we automated the catalog and moved to a new building, we decided to reclassify the whole collection from Dewey to LC."

Table 4. Data analysis for qualitative survey question 13.

Preference	Categories (currently using)			Statistical Significance?
	DDC	**LCC**	**Other**	
Question 1: Ease of Use				
DDC	3.68/5	2.8/5	3.04/5	yes
LCC	3.23/5	3.98/5	3.61/5	yes
Question 2: Effectiveness of Organization				
DDC	3.38/5	2.51/5	3.08/5	yes
LCC	3.29/5	3.98/5	3.64/5	yes
Question 3: Prefer in General				
DDC	21/100	23/655	4/54	yes
LCC	51/100	582/655	37/54	yes
No preference	28/100	50/655	13/54	yes
Question 4: Prefer as User				
DDC	32/100	37/655	7/54	yes
LCC	45/100	555/655	34/54	yes
No preference	23/100	63/655	13/54	yes
Question 5: Prefer as Employee				
DDC	34/100	31/655	7/54	yes
LCC	46/100	574/655	35/54	yes
No preference	20/100	50/655	12/54	yes
Total				13/13

Table 5. Statistical analysis of quantitative survey results based on demographic of system currently used.

Preference	Categories		Statistical Significance?
	MLS	Non-MLS	
Question 1: Ease of Use			
DDC	2.92/5	2.91/5	no
LCC	3.86/5	3.93/5	no
Question 2: Effectiveness of Organization			
DDC	2.66/5	2.7/5	no
LCC	3.89/5	3.9/5	no
Question 3: Prefer in General			
DDC	33/677	10/108	no
LCC	573/677	80/108	yes
No preference	71/677	18/108	no
Question 4: Prefer as User			
DDC	55/677	16/108	yes
LCC	541/677	76/108	yes
No preference	81/677	16/108	no
Question 5: Prefer as Employee			
DDC	50/677	17/108	yes
LCC	561/677	78/108	yes
No preference	66/677	13/108	no
Total			5/13

Table 6. Statistical analysis of quantitative survey results based on demographic of educational attainment.

Preference	Categories		Statistical Significance?
	Director	Employee	
Question 1: Ease of Use			
DDC	3.04/5.0	2.88/5.0	no
LCC	3.94/5.0	3.86/5.0	no
Question 2: Effectiveness of Organization			
DDC	2.72/5.0	2.62/5.0	no
LCC	3.99/5.0	3.87/5.0	no
Question 3: Prefer in General			
DDC	5/119	38/659	no
LCC	100/119	550/659	no
No preference	14/119	71/659	no
Question 4: Prefer as User			
DDC	11/119	59/659	no
LCC	96/119	519/659	no
No preference	12/119	81/659	no
Question 5: Prefer as Employee			
DDC	9/119	55/659	no
LCC	98/119	539/659	no
No preference	12/119	65/659	no
Total			0/13

Table 7. Statistical analysis of quantitative survey results based on demographic of type of position held (director vs. faculty/staff).

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The findings based on the number of years' experience an employee has attained is shown in Table 8 below. In general, it appears that as employees gain more experience their satisfaction with both platforms grows. In the multiple-choice measures of preference, preference towards Library of Congress *Classification* grows with experience, while preference toward *Dewey Decimal Classification* or no preference declines slightly. Six of the thirteen measures overall show statistical significance, suggesting a weak but positive relationship between experience and preference for Library of Congress *Classification*.

Table 9 displays findings based on the type of library in which employees work (two-year versus four-year). While both employees at two-year and at four-year institutions prefer Library of Congress *Classification* to *Dewey Decimal Classification*, the divide in preferences is much more pronounced among four-year employees (1.1 points) than among two-year employees (0.25 points) on ease of use and on effectiveness of organization (1.36 points for four-year versus 0.55 points for two-year). There is also a significantly greater proportion of two-year library employees that prefer *DDC* (19%) than four-year library employees that prefer *DDC* (6%). Furthermore, ten of thirteen measures show statistical significance. This suggests that the type of library in which the employee works is strongly related to preference: two-year library employees prefer *Dewey Decimal Classification* more than four-year employees.

This relationship, however, might also be described by the composition of library classification usage in two- and four-year schools. Thirty-four-and-a-half percent of survey respondents from two-year colleges report using *Dewey Decimal Classification*, versus only 7.4% of those who work at a four-year institution. This is statistically consistent with the actual statistics (approximately 8% and 31% as found in the before-mentioned study of 3,793 academic libraries in the United States). This means that the preference that might initially be seen as correlated to library type may very well be associated instead with the scheme currently used by the library (indeed this is supported when the two-year college findings are broken up into scheme currently used).

5.0 Discussion

The results of this study indicate that academic library employees, in general, prefer Library of Congress *Classification* over *Dewey Decimal Classification* by a significant margin. This finding is consistent among most demographic variables, including education, experience, type of position held, and type of library employed (two-year/four-year). The only demographic category where *DDC* was rated more favorable on ease of use and effectiveness of organization is among those who currently use *DDC* in their libraries. This suggests that the scheme a library currently uses has a big impact on its employees' preferences. This effect is more pronounced with increased experience. Those who use *DDC* and have worked in libraries for ten or more years rate *DDC* significantly higher than those who use *DDC* and have worked in libraries for under ten years. These individuals, in turn, rate *DDC* higher than any group of individuals that use *DDC*.

The qualitative findings indicate clearly some of the reasons why the preference for Library of Congress *Classification* is so high among academic library employees in the United States. It's more granular, which is beneficial to large collections that with *DDC* may have to be squished into a very small range of less specific call numbers; it's familiar as a standard among U.S.-based academic libraries; and it's more suitable for modern subjects than *DDC*. All these items suggest practical reasons, on the surface, for preferring Library of Congress *Classification*.

Whether respondents preferred *Dewey Decimal Classification* or Library of Congress *Classification*, their preferences were quite strong. Very few respondents rated both schemes as average (defined here as within 1/3 of a point of 2.5/5) and less than 11%, on average, had no preference of library classification schemes on the multiple-choice measures. This indicates developments in library classification preferences and library classification in general. First, it indicates that library classification schemes do still matter to academic library employees. This aligns with the findings of Steele and Foote in their 2011 article "Reclassification in Academic Research Libraries: Is It Still Relevant in an E-book World?" where the authors found that 1/3 of libraries belonging to the Association of Research Libraries are in the process of reclassifying materials. Classification and reclassification do still matter even in a mobile world.

It is possible that a more neutral segment of the population did not respond to the survey. The researchers, though, do believe it appurtenant to recognize that this survey was distributed to all employees at the 200 selected academic libraries, including many student employees and emerita employees as well as employees who have very little interaction with classification schemes (e.g., financial managers, IT, etc.). These types of employees represented nearly half of non-respondents. Furthermore, approximately fifty respondents for each quantitative question selected "0" or non-response, meaning that people who had no experience with one or both schemes still responded to the survey and were captured to some extent.

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Preference	Categories			Statistical Significance?
	Under 5	**5 to 20**	**20+**	
Question 1: Ease of Use				
DDC	2.65/5	2.95/5	2.97/5	yes
LCC	3.77/5	3.78/5	3.97/5	no
Question 2: Effectiveness of Organization				
DDC	2.4/5	2.68/5	2.71/5	yes
LCC	3.73/5	3.78/5	4.02/5	yes
Question 3: Prefer in General				
DDC	9/92	22/374	17/343	no
LCC	70/92	302/374	298/343	yes
No preference	13/92	50/374	28/343	no
Question 4: Prefer as User				
DDC	10/92	39/374	27/343	no
LCC	67/92	281/374	286/343	yes
No preference	15/92	54/374	30/343	no
Question 5: Prefer as Employee				
DDC	9/92	38/374	25/343	no
LCC	70/92	290/374	295/343	yes
No preference	13/92	46/374	23/343	no
Total				6/13

Table 8. Statistical analysis of quantitative survey results based on demographic of years' experience.

Preference	Categories		Statistical Significance?
	2-year	**4-year**	
Question 1: Ease of Use			
DDC	3.4/5	2.81/5	yes
LCC	3.65/5	3.91/5	yes
Question 2: Effectiveness of Organization			
DDC	3.18/5	2.55/5	yes
LCC	3.73/5	3.91/5	yes
Question 3: Prefer in General			
DDC	22/148	26/662	yes
LCC	108/148	563/662	yes
No preference	18/148	81/662	no
Question 4: Prefer as User			
DDC	30/148	46/662	yes
LCC	100/148	535/662	yes
No preference	18/148	81/662	no
Question 5: Prefer as Employee			
DDC	32/148	40/662	yes
LCC	100/148	556/662	yes
No preference	16/148	66/662	no
Total			10/13

Table 9. Statistical analysis of quantitative survey results based on demographic on library type (two-year vs. four-year).

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5.1 Comparing preference-formation theories to the findings

5.1.1 Mere exposure effect

The findings of this study provide evidence of the mere exposure effect in academic libraries. On average, academic library employees prefer the system they currently use by a significant margin. This margin of statistical significance is not evident with any other demographic factor except two-year versus four-year academic libraries, which themselves are likely influenced by the 31% distribution of *Dewey Decimal Classification* among two-year libraries versus 7.4% for four-year. Further substantiation comes from the qualitative findings, where familiarity is the second most-represented category. This demonstrates a self-recognition among survey respondents that their preferences are largely influenced by exposure, not an objective evaluation of the library classification schemes.

The strongest evidence for the mere exposure effect, however, would come from those who do not rate a scheme highly yet prefer it, because it is what they use. Of the 100 respondents to the study who indicated they used *DDC* for classification, twelve rated LCC higher than *Dewey* but preferred *DDC* anyways. One hundred-eighty-two of the 655 respondents who use Library of Congress *Classification* rated *Dewey* higher for ease of use but preferred LCC. This means that nearly 26% of respondents rated one scheme higher but preferred instead the scheme that they currently use. While it is unlikely that the mere exposure effect alone is influencing preferences toward library classification schemes, the correlations described in the data seem to indicate some influence of this effect.

5.1.2 Stigler and Becker

According to Stigler and Becker's theory, preferences toward a classification scheme would likely be informed by the perception of quality. In the context of this study, it should mean that the ratings assigned to classification schemes in the four Likert scale items match the scheme preferred in the multiple-choice questions. This, however, is not consistent with the data obtained in this study. Among library employees that use *DDC*, for instance, they rate *DDC* much higher than LCC on ease of use and effectiveness of organization, yet prefer LCC in general, as academic library users, and as academic library employees. For the mere exposure effect this is not an issue, because the theory merely stipulates that preferences will be "influenced" through exposure, not entirely shaped by it. Stigler and Becker's theory necessitates a strong positive correlation between scheme ratings and scheme preferences, i.e., the higher a respondent rates a scheme the more likely s/he is to prefer that scheme (perceived quality = change in preference). This phenomenon does not exist in the findings from this study.

5.1.3 Extensiveness theory

The extensiveness theory of Hoeffler et al. argues that increased exposure to a preferred stimulus will influence preference. In the present study, there is some evidence that exposure (via years' experience, increased education, greater professional responsibility) increase how library employees rate classification schemes on ease of use and effectiveness of organization, though this is not specific to a particular classification scheme. Ratings of both *Dewey* and Library of Congress *Classification* increase with experience. As for the level of educational attainment and type of position held, both appear to show a slight increase in preference for LCC as exposure increases. As the distribution of *Dewey* and Library of Congress *Classification* among these demographics is well-aligned with that of the general pool of respondents, mere exposure does not appear to influence these results. Thus, extensive theory may very well have a small impact on preference of library classification schemes.

5.2 Limitations of the study

One previously mentioned limitation of this study is the response rate and polarity of respondents. While the researchers believe the respondent pool is representative, a higher response rate would better affirm the results of this study. Additionally, the researchers feel that they did not adequately provide options for libraries that currently use both *Dewey* and Library of Congress *Classification*. For those who fell under this category, we requested that they either select "other" if the split is about fifty-fifty or select the scheme that comprises most of the collection. Similarly, we neglected to include an option for *National Library of Medicine Classification*, which is widely utilized by medical school libraries. Instead they were asked to select "other." Including a demographic question about collection size may likely provide more detail to the results.

We did not consider those library employees that might have recently changed jobs and consequently changed classification schemes, nor did we adequately consider those libraries that have recently completed reclassification and what impact this might have on perceptions. Finally, we did not include a demographic question about specific job titles. While respondents were asked to select whether they were a tenured/non-tenured faculty or staff member, the position (cataloger, reference librarian, systems librarian) was not specified. While the researchers believed it important to survey the preferences of all library employees,

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it would have been useful to be able to make this distinction with individuals specifically tasked with working with these systems.

6.0 Conclusion

With trends in reclassification over the past century, a logical conjecture would be that the preferences of academic library employees would strongly favor Library of Congress *Classification*. This study provides empirical backing to that belief, showing that academic library employees prefer Library of Congress *Classification* to *Dewey Decimal Classification* at a 13:1 ratio. This preference is particularly true among individuals who work at libraries currently using Library of Congress *Classification*, those working at four-year institutions, and those with less than five years of professional experience in libraries. Those who have been long-exposed to *Dewey Decimal Classification* and currently use it to classify tend to prefer it more so than Library of Congress *Classification*. This, along with the qualitative data collected from the study, suggests that many factors influence library classification preferences. These range from the size of collection and regional standards, to familiarity with schemes and cost of use. Classification preferences are the result of complex decision-making—whether conscious, subconscious, or both—which makes it even more surprising that the respondents of this study so strongly preferred one scheme to its competitor. This may suggest a continued trend of preference and reclassification that continue in the decades to come.

Note

1. The inclusion of preference as an academic library user is intended to provide insight into whether preferences are related to work demands or to the scheme in general (e.g., if an individual thinks it's easier to find materials using Dewey and thus prefers it as a user, but dislikes classifying in Dewey because materials are easier to process with the preassigned LC numbers). This may demonstrate the extent to which preferences are formed based on certain factors, such as biases in the systems.

References

American Library Association. 2018a. *Number Employed in Libraries*. http://www.ala.org/tools/libfactsheets/ala libraryfactsheet02

American Library Association. 2018b. *The Nation's Largest Libraries: A Listing by Volumes Held*. http://www.ala.org/ tools/libfactsheets/alalibraryfactsheet22

Comaromi, John P., Mary E. Michael, and Janet Bloom. 1975. *A Survey of the Use of Dewey Decimal Classification in the United States and Canada*. Albany, NY: Forest Press.

Dewey, Melville. 1996. *Dewey Decimal Classification and Relative Index*. 21st ed., ed. Joan Mitchell, Julianne Beall, Winton Matthews, and Gregory New Albany, NY: Forest Press.

Eaton, Thelma. 1955. "Classification in College and University Libraries." *College and Research Libraries* 16: 168-73. doi:10.5860/crl_16_02_168

Fox, Melodie J. 2015. *Medical Discourse's Epistemic Influence on Gender Classification in Three Editions of the Dewey Decimal Classification*. In *Proceedings from North American Symposium on Knowledge Organization*, Vol. 5. University of California, Los Angeles, ed. Richard P. Smiraglia, 112-4. http:// journals.lib.washington.edu/index.php/nasko/article/ view/15184/12650

Higgins, Molly. 2016. "Totally Invisible: Asian American Representation in the *Dewey Decimal Classification,* 1876-1996." *Knowledge Organization* 43: 609-21.

Hoeffler, Steve, Dan Ariely, Pat West, and Rod Duclos. 2013. "Preference Exploration and Learning: The Role of Intensiveness and Extensiveness of Experience." *Journal of Consumer Psychology* 23: 330-40.

Joudrey, Daniel N., Arlene G. Taylor, and David P. Miller. 2015. *Introduction to Cataloging and Classification*. 11th ed. Santa Barbara, CA: Libraries Unlimited.

Library of Congress. [2018]. Preassigned Control Number Program. https://www.loc.gov/publish/pcn/

Mai, Jens-Erik. 2013. "Ethics, Values, and Morality in Contemporary Library Classification." *Knowledge Organization* 40: 242-53.

Mai, Jens-Erik. 2016. "Marginalization and Exclusion: Unraveling Systemic Bias in Classification." *Knowledge Organization* 43: 324-30.

Marshall, Catherine and Gretchen Rossman. 2006. *Designing Qualitative Research*. 4th ed. Thousand Oaks, CA: Sage Publications: 156-65.

Serenko, Alexander and Nick Bontis. 2011. "What's Familiar is Excellent: The Impact of Exposure Effect on Perceived Journal Quality." *Journal of Informetrics* 5: 219-23.

Steele, Thomas and Jodi Foote. 2011. "Reclassification in Academic Research Libraries: Is It Still Relevant in an E-book World?" *Cataloging and Classification Quarterly* 49, no. 1: 14-32.

Stigler, George J. and Gary S. Becker. 1977. "De gustibus non est disputandum." *American Economic Review* 67, no. 2: 76-90.

The World Almanac and Encyclopedia 1904. 1904. New York, NY: Press Publishing Company.

Torpie, Stephen L., Jennifer Williams and Kristina Za-
rudna, eds. 2018. *American Library Directory 2018-2019.*
Medford, N.J.: Information Today.

Turvey, Michelle R. and Karen M. Letarte. 2002. "Catalog-
ing or Knowledge Management: Perspectives of Li-
brary Educators on Cataloging Education for Entry-
level Academic Librarians." *Cataloging & Classification
Quarterly* 34, nos. 1-2: 163-86.

Indiana University. 2017. *The Carnegie Classification of Institu-
tions of Higher Education.* http://carnegieclassifications.
iu.edu/

Zajonc, Robert B. 1965. *The Attitudinal Effects of Mere Ex-
posure.* Technical report No. 34. Ann Arbor, Mich.: Re-
search Center for Group Dynamics, Institute for Social
Research, The University of Michigan. https://www.
psc.isr.umich.edu/dis/infoserv/isrpub/pdf/Theattitud
inaleffects_2360_.PDF