Documenting Diversity among Working LIS Graduates

Jennifer Craft Morgan, Brandy Farrar, and Irene Owens

Abstract

The purpose of this article is to document the demographic characteristics of the library and information science (LIS) workforce and to discuss the implications of these findings for education and workforce planning. Workforce Issues in Library and Information Science 1 (WILIS) is a collaborative research partnership of the University of North Carolina Chapel Hill School of Information and Library Science and the University of North Carolina Institute on Aging, funded by the Institute of Museum and Library Services through its Librarians for the 21st Century Program. Workforce Issues in Library and Information Science 1 (WILIS 1) is a comprehensive study of the career patterns of graduates of LIS programs in North Carolina since 1964. This article examines data from 1,903 working LIS graduate respondents. The results of this study suggest that the LIS workforce is predominantly female, underrepresented in terms of race/ethnic minorities, and consists of slightly older workers than the workforce overall. Comparisons of earnings reveal a substantial wage gap between the males and females in the sample (men earn more). We also find significant race, sex, and gender differences in factors that motivated respondents to enter an LIS program and qualities of jobs that respondents find desirable. Based on these findings, we suggest the following strategies to increasing diversity: (1) focus efforts on recruiting race/ethnic minorities to the LIS profession; (2) structure LIS jobs to accommodate the needs of women workers; and (3) plan for and accommodate the large segment of older and retiring workers.

INTRODUCTION

The demographics of the overall U.S. workforce are shifting due to global and historical trends such as workforce aging, immigration, declining fertility rates of subgroups, and increases in labor force participation of women. Slight percentage increases of African-Americans in the U.S. civilian labor force (15 percent) along with large increases of Asians (83 percent) and even greater increases of Hispanics (137 percent) make for significant demographic shifts in the race/ethnic composition of the workforce (U.S. Bureau of Labor Statistics, 2006). The workforce is also aging; 13 percent of workers were fifty-five and older in 1986, compared to a projected percentage of 23 percent in 2016 (U.S. Bureau of Labor Statistics, 2006). Women's labor force participation also continues to increase—although at lower rates of change than increases in the proportion of race/ethnic minorities and older workers. Although race/ethnic minorities and women are increasing their representation within the workforce, they are still disproportionately underrepresented among many occupations—particularly professional occupations. LIS mirrors other professional positions in that it underrepresents race/ethnic minorities. Women, however, are overrepresented in LIS. In order to better reflect and respond to the changing workforce, LIS will need to increase the representation of race/ethnic minorities and men and meet the needs of women and older workers.

The existing research on diversity within the LIS field and throughout management literature focuses on increasing staff representation through recruiting, retaining, and promoting underrepresented workers through sound management practices, offering services that reflect the diversity of the client population, and prioritizing diversity as a means of increasing overall organizational performance. Little research attends to the structural characteristics of the labor market and library and information science jobs that could suggest further strategies for achieving diversity within the profession. The purpose of this paper is to (1) describe the labor market and occupational context of diversity within the LIS profession; (2) understand why diversifying the LIS workforce is a laudable goal; (3) document the diversity of the LIS workforce; and (4) discuss the implications of these findings for education and workforce planning.

BACKGROUND

Workforce diversity refers to the composition of work units (work group, organization, occupation, establishment, or firm) in terms of the cultural or demographic characteristics that are salient and symbolically meaningful in the relationships among group members (DiTomaso, Post, & Parks-Yancy, 2007). The precipitous shift to the broad use of the term *diversity* was a result of the 1978 court case of *Bakke vs. The University of California.* This case affirmed that the University of California's affirmative action

policies related to admission based on the fact that having a diverse student body ultimately contributed to the goals of higher education—speculation, experiment, and creation (Chang, 2005). The term first began to be used widely in the mid-1980s when the dramatic shifts in the labor force were thought to be connected with outcomes (e.g., earnings, promotions, hiring) in the workforce. While most people think of diversity as related to race and gender, the term is relevant to any categorical difference that has significant impact on a group interaction and outcomes such as age, sexual orientation, education, socioeconomic status, etc.

Groups that are targeted for diversity efforts typically occupy minority status in society as a whole and often have a history of systematic discrimination. Women and racial/ethnic minorities, for example, are often the targets of diversity efforts and have a history of being excluded from and disadvantaged in the labor market. The civil rights movement, women's rights movement, and historical circumstances (e.g., World War II necessitated the entry of women into the workforce in massive numbers) increased the numbers of women and African-Americans in the labor force during the early and middle parts of the twentieth century. Women and minorities are currently participating in the civilian labor force at rates proportionate to their presence in the United States. However, earnings disparities between men and women, and African-Americans and whites continue to persist.

Interlocking systems of oppression such as gender, race/ethnicity, age, and social class interact to systematically disadvantage vulnerable group members (Collins, 2000; McMullen & Cairney, 2004). Kilbourne, England, and Beron (1994) examined these systems in terms of relative pay. They provide several conclusions important to understanding the societal value structure in relation to gender, race/ethnicity, cognitive and nurturant skill: (a) African-American women receive a wage penalty for working in predominately female occupations that is twice as large as the penalty for white women and eight times that of men of both races, (b) white women receive a significantly larger wage penalty for working in occupations requiring nurturant skill when compared to other jobs held by white women, (c) all groups receive a wage benefit for being in a job that requires more cognitive skill. This evidence suggests that "women's work" and "women's skills" are devalued when compared to that of men and that both African-American and white women receive wage penalties, despite differences in association and magnitude, for working in feminized occupations.

Research shows that this is due in large part to occupational segregation (Penner, 2008). Occupational segregation refers to the high concentration of women and minorities in certain jobs compared to others. The pattern of segregation is such that women and minorities are more likely to occupy low-status and low-paying jobs that have many "bad job" character-

istics such as heavy workloads, limited autonomy, and limited opportunity for advancement (Kalleberg, Reskin, & Hudson, 2000). There are varying explanations for this. In terms of race, researchers show that low skill level and lack of education and relevant experience prevent minorities from attaining better-paying higher-status jobs. Other researchers point to the discrimination that occurs within the educational system (at the secondary and post–secondary levels), during the hiring process, and within organizations. Explanations for occupational sex segregation include women's inability to accumulate tenured work experience due to their greater reliance on nonstandard work arrangements such as part-time work, temporary work, and job sharing. Occupational sex typing, where individuals self-select into jobs based on appropriate gender roles and employers hire based on gendered assumptions, also contributes to occupational sex segregation. In short, both supply-side (e.g., women and minorities' lack of necessary skills, education, and experience) and demand-side (organizational and individual practices that systematically marginalize or disadvantage minority workers both at the point of hire and once on the job) processes contribute to occupational segregation (Bielby & Baron, 1986; Moss & Tilly, 1996; Reskin, 1993; Kaufman, 2002). As such, recent diversity efforts are concerned with integrating occupations and have addressed supply-side and demand-side issues. Specifically, educational institutions have increased their outreach to racial/ethnic minorities and encourage women to enter degree programs in science and mathematics. Legal supports for remedying discriminatory practices (e.g., the Equal Opportunity Employment Act) have been implemented to reduce the bias that occurs during the hiring process. Further, employers whose employee composition does not mirror the demographics of the population engage in efforts to recruit individuals from underrepresented groups and to make incumbent minority workers feel valued, welcomed, and respected.

The majority of workforce diversity programs have focused on racial/ethnic minorities and women. However, recent demographic and economic changes suggest that older workers also need explicit attention with respect to workforce issues. Further, given the current economic recession's impact, many older workers are being forced to either work longer before retiring or return to the workforce late in life in order to support themselves. Recent evidence suggests that older workers face challenges securing jobs and working. Younger workers and employers stereotype older workers as resistant to organizational changes, slow, inflexible, unorganized, and difficult to train (Shah & Kleiner, 2005; Swift, 2006). Such stereotypes fuel the disparate treatment that older workers experience within organizations (Roscigno, Mong, Byron, & Tester, 2006). In addition to the stereotypes and resulting disparate treatment that older workers face, older workers also have unique needs related to transition-

ing into later life stages. Deciding when and under what terms to exit the workforce are issues that many older workers and their prospective employers contend with. Future diversity efforts, then, should incorporate the growing population of older workers.

In summary, efforts toward workforce diversity have their foundation in the historical exclusion and disadvantage of women and minorities within the labor market. Although great strides have been made toward equal participation—for women, African-Americans, and other racial/ethnic minorities—occupational segregation and wage gaps persist. Consequently, workforce diversity initiatives over the last few decades have shifted from integrating the workforce to integrating high-paying and high-status occupations. Below we describe diversity research and initiatives within one profession—library and information science.

Achieving Diversity in Library and Information Science Occupations
Within the LIS field, diversity efforts have been focused primarily on increasing representation of racial/ethnic minorities. Statistics, according to the "Diversity Counts" report by the American Library Association, show that the profession is 89 percent white, 4.5 percent African-American, 3.0 percent Hispanic or Latino, 1.4 percent Native American, and 2.7 percent Asian or Pacific Islander (American Library Association, 2007). Comparing this to the overall U.S. population, which is 74.7 percent white, 12.1 percent African-American, 14.5 percent Hispanic or Latino, .8 percent Native American, and 4.4 percent Asian or Pacific Islander, it is apparent that racial and ethnic minorities are underrepresented within the profession (U.S. Census Bureau, 2008). Considerable effort has been targeted toward increasing representation. For example, a study published by the Association of Research Libraries analyzing staff composition, recruitment, and retention among member libraries showed that 66 percent of the respondents engage in proactive efforts to recruit minority candidates in order to increase representation of minority groups in candidate pools (Diaz, Tellman, & Jones, 1998).

The bulk of the research related to increasing diversity is focused on identifying effective strategies to recruit and retain minority workers. These strategies include offering financial aid for students in LIS programs, using role models and mentors, increasing awareness/sensitivity to diversity and racism, modifying management practices, advertising the profession and programs, and targeted recruitment. Researchers have also explored the relationship between diversity and organizational performance. Some argue that diversity is beneficial for organizations because it contributes to a broader range of organizational contacts, sources of information, creativity, and innovation (van Knippenberg, 2004; Williams & O'Reilly, 1998). Further, data suggests that racial diversity is associated

with increased sales revenue, more customers, greater market share, and greater relative profits for organizations (Herring, 2009).

Empirical evidence of the benefits of diversifying the workforce and identifying strategies to promote diversity within the library and information science workforce is growing. For example, Winston and Li (2002) find that the chief academic officers of liberal arts colleges in their study believe that there is a direct correlation between diversity as an organizational priority and the overall performance and success of colleges. In a qualitative study of Latino and Native American students, Adkins and Hussey (2005) identify four factors that affected the respondents' choice to enter the LIS career—knowing a librarian, being familiar with library work, acknowledging librarianship as a service profession, and acknowledging librarianship as a respectful profession—and suggest recruitment strategies based on these findings. Musser (2001) focuses on retention of minority librarians citing the need for key strategies such as mentoring, networking, providing career and learning opportunities, a balance between home and work life, a welcoming climate, and support for research (that focuses on the interests of minority librarians). Her treatment of the subject also underscores the need of LIS employers to revamp policies and practices to support education and career development (e.g., tuition assistance) and flexible work arrangements (e.g. part-time work, self-scheduling, flexible leave policies). Further, Thornton's (2000) study of job satisfaction that looks specifically at academic librarians of African descent also provides support for the conclusion that retention strategies for minority librarians should focus on structuring jobs and management practices so that workers are supported, encouraged, and challenged in addition to traditional diversity efforts aimed at creating an inclusive, respectful work environment.

Diversity is also thought to be beneficial for the communities within which libraries are embedded—not just the organizations themselves. For example, Kim and Sin (2008), argue that librarians of color can provide effective reference, information literacy, and collection management services, and can reach out to diverse users because they have a better understanding of cultural values, languages, and information needs of minority communities. Similarly, Neely and Peterson (2007) argue that diversity initiatives should strategically incorporate diverse populations so as to serve the diverse communities that libraries serve. Finally, Lance (2005) underscores the importance of recruiting and retaining minorities in LIS education by comparing the demographic composition of library assistants to librarians. The demographic composition of library assistants is much closer to the demographic population of the United States; whereas, we know that among librarians, minorities are grossly underrepresented. He argues that this is because librarian assistant jobs

only require a high school diploma and librarianship requires a master's degree—a degree that few race/ethnic minorities hold. This knowledge suggests that minority individuals are attracted to the LIS field, but lack the education to pursue the career at a professional level.

In summary, the current empirical literature on diversity within the LIS field attends to both supply-side factors (recruiting and retaining diverse individuals in LIS education) as well as demand-side factors (recruiting and retaining diverse individuals in LIS workplaces). Below, we contribute to efforts to achieve diversity within the LIS profession by describing the demographic characteristics of a large sample of graduates from LIS programs in North Carolina. In particular, we highlight differences in pay, job satisfaction, and leadership roles by age, race/ethnicity, and gender. We also identify factors that motivate different groups of workers to enter LIS graduate programs and job characteristics that women, race/ethnic minorities, and older workers find appealing. In doing so, we hope to inform stakeholders interested in diversity within LIS of possible ways to better market LIS as a career option and to effectively reach potential recruits. Lastly, identifying specific job qualities that are appealing to women, minorities, and older workers working in LIS jobs will inform organizations of ways to market LIS jobs more effectively and areas toward which they can divert resources into creating or modifying jobs to have these qualities. These qualities may be important to solving any retention issues as well.

METHODOLOGY

The Workforce Issues in Library and Information Science 1 (WILIS 1) project is a three-year collaborative research project of the University of North Carolina at Chapel Hill School of Information and Library Science and Institute on Aging. The project was initiated in an effort to assess the career patterns of graduates of library and information science (LIS) programs in North Carolina. For details about the WILIS 1 project, see the overview article by J. Marshall et al. in this issue.

The project invited 7,566 graduates of the five North Carolina LIS master's programs to participate in a Web-based survey that collected data on educational and career histories as well as other workforce-related issues. For a detailed overview of the methodology for this career retrospective Web-based survey, see the article by Morgan, J. Marshall, V. Marshall, and Thompson in this issue.

Analytic Strategy

Our strategy in analyzing the data was to look first at overall demographics and workforce composition, and then examine the existence and size of group differences as related to three general dimensions: current working conditions (e.g., earnings, work setting, supervision), supply side factors

(e.g., entry and motivation for entry factors), and demand side factors (e.g., qualities that individuals look for in a job). Exploring group differences in this way will help us build an understanding of what exists in the way of disparities (e.g., wage gaps) and the structure of work and how group job-related preferences and values differ within the graduates of North Carolina LIS programs (1964–2005). These similarities and differences will then be discussed in terms of the implications for job redesign, recruitment, and retention strategies aimed at diversifying the LIS workforce.

Results

Overall Demographics
The demographic composition of the LIS graduate respondents is, as expected, predominately female, older on average than the overall U.S. workforce, and predominately white. (See table 1.) The age of respondents ranged from twenty-three years to eighty-eight years with a mean of fifty (std. dev. = 12) and a median of fifty-two. This is older than the workforce overall—median age for the working LIS graduate respondents is about forty-seven. Graduates are predominately female (82 percent) and married or living with a partner (70 percent). The racial composition of the sample is consistent with other reports of underrepresentation of minorities. Most respondents are White (87 percent) with 6 percent African-American, 2 percent Asian, and 5 percent Other Race. The majority of graduates are not of Hispanic, Spanish, or Latino origins (99 percent) and are U.S. citizens (98 percent). The graduates reported up to $285,000 in annual wages. However, the majority of respondents earn between $41,000 and $65,000, with a mean salary of $55,208.21.

Job Characteristics and Working Conditions
Some of the most interesting differences in job characteristics and working conditions were by race and gender. (See table 2.) Overall, the graduates were most likely to be working in a library or information center using the LIS skills/knowledge they acquired through their education. Women were significantly more likely to work in a library or information center compared to men, who are more likely to work for nonlibrary employers. Asians were significantly less likely to work in a library or information setting compared to all other race and ethnic groups. Older workers were less likely to currently work in a library or information center setting than younger workers and more likely to work for nonlibrary employers. Sixty percent of graduates reported having supervisory responsibilities in their current job. Asians were significantly less likely to have supervisory responsibilities compared to whites. We suspect this is the result of being less likely to be working in a library setting and the flatter organizational structure of IT companies. Also as one might expect, older workers are more likely to report having super-

Table 1. Demographic Characteristics

Age	
Currently Working	
Mean	47.09
S.D.	10.65
Not Currently Working	
Mean	50.21
S.D.	12.15
Salary	
Minimum	$128
Maximum	$285,000
25th quartile	$41,000
50th quartile	$50,000
75th quartile	$65,000
Mean	$55,208.21
Median	$50,000
S.D.	$26,939.27
Race (%)	
White	86.69
Black	6.18
Asian	2.04
Other Race	5.09
Sex (%)	
Male	17.97
Female	82.03
Marital Status (%)	
Single	17.06
Married	69.73
Divorced	10.69
Widowed	2.52
Household Income (%)	
$0–$19,999	0.83
$20,000–$29,999	1.77
$30,000–$39,999	5.47
$40,000–$49,999	9.31
$50,000–$59,999	11.12
$60,000–$69,999	9.23
$70,000–$79,999	9.80
$80,000–$99,999	16.92
$100,000–$149,999	20.77
$150,000 or more	11.19

Note: $N = 2{,}612$

visory responsibilities compared to younger workers. The vast majority of respondents (91 percent) indicated that they agreed or strongly agreed with the statement "Overall, I am satisfied with what I do in my job." This did not vary significantly by age, race, or gender.

Significant differences in annual earnings exist for age, race, sex, and workplace setting. (See table 3.) Older workers earn significantly more than younger workers. Although the African-American graduates earned roughly the same annual wages as the White graduates, Asian graduates earned significantly higher annual salaries per year compared to White graduates. This difference may be an artifact of the type of work that Asian respondents report as their current job (information technology/science vs. library work setting). The biggest wage gap exists between men and women—with men earning roughly $10,000 (in median wages) more per year than the women in the study. This gap is roughly equivalent to the general overall gender wage gap where women make eighty cents on the dollar compared to male median wages (U.S. Bureau of Labor Statistics, 2009). This gender gap may also be partially explained by the fact that men are more likely to work in nonlibrary settings (e.g., corporate settings, information vendors) than library settings when compared to women.

Supply-Side Factors
Workers' skills, experience, and education contribute to occupational seg-regation because they influence the types of jobs that workers are quali-fied for and likely to obtain. Historically, women and minorities have been excluded from postsecondary education, putting them at a sizable disad-vantage in the labor market. Women currently receive more than half of the undergraduate and masters' degrees yet still lag behind in doctoral and professional degrees. African-Americans receive associate's degrees at rates proportionate to their population in the United States however, African-Americans (and other minority groups) are underrepresented in bachelor's, master's and other professional programs (National Center for Education Statistics, 2009). Further, there are patterns to the degrees that women and minorities are likely to pursue. For example, women and African-Americans are overrepresented in social science, health sci-ence, and humanities versus physical and life sciences (National Center for Education Statistics, 2007). The selection of women and minorities into certain degree programs along with the underrepresentation of mi-norities in graduate and professional programs is a barrier to integrating segregated occupations. As such, increasing access to graduate and pro-fessional degree programs along with encouraging women and minorities to enter fields such as mathematics and science are critical to achieving diversity within occupations.

Educational institutions have engaged in many strategies to this end, including offering financial aid/scholarships/assistantships; increasing

Table 2. Annual Salary by Age, Sex, Race, and Type of Workplace

	Minimum quartile	Maximum quartile	25th quartile	50th quartile	75th quartile	Mean	Median	S.D
Age Cohort <50 yrs old	$1,040.00	$250,000.00	$40,000.00	$48,000.00	$60,433.25	$52,845.29	$48,000.00	$24,462.56
50 yrs and older	$128.00	$285,000.00	$43,000.00	$54,000.00	$68,850.00	$57,682.62[a]	$54,000.00	$29,004.84
Sex								
Male	$1,040.00	$250,000.00	$45,300.00	$60,000.00	$84,000.00	$68,395.00[b]	$60,000.00	$35,620.38
Female	$128.00	$285,000.00	$40,000.00	$50,000.00	$61,500.00	$52,055.61	$50,000.00	$23,347.30
Race								
White	$128.00	$285,000.00	$41,000.00	$50,000.00	$64,500.00	$55,030.07	$50,000.00	$27,120.25
Black	$4,800.00	$145,000.00	$40,000.00	$51,000.00	$63,648.00	$55,017.81	$51,000.00	$23,935.33
Asian	$18,720.00	$150,000.00	$41,300.00	$60,000.00	$84,000.00	$66,299.61[c]	$60,000.00	$29,577.18
Other	$8,320.00	$130,000.00	$39,250.00	$52,250.00	$64,998.00	$53,260.85	$52,250.00	$24,630.79
Type of workplace								
Library or Information Center	$1,040.00	$248,000.00	$41,000.00	$50,000.00	$60,000.00	$52,121.99	$50,000.00	$20,634.74
Nonlibrary or noninformation center	$128.00	$285,000.00	$42,000.00	$62,200.00	$85,000.00	$66,274.72[d]	$62,000.00	$40,594.31

Note: N=1,939
[a] 50 yrs and older vs. Under 50 yrs old mean difference significant at p < .05
[b] Male vs. Female mean difference significant at p < .05
[c] Asian vs. White mean difference significant at p < .05
[d] Nonlibrary vs. Library mean difference significant at p < .05

Table 3. Workplace Characteristics, Responsibilities, and Job Satisfaction by Age, Race, and Sex

	Age (%)		Race (%)				Sex (%)		Total (%) (N = 1,873)
	< 50 yrs old	50 yrs or older	White	Black	Asian	Other	Male	Female	
Type of workplace									
Library or information center	78.60	77.77	79.11	77.47	51.22	73.61	69.81	80.28[c]	78.19
Nonlibrary or noninformation center	21.40	22.2	20.89	22.52	48.78*	26.39	30.19	19.80	21.81
Supervisor Responsibilities									
Yes	56.70	63.96[a]	61.23	58.20	36.96[b]	59.52	56.96	61.22[c]	60.41
No	43.30	36.04	38.77	41.80	63.04	40.48	43.04	38.78	39.59
Job Satisfaction									
Strongly Disagree	2.00	1.25	1.31	6.14	0.00	2.50	1.60	1.62	1.62
Disagree	7.91	6.76	7.07	7.02	13.16	12.50	8.56	7.13	7.41
Agree	61.50	63.83	62.59	61.40	65.79	61.25	62.83	62.45	62.53
Strongly Agree	28.59	28.17	29.04	25.44	21.05	23.75	27.01	28.79	28.44
Mean	3.17	3.19	3.19	3.06	3.08	3.06	3.15	3.18	3.18

Note: N=1,873

[a]50 yrs and older vs. Under 50 yrs old mean difference significant at $p < .05$

[b]Asian vs. White mean difference significant at $p < .05$

[c]Female vs. Male mean difference significant at $p < .05$

*Asian mean is significantly higher than all other racial groups

diversity among faculty; and targeted advertising. Here we present the factors that influenced LIS graduates' entry into the LIS program by sex, race, and age. These results may help educational institutions identify more effective strategies to recruit individuals into LIS programs.

There are two series of questions related to the graduates' decision to enter a LIS program. The two question stems are as follows: (1) "Please tell us how much of the following affected your decision to enter an LIS program"; and (2) "Please tell us how much the following factors motivated you to enter an LIS program." A list of possible factors followed each question stem. Respondents could respond that each factor motivated or influenced their decision to enter a LIS program "not at all," "a little," "a moderate amount," and "a lot." The results presented here are based on the portion of respondents who indicated that the factor motivated/influenced their decision "a lot."

Table 4 displays the results of workers' responses to the motivation items by age, race, and gender. The majority of the workers chose to enter an LIS program because it seemed like a good fit for their interests. Working with people and wanting to make a difference were also factors that strongly influenced a large number of people. A substantial portion, roughly 37 percent, reported that their employment in a library as an assistant strongly influenced their decision to enter a LIS program. In terms of motivating factors, flexible education options for working adults, availability of jobs, and flexible career options received roughly 40 percent of the strongly influenced response.

Considerable age, race, and gender differences exist in the factors that strongly influenced and motivated respondents to enter a LIS field. Women seem to be more influenced by intrinsic factors or the content of LIS jobs versus the structural or extrinsic characteristics. For example, women in the sample were more likely to report being strongly influenced by "always wanted to be a librarian," "it seemed like a good fit for my interests," "like working with computers," "like working with people," and "wanted a job where I could make a difference" compared to men in the sample. They were less likely to report being strongly influenced by length of training, availability of jobs, salary, and flexible career options. The one exception to this is the finding that women were over twice as likely to report that "an LIS career fits with my family responsibilities" compared to men.

The opposite pattern holds for the African-Americans in the sample compared to whites. African-American graduates reported being more strongly influenced by one content item, "like working with computers" compared to six out of seven of the items related to the structural characteristics of LIS jobs. In particular, African-Americans were twice as likely to report that benefits motivated them to enter a LIS program and almost three times as likely to report that salary motivated them to enter a LIS

program when compared to whites. Lastly, African-Americans did report that being "recruited by an LIS program" influenced their decision more strongly than whites. However, only 6 percent of African-Americans chose this response option. This suggests that intensifying their recruitment efforts may have an impact on influencing more African-Americans into entering the LIS workforce.

No clear pattern related to intrinsic vs. extrinsic characteristics of LIS jobs emerged for older workers (compared to younger workers) or Asian and other race workers (compared to white workers). Older workers report being strongly influenced by "always wanted to be a librarian," "like working with people," "recruited by LIS program," "worked as a library assistant," and "an LIS career fits with my family responsibilities." Older workers report being less strongly influenced by liking "to work with computers," "salary," and "flexible career options." Asian respondents were twice as likely to report that salary motivated them to enter a LIS program compared to whites. Other influential factors for Asians include "like working with computers" and "availability of jobs." Asians were less influenced by having worked in a library as an assistant. The only significant difference between the graduates in the other race category compared to whites is for liking "to work with computers"; graduates in the other race category were more strongly influenced by this item.

In addition to the significant differences that emerged between whites and the minority groups, differences between minority groups also emerged. For example, African-Americans were twice as likely to report being influenced by flexible education options for working adults compared to Asians. Similarly, African-Americans reported being strongly influenced by benefits compared to those in the other race category. Asians were strongly influenced by availability of jobs compared to those in the other race category.

Demand-Side Factors
Occupational segregation is not completely explained by workers' skills, education, and experience. Individual and organizational practices also contribute. Hiring practices, management practices, and organizational structure and policies also contribute to occupational segregation. For example, hiring practices that are infused with gendered or racialized assumptions of workers' capabilities prevents women and minorities from being hired into jobs that do not fit those assumptions. In addition to discriminatory practices that occur during the hiring process, organizational and management practices and conflict between workers makes it difficult to retain women and minority workers. For example, inflexible work arrangements make continuous employment difficult for women because of their greater likelihood of being responsible for childrearing (Frederickson, 2008). Also, management practices that create an unwelcoming

Table 4. Factors that Influenced the Decision to Enter a LIS Program and Motivated Entry into a LIS Program by Age, Race, and Sex

	Age (%)		Race (%)				Sex (%)		Total (%)
	< 50 yrs old	50 yrs or older	White	Black	Asian	Other	Male	Female	(N = 2,442)
Factors that influenced the decision									
Guidance counselor in high school	0.29	0.81	0.52	1.94	0.00	0.00	0.70	0.55	.57
Family member or friend worked in LIS	20.29	20.53	20.51	22.58	10.42	19.51	19.86	20.53	20.39
A friend or family recommended LIS	20.19	20.01	19.71	21.94	29.17	22.76	21.03	19.98	20.19
Always wanted to be a librarian	13.40	22.51+	18.43	20.65	14.58	16.26	7.01	20.98*	18.39
It seemed like a good fit for my interests	72.15	69.13	70.98	65.81	58.33	64.23	65.42	71.34*	70.07
Like working with computers	22.58	9.16+	12.29	32.26a	45.83b	30.08c	23.60	13.10*	15.11
Like working with people	35.69	48.24+	42.44	49.03	33.33	43.90	33.18	44.88*	42.75
Wanted a job where I could make a difference	40.48	43.26	41.82	45.81	35.42	45.53	32.24	44.18*	42.14
Recruited by LIS program	1.15	2.57+	1.42	5.81a	6.25	4.07	2.10	1.91	1.92
Worked as an assistant in a library or information center	33.97	38.93+	37.19	36.13	16.67b	34.15	38.55	36.35	36.77
Volunteered in a library or information setting	9.09	12.24+	10.35	14.84	8.33	13.82	4.21	12.25*	10.87

Table 4. (continued)

	Age (%)		Race (%)				Sex (%)		Total (%)
	<50 yrs old	50 yrs or older	White	Black	Asian	Other	Male	Female	(N = 2,442)
Factors that motivated entry									
Length of training	15.10	17.91	15.67	25.49[a]	15.63	28.79	18.61	16.47*	17.05
Flexible education options for working adults	41.32	48.63	44.42	60.78[a]	28.13[d]	50.00[e]	36.80	47.36	45.54
Availability of jobs	44.62	46.41	43.46	59.80[a]	71.88[b]	51.52[f]	57.58	43.24*	45.86
Salary	13.02	8.76[+]	9.00	23.53[a]	18.75[b]	16.67	12.12	10.38*	10.70
Benefits	13.89	12.68	12.03	26.47[a]	9.38	16.67[e]	12.12	13.43	13.38
Flexible career options	49.48	33.46[+]	38.53	55.88[a]	43.75	40.91	49.78	38.14*	40.17
An LIS career fits with my family responsibilities	26.22	37.52[+]	33.51	29.41	21.88	25.76	13.85	36.44*	32.55

[a]Black vs. White mean difference significant at $p<.05$
[b]Asian vs. White mean difference significant at $p<.05$
[c]Other vs. White mean difference significant at $p<.05$
[d]Black vs. Asian mean difference significant at $p<.05$
[e]Black vs. Other mean difference significant at $p<.05$
[f]Asian vs. Other mean difference significant at $p<.05$
*Female vs. Male mean difference significant at $p<.05$
[+]50 yrs and older vs. Under 50 yrs old mean difference significant at $p<.05$

environment for women, minorities, and older workers increase the likelihood that these workers will quit (Johnson & Neumark, 1997; Valentine, 2001). Further, excluding minority workers from promotion, education, and salary opportunities has been linked to lawsuits (Owens, 2000) and is thought to increase dissatisfaction with jobs—which could lead to quitting (Zerbinos & Clanton, 1993).

In short, it is likely that the nature of jobs, organization of work, and management/organizational practices prevent the entry of women, minorities, and older workers into certain occupations as well as decrease retention rates among those who do gain entry. Based on this evidence, we explore the job characteristics that women, minorities, and older workers find appealing in order to identify job characteristics that employers can emphasize or modify to attract and retain underrepresented workers. Specifically, graduates were asked: "The following are various aspects of jobs. How important do you personally consider these job characteristics?" A list of nineteen characteristics followed the question prompt. Respondents could choose "not at all important," "a little important," "somewhat important," or "very important" for each item. The results presented here are based on the portion of respondents who indicated that the job quality/characteristic is "very important." (See table 5.)

Two job qualities received high percentages of the "very important" option: "enough support to get the job done" and "the job is interesting." "Gives a feeling of doing something meaningful" also produced a high percentage of "very important" reports. Graduates were least likely to report that "a lot of leisure time" was very important. All but three of the job qualities listed on the survey produced significant differences with respect to age. Generally speaking, older workers were more likely to report that the qualities listed were very important compared to younger workers. Among the qualities that older workers reported being very important, good fringe benefits and an occupation that is recognized and respected were particularly more important for older workers compared to younger workers. Interestingly, older workers were less likely to report that a lot of leisure time for hobbies, etc. was a very important job quality.

Significant differences between the racial groups in the study also emerged. African-Americans, compared to whites, reported that six of the job qualities listed were more important compared to whites. The greatest difference for African-Americans compared to whites is on the quality "good opportunities for advancement"; twice as many African-Americans reported that this job quality was very important compared to whites. "Job responsibilities that are clearly defined," "leadership opportunities," "good fringe benefits," and "good pay" also produced substantial differences for African-Americans compared to whites. African-Americans were also significantly more likely to choose "job responsibilities that are clearly defined" as very important compared to Asians. Two significant differ-

ences were found for Asians compared to whites: "good opportunities for advancement" and "an occupation in which one can help others." For the latter job quality, Asians were less likely to report that this was very important compared to whites. Six significant differences were found for graduates in the other race category compared to whites: "good opportunities for advancement," "good pay," "good job security," "job responsibilities that are clearly defined," "good fringe benefits," and "ability to balance work and family responsibilities." These differences were not substantial, however, in magnitude.

All but five of the job qualities listed produced significant differences with respect to gender. Overall, women were more likely to report that the job quality listed was very important compared to men—except for "good opportunities for advancement." This job quality had the greatest difference in reports of "very important" between men and women, with women reporting that it was very important less frequently than men. Other qualities that produced large differences in magnitude include: "job responsibilities that are clearly defined," "good fringe benefits," "an occupation that is recognized and respected," "you have enough time to get the job done," "an occupation in which one can help others," and "ability to balance work and family responsibilities."

DISCUSSION

Overall, this analysis of LIS graduates demonstrates that the field of LIS has low levels of diversity in that it is both predominately female and predominately White. These results are unsurprising and generally mirror the data collected by others. The LIS workforce is also older than the average workforce. In terms of inequality between groups, the gender wage gap seen in the larger U.S. workforce is also found in library and information science. Race/ethnic differences in earnings, based on these analyses, do not appear to exist in the LIS workforce. The only exception is that Asians have significantly higher annual earnings than do Whites. This effect may be reflective of the increased representation of Asians in nonlibrary work settings as those in nonlibrary work settings make significantly higher annual earnings than LIS graduates currently working in library or information centers. In addition to documenting these group differences in working conditions and earnings, results from this study can be used to point educational and workforce planners and LIS employers to strategies for increasing the diversity of the LIS workforce along the lines of gender, race, and age.

Supply-side factors seem to play out differently across both race and gender. These findings can help point educational and workforce planners to develop interventions to increase workforce diversity. For example, a substantial portion, roughly 37 percent, reported that their employment in a library as an assistant strongly influenced their decision to enter

Table 5. Job Qualities That Are Important by Age, Race, and Sex

	Age (%)		Race (%)				Sex (%)		Total (%) (N = 2,182)
	<50 yrs old	50 yrs or older	White	Black	Asian	Other	Male	Female	
Good opportunities for advancement	38.76	36.15	34.55	68.81[a,e]	61.76[b]	47.56[c]	47.33	35.08*	36.89
Enough support and equipment to get the job done	80.13	85.02+	82.72	88.99[d]	70.59	81.71	76.74	84.08*	82.13
A lot of leisure time (e.g., time for hobbies, etc.)	19.43	10.79+	14.29	14.68	11.76	18.29	13.90	14.53	14.30
Good pay	52.29	55.15	52.40	76.15[a,e]	61.76	56.10[c]	50.80	54.53	53.44
Freedom to decide how you do your own work	55.57	57.49	56.78	50.46	61.76	60.98	55.35	56.98	56.23
Good job security	60.26	70.13+	65.24	83.49[a,e]	64.71	59.76[c]	61.76	66.82*	65.39
Job responsibilities that are clearly defined	40.94	52.82+	46.36	73.39[a,e]	38.24[d]	51.22[c]	37.70	49.89*	47.39
Good fringe benefits	32.21	52.09+	42.24	66.06[a,e]	50.00	45.12[c]	35.29	45.42*	43.31
The job is interesting	80.35	84.14+	82.72	80.73	73.53	82.93	76.74	83.69*	81.81
Leadership opportunities	30.13	37.20+	32.34	57.80[a]	41.18	45.12	32.35	34.64	34.00
An occupation that is recognized and respected	35.41	51.10+	43.22	61.68[a]	51.72	48.00	36.69	46.01*	41.89
You have enough time to get the job done	41.29	52.54+	46.26	63.55[a]	51.72	60.00	38.17	49.62*	44.96
A job that allows one to work independently	47.87	48.14	47.07	56.07	58.62	58.67	46.15	48.51	45.33
A lot of contact with other people	25.72	30.54+	28.52	20.56	37.93	34.67	25.15	29.12*	26.81
An occupation in which one can help others	57.21	63.79+	60.85	65.42	48.28[b]	64.00	52.07	62.78*	57.47
Gives a feeling of doing something meaningful	69.67	80.12+	75.76	75.70	82.76	70.67	69.82	76.82*	71.26

Table 5. (continued)

| | Age (%) | | Race (%) | | | | Sex (%) | | Total (%) |
	<50 yrs old	50 yrs or older	White	Black	Asian	Other	Male	Female	(N = 2,182)
Your supervisors value your opinion	62.86	67.51[+]	65.08	69.16	72.41	68.00	62.43	66.10*	61.69
A job that is useful to society	54.33	66.24[+]	60.63	67.29	62.07	66.67	55.03	62.43*	57.65
Ability to balance work and family responsibilities	70.93	68.44[+]	68.76	83.18[a,e]	75.86	64.00[c]	60.36	71.23*	65.40

[a]Black vs. White mean difference significant at $p<.05$
[b]Asian vs. White mean difference significant at $p<.05$
[c]Other vs. White mean difference significant at $p<.05$
[d]Black vs. Asian mean difference significant at $p<.05$
[e]Black vs. Other mean difference significant at $p<.05$
*Female vs. Male mean difference significant at $p<.05$
[+]50 yrs and older vs. Under 50 yrs old mean difference significant at $p<.05$

a LIS program. Another 11 percent said that volunteering in a library or information center setting was a major motivator in their decision to enter the field. Given this, developing undergraduate student internships that are marketed to minorities may prove fruitful in helping students understand the opportunities afforded by an LIS program. This could be taken a step further by offering internship opportunities to community members and offering on-the-job training and bridge/scholarship opportunities to local LIS programs. Particularly in public or school library settings, "growing their own" librarians from the community may have additional benefits of bridging relationships with the community, lessening cultural barriers, and serving as economic development for underserved and vulnerable communities.

Retention is as important as or even more important than recruitment for maintaining and growing the LIS workforce to meet the needs of the field. Those workers that are already in the field have made a major investment in graduate education, and employers have augmented that investment with additional orientation and training regardless of employer setting. Attending to what librarians need and want from their jobs can help employers increase retention rates. As a predominately female occupation with large numbers of older workers, LIS is faced with an increased need for flexible and family-friendly employment options. Women appear to be more likely than men to be motivated to enter a LIS program by intrinsic rewards (e.g., "always wanted to be a librarian," "like working with people,") and to prefer intrinsic qualities in a job (e.g., "feeling of doing something meaningful," "occupation in which one can help others"). This intrinsic orientation, however, does not obviate their need for a job that allows them to balance work-family needs as illustrated in the results presented here. Further, a strong desire for both increased job security and good fringe benefits appear to appeal to both women more than men and older workers more than younger. African-American workers seem to value extrinsic rewards more than whites. They place more importance on the availability of advancement opportunities and leadership opportunities than do their white counterparts. As for women, this desire is balanced by a preference for work that helps them balance work and family. These motivations and preferences call for employers to make strides in flexible employment, which may mean implementing job redesign, phased retirement, flexible scheduling, part-time options (perhaps with the option of health benefits), job sharing, telecommuting, and other ways to help individuals be both productive contributors to employers and to their families.

Overall, this analysis demonstrates that there are significant and perhaps important differences in what draws workers to jobs and occupations by race/ethnicity, age, and gender. These findings can be used productively by employers, educational institutions, and workforce planners in

designing and implementing strategies that improve jobs and careers by targeting individual group needs. The three main strategies—increasing access to LIS programs, expanding and connecting career ladders within and between employers, and increasing the flexibility of LIS jobs—are strategies that are likely to improve LIS jobs, organizations, and careers regardless of the group affiliation of LIS workers.

NOTE
1. The WILIS 1 study was supported by a grant from the Institute of Museum and Library Services. The primary research team from the School of Information and Library Science at the University of North Carolina Chapel Hill and the University of North Carolina Institute on Aging consisted of: Joanne Gard Marshall, lead principal investigator; Victor W. Marshall, coprincipal investigator; Jennifer Craft Morgan, coprincipal investigator; Deborah Barreau, coinvestigator; Barbara Moran, coinvestigator; Paul Solomon, coinvestigator; Susan Rathbun-Grubb, research scientist; Cheryl A. Thompson, project manager; and Shannon Walker, graduate research assistant.

REFERENCES
Adkins, D., & Hussey, L. K. (2005). Unintentional recruiting for diversity. *Public Libraries*, *44*(4), 229.
American Library Association. (2007). Diversity counts. Retrieved on May 11, 2009, from http://www.ala.org/ala/aboutala/offices/diversity/diversitycounts/divcounts.cfm
Bielby, W., & Baron, J. (1986). Men and women at work: Sex segregation and statistical discrimination. *American Journal of Sociology, 91*(4), 759–799.
Chang, M. J. (2005). Reconsidering the diversity rationale. *Liberal Education 90.* Retrieved May 11, 2009, from http://www.aacu.org/liberaleducation/le-wi05/le-wi05feature1.cfm
Collins, P. (2000). *Black feminist thought: Knowledge, conscienceness, and the politics of empowerment.* (2nd ed.). New York and London: Routledge.
Diaz, J., Tellman, J., & Jones, D. (1998). Affirmative action in ARL libraries, Association of Research Libraries, Office of Leadership and Management Services, Washington, DC, ARL Spec Kit#230.
Ditomaso, N., Post, C., & Parks-Yancy, R. (2007). Workforce diversity and inequality: Power, status, and numbers. *Annual Review of Sociology, 33*, 473–501.
Frederiksen, A. (2008). Gender differences in job separation rates and employment stability: New evidence from employer-employee data. *Labour Economies, 15*, 915–937.
Herring, C. (2009). Does diversity pay?: Race, gender, and the business case for diversity. *American Sociological Review, 74*, 208–224.
Johnson, R., & Neumark, D. (1997). Age discrimination, job separations, and employment status of older workers: Evidence of older workers. *The Journal of Human Resources Management, 32*(4), 779–811.
Kalleberg, A., Reskin, B., & Hudson, K. (2000). Bad jobs in America: Standard and nonstandard employment relations and job quality in the United States. *American Sociological Review, 65*, 256–278.
Kaufman, R. (2002). Assessing alternative perspectives on race and sex employment segregation. *American Sociological Review, 67*(4), 547–572.
Kilbourne, B. S., England, P., & Beron, K. (1994). Effects of individual, occupational, and industrial characteristics on earnings: Intersections of race and gender. *Social Forces, 72*, 1149–1176.
Kim, K., & Sin, S. (2008). Increasing ethnic diversity in LIS: Strategies suggested by librarians of color. *The Library Quarterly, 78*(2), 153–177.
Lance, K. C. (2005). Racial and ethnic diversity of US library workers. *American Libraries, 36*(5), 41–43.
McMullen, J. A., & Cairney, J. (2004). Self-esteem and the intersection of age, class, and gender. *Journal of Aging Studies, 18*(1), 75–90.
Moss, P., & Tilly, C. (1996). "Soft" skills and race. *Work and Occupations, 23*(3), 252–276.
Musser, L. R.(2001). Effective retention strategies for diverse employees. *Journal of Library Administration, 33*(1), 63–72.

National Center for Education Statistics. (2006). Table 281: Doctor's degrees conferred by degree-granting institutions, by sex, race/ethnicity, and major field of study, 2005–2006.

National Center for Education Statistics. (2009). *Condition of Education 2009*, http://nces.ed.gov/programs/coe/2009/section3/indicator24.asp (NCES 2009-081)

Neely, T., & Peterson, L. (2007). Achieving racial and ethnic diversity among academic and research libraries. *College Research and Library News, 68*(9), 562–565.

Owens, I. (2000). Maintaining diversity in information agencies: Accountability, professionalism, job performance, policies and standards. *Bulletin of the American Society for Information Science, 26(4)*. Retrieved April 15, 2009, from http://www.asis.org/Bulletin/May-00/owens.html

Penner, A. (2008). Race and gender differences in wages: The role of occupational sorting at the point of hire. *The Sociological Quarterly, 49*, 597–614.

Reskin, B. (1993). Sex segregation in the workplace. *Annual Review of Sociology, 19*, 241–270.

Roscigno, V., Mong, S., Byron, M., & Tester, G. (2006). Age discrimination, social closure, employment. *Social Forces, 86*(1), 313–334.

Shah, P., & Kleiner, B. (2005). New developments on age discrimination in the workplace. *Equal Opportunities International, 24*(5), 15–23.

Swift, J. (2006). Justifying age discrimination. *The Industrial Law Journal, 35*(3), 228–244.

Thornton, J. K. (2000). Job satisfaction of librarians of African descent employed in academic research libraries. *College and Research Libraries 61*(3), 217–232.

U.S. Bureau of Labor Statistics. (2006). Employment status of the civilian, non-institutionalized population by age, sex, and race. Retrieved May 11, 2009, from http://www.bls.gov/cps/tables.htm

U.S. Bureau of Labor Statistics. (2009). Highlights of Women's Earnings in 2008. Retrieved May 11, 2009, from http://www.bls.gov/cps/cpswom2008.pdf

U.S. Census Bureau. (2008). Population estimates by race/ethnicity. Retrieved May 11, 2009, from http://www.census.gov

Valentine, S. (2001). A path analysis of gender, race, and job complexity as determinants of intention to look for work. *Employee Relations, 23*(2), 130–145.

van Knippenberg, D., De Dreu, C. K., & Homan, A. C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology, 89*(6), 1008–1022.

Williams, K., & O'Reilly, C. (1998). Demography and diversity: A review of 40 years of research. In B. Staw and R. Sutton (Eds.), *Research in Organizational Behavior* (Vol. 20, pp. 77–140). Greenwich, CT: JAI Press.

Winston, M., & Li, H. (2002). Diversity and organizational success: a survey of chief academic officers in liberal arts colleges. ACRL Conference Proceedings. Retrieved May 11, 2009, from www.ala.org/ala/acrl/acrlevents/winston.PDF

Zerbinos, E. & Clanton, G. A. (1993). Minority practitioners: Career influences, job satisfaction, and discrimination. *Public Relations Review, 19*, 75–91.