Job satisfaction of information technology workers in academic libraries

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1. Introduction

Organizational researchers have long been interested in studying job satisfaction due to its relationships with job performance and/or organizational commitment (Christen, Iyer, & Soberman, 2006; Cohrs, Abele, & Dette, 2006; Rayton, 2006). More importantly, employed individuals spend most of their time doing their jobs. As a result, their feelings about their jobs are likely to affect their lives in general. Judge and Watanabe’s (1994) literature review and their study supported this view by showing a positive relationship between job and life satisfaction. Similarly, Landry (2000) found a positive correlation between life and job satisfaction of librarians in public libraries. Furthermore, according to Judge and Ilies (2004), job satisfaction affects one’s positive mood after working. In turn, job satisfaction is important for personal well-being and organizational effectiveness.

Due to this merit of the topic, some library and information science (LIS) researchers have also examined library employees' job satisfaction. However, there have been few empirical studies regarding the job satisfaction of library information technology (IT) workers, despite the increased number of IT workers in academic libraries. Here, the term library IT workers refers to those dealing with integrated library systems management, network management and administration, or other computer applications.

Currently, only two relevant studies exist (Lim, 2007; Taylor, 2000). Taylor (2000) examined the job satisfaction of webmasters from the Association of Research Libraries (ARL) in relation to their job tasks, including likes and dislikes regarding their specific tasks. Lim (2007) examined the job satisfaction of IT workers of ARL member libraries in relation to the Master of Library Science (MLS) degree. Both studies provided some insights about the job satisfaction of employees working with IT in academic library settings. However, it is not well known as to which factors contribute to the job satisfaction of library IT workers; further research is required.

This present study examined library IT workers’ job satisfaction in relation to demographic, socioeconomic, and particular work-related variables. These demographic and socioeconomic variables included gender, race, age, education, years worked in library, and salary. The work-related variables included a sense of belonging, faith in wanting to belong, a feeling of acceptance, paying dues, job autonomy; the job role (broker's role), and promotion opportunities.

This study contributes to both the LIS literature and practice by providing new knowledge concerning the job satisfaction factors of IT workers. It provides some explanations as to why some IT workers are more satisfied with their jobs than others, thereby contributing to improving the quality of their work lives. This new knowledge may help library managers develop effective management approaches.

2. Literature review

There exists an extensive body of literature related to job satisfaction. This literature review is not comprehensive, but is rather limited to the areas concerning the job satisfaction of IT workers, library employees, and other types of employees in various organizational settings. This paper will review definitions of job satisfaction and certain arguments in defining the concept. It will identify specific important factors affecting job satisfaction in the literature.

2.1. Definitions of job satisfaction and specific arguments defining the concept

Locke's (1976) classic definition of job satisfaction has been widely cited in the literature. Locke defines job satisfaction as “a pleasurable or positive emotional state resulting from an appraisal of one’s job or job...
experiences” (p. 1300). Similarly, Hackman and Oldham (1975) provide an implicit definition of job satisfaction as one’s affective reactions to his/her job in their Job Characteristics Model. Both definitions indicate that job satisfaction is one’s “emotional reactions” to one’s job.

Pointing out inconsistent treatments of job satisfaction as affect and attitude in the literature, Weiss (2002) argued that affect and attitude are not the same thing. He further argued that the three constructs of an evaluative judgment regarding jobs, affective experiences at work, and beliefs about jobs need to be distinguished. To Weiss, job satisfaction is not an affective reaction, but rather an attitude that is an evaluative judgment involving objects. Based on his argument, Weiss defined job satisfaction as “a positive (or negative) evaluative judgment one makes about one’s job or job situation” (p. 175). Some researchers tend to agree with Weiss’s distinction between affect and attitude in defining job satisfaction (Ilies & Judge, 2004; Schleicher & Watt, 2004). In particular, Ilies and Judge (2004) acknowledged Weiss’s argument and remarked that job satisfaction is an attitudinal concept reflecting one’s evaluation about one’s job, as well as an emotional reaction to it.

Finally, it is useful to examine how researchers measure the concept of job satisfaction, as operational definitions or similar types of definitions using these measures are often discussed as a definition of job satisfaction in the literature. This is particularly the case in Weiss’s (2002) study, which defined job satisfaction as an attitude. Such a definition adds to confusion in defining job satisfaction as an attitude (Weiss, 2002). This paper’s intention is not to engage in this argument but to point out disagreements regarding the definition of the concept of job satisfaction. It is also important to distinguish between the conceptual and operational definitions of job satisfaction.

2.2. Factors affecting job satisfaction

2.2.1. Background variables: demographic and socioeconomic variables

Studies have shown inconsistent results concerning the relationships between most background variables and job satisfaction, except for gender. Most reviewed studies consistently find no relationship between gender and job satisfaction of either IT personnel (Igbaria & Guimaraes, 1993; Kuo & Chen, 2004; Sumner & Niederman, 2003–2004) or librarians/academics (Cetin, 2006; Chwe, 1978; Hovekamp, 1995; Lynch & Verdin, 1987). Some researchers found that the older employees were more satisfied with their jobs than the younger individuals (Kuo & Chen, 2004). Other researchers found that age was not a factor (Cetin, 2006; Chwe, 1978; Hovekamp, 1995; Lynch & Verdin, 1987). Experience, as a variable, also yielded inconsistent results: Chwe (1978) and Hovekamp (1995) found no relationship between experience and the job satisfaction of librarians, while Tella, Ayeni, and Popoola (2007) posited that two studies have shown a relationship between experience and the job satisfaction of librarians.

Mette’s (2001) literature review provides evidence of inconsistent findings between educational level and job satisfaction. In fact, Kuo and Chen (2004) found no relationship between education and the job satisfaction of IT personnel in Taiwan. However, Lim (2007) found that library IT workers with an MLS degree were more satisfied with their jobs than those without an MLS degree. On the other hand, studies have found that salary is positively related to job satisfaction in library settings (Estabrook, Bird, & Gilmore, 1990; Hovekamp, 1995) and business settings (Kuo & Chen, 2004; Rayton, 2006). The inconsistent findings with respect to most background variables lead to this study on whether or not the variables, including gender and race, are related to job satisfaction of library IT workers.

2.2.2. Sense of belonging

Barak and Levin (2002) discussed a number of studies that conveyed the relationship between acceptance by the organization and job satisfaction. They also presented evidence of a negative relationship between a perceived lack of fit between employees and others in the organization and job satisfaction. Lustig and Strauser (2002) also proposed that a sense of cohesion is positively related to life and job satisfaction. In addition, according to the sense of community theory (McMillan, 1996), three factors of faith are the sources of a sense of belonging: wanting to belong, a feeling of acceptance, and paying dues. These three factors are likely to relate to job satisfaction.

2.2.3. Job autonomy

According to Hackman and Oldham (1975), job autonomy is one of the key sources of job satisfaction. Other researchers have also reported a positive relationship between these two variables (Cohrs et al., 2006; Weaver, 1977).

2.2.4. Promotion opportunities based on merit

Promotion is an important source of job satisfaction (Locke, 1976). A recent study also supported this by showing that promotion is the most influential factor affecting the job satisfaction of school teachers (Sharma & Jyoti, 2006). As a result, what constitutes the base of promotion may also affect the job satisfaction of employees. Locke (1976) remarked that promotion based on merit or ability to do the job is one way of promoting a sense of fairness or equity to employees, which is likely to be related to their job satisfaction. In other words, those who perceive more promotion opportunities due to their ability to do their jobs are more likely to be satisfied with their work.

2.2.5. Role variables

Many studies suggest that the broker’s role may affect the job satisfaction of IT workers. IT workers often function in a broker or boundary-spanning role, bridging different communities of practice. Lim (2007) highlighted the moderate role of library IT workers as brokers or boundary spanners. Baroudi (1985) examined the job satisfaction of information system (IS) personnel in relation to their boundary-spanning role, role ambiguity, and role conflict. His study is particularly relevant to library IT workers’ job satisfaction regarding their broker or boundary-spanning role. Baroudi (1985) also found that there was a positive relationship between the boundary-spanning role and role conflict. In addition, the boundary-spanning role had an indirect effect on the job satisfaction of IS personnel through role conflict. Similarly, Igbaria and Guimaraes’ (1993) study demonstrated that role ambiguity was negatively related to the job satisfaction of information center employees. On the other hand, Pawlowski and Robey (2004) found that IT professionals in a manufacturing company perceived their broker’s or boundary spanner’s role advantageously regarding their promotions, as they could move across organizational boundaries. These studies provide different directional implications regarding job satisfaction.

2.2.6. Other variables: personality and career orientation

The variables of personality types and career orientation were not examined for this study, but are often discussed in the job satisfaction literature. Williamson, Pemberton, and Lounsbury (2005) examined the relationship between personality style and the job satisfaction of librarians working in various types of libraries and other informational professionals. They found that five personality factors were positively related to job satisfaction: optimism, emotional resilience, propensity for teamwork, a visionary work style, and work drive (i.e., the disposition to work long hours). Similarly, Cohrs et al. (2006) examined job satisfaction factors by using three samples: Mathematics teachers at state
schools, mathematicians in private business, and professionals in private business. They measured the Big Five personality factors, including neuroticism, extraversion, openness to experience, conscientiousness, and agreeableness. They found that among these traits, neuroticism was a negative factor affecting job satisfaction across the three samples. However, the significant effects of neuroticism disappeared in combination of work situational factors in two samples.

Finally, McMurtrey, Grover, Teng, and Lightner (2002) examined the relationships among career orientation, Computer-Aided Software Engineering (CASE) technology sophistication, and the job satisfaction of IT professionals. Their study showed that IT professionals with technical competence had higher job satisfaction than those with managerial competence in a CASE tool environment. In a similar vein, Chwe (1978) found no significant difference in job satisfaction between catalogers and reference librarians. However, reference librarians were more satisfied than catalogers regarding specific aspects of work including, the creativity of work, the variety of work, and the opportunity for social service.

3. Research questions and hypotheses

3.1. Research questions

The main research foci of the study are twofold. First, are background variables related to the job satisfaction of the library IT workers? Second, are work-related variables good predictors of job satisfaction for the library IT workers?

3.2. Hypotheses

H1. Gender is related to the job satisfaction of library IT workers.
H2. Race is related to the job satisfaction of library IT workers.
H3. Age is related to the job satisfaction of library IT workers.
H4. An MLS degree is related to the job satisfaction of library IT workers.
H5. Years worked in the library are related to the job satisfaction of library IT workers.
H6. Salary is related to the job satisfaction of library IT workers.
H7. A sense of belonging is related to the job satisfaction of library IT workers.
H8. Faith in wanting to belong is related to the job satisfaction of library IT workers.
H9. A feeling of acceptance is related to the job satisfaction of library IT workers.
H10. Paying dues is related to the job satisfaction of library IT workers.
H11: Job autonomy is related to the job satisfaction of library IT workers.
H12: Promotion opportunities due to technical expertise is related to the job satisfaction of library IT workers.
H13. The broker’s role is related to the job satisfaction of library IT workers.

4. Procedures

4.1. Population and sample

Researchers conducted a mail survey of library IT workers regarding job satisfaction in relation to their sense of belonging, job autonomy, and their role as broker. The survey population consisted of the IT workers in each main library of the 99 university member libraries of the Association of Research Libraries (ARL) in the United States. The sample consisted of the IT workers of each IT department of 30 university libraries in the midwestern and northeastern United States. Two sampling frames were used: the ARL directory and the library staff directories of each university library. A total of 443 mail surveys were sent out in May 2006 with a follow-up postcard; 202 surveys were returned, resulting in a 45.6% response rate.

4.2. The measures of the study

For this study, job satisfaction was defined as an individual’s feelings and evaluative judgment about one’s job. Hackman and Oldham’s (1975) Job Diagnostic Survey (JDS) was adopted for the measures of the job satisfaction concept. These measures are described in the literature review ($\alpha=0.83$).

A sense of belonging was defined as whether an individual felt part of the organization. Three items of the Perceived Cohesion Scales (PCS) (Bollen & Hoyle, 1990) were used ($\alpha=0.94$). Based on McMillan’s (1996) revised Sense of Community Theory, ten items were developed and reflected the three factors of faith in wanting to belong ($\alpha=0.78$), a feeling of acceptance ($\alpha=0.92$), and paying dues ($\alpha=0.80$).

Job autonomy was defined as the degree to which a job provided discretion to an individual in performing the job. Employing the Job Characteristic Inventory (JCI) (Sims, Szilagyi, & Keller, 1976), different aspects of job autonomy were measured. These included independence from the supervisor and others, the degree of freedom, and independent thoughts in performing one’s job ($\alpha=0.82$).

Finally, the broker’s or boundary spanner’s role was defined as a role bridging different work communities. Based on the literature (Barley, 1996; Gordon, 2003), four items representing aspects of this role were developed in order to measure the broker’s role of IT workers ($\alpha=0.78$). One item was developed based on Pawlowski and Robey’s (2004) study to measure the workers’ perception of their promotion opportunities due to their technical expertise. Each scale was scored using a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree) (see Appendix A).

5. Findings

5.1. Summary of the findings

This study examined both background and work-related variables. Among the background variables, salary and an MLS degree were significant factors affecting the job satisfaction of library IT workers. However, an MLS degree was negatively related to the job satisfaction of library IT workers. Among the work-related variables, a sense of belonging, faith in wanting to belong, a feeling of acceptance, job autonomy, and promotion opportunities due to technical expertise were positively related to the job satisfaction of library IT workers. Neither paying dues nor the broker’s role was related to job satisfaction.

5.2. Sample characteristics

Male IT workers outnumbered their female counterparts. Among the respondents, 45.5% ($N=91$) were female and 53.5% ($N=107$) were male. A majority of the respondents (86%; $N=172$) were Caucasian, followed by Asian (7%; $N=14$), African-American (2.5%; $N=5$), other racial groups (2.5%; $N=5$), and Hispanic (1%; $N=2$). There was a wide range of age groups. Approximately 58% of the respondents ($N=116$) ranged between 35 and 54; 29% ($N=58$) were between 35 and 44, and another 29% were between 45 and 54. The remaining 41% of IT workers fell evenly into either “under the age of 35” (21.5%; $N=43$) or “over the age of 55” (21%; $N=40$).

Approximately half of the respondents (52%; $N=104$) held a Master’s or equivalent degree and 27.5% ($N=55$) held a Bachelor’s degree. A sizable number of the respondents (10.5%; $N=21$) held a less Bachelor’s, and a small number of respondents (3%; $N=6$) held a Ph.D. Approximately 37.5% ($N=75$) held an MLS degree. More than half of the respondents had been at their respective libraries for a short period of time; the distribution was less than 10 years (57.6%; $N=114$), 11–22 years (24.5%; $N=49$), and more than 22 years (17.5%; $N=35$).
Finally, the distribution of the respondents’ gross salaries was as follows: less than $40,000 (15.5%; N=43); $40,001–$50,000 (21.5%; N=51); $50,001–$60,000 (17.5%; N=35); $60,001–$70,000 (17.5%; N=35); $70,001–$80,000 (14.0%; N=31); and more than $80,001 (11%; N=22) (see Table 1).

### 3. Results of hypothesis testing

Three sets of variables were tested using multiple regression analyses. The first set of variables included background variables (Model 1). The second set of variables included work-related variables (Model 2). The final set of variables included both background and work-related variables (Model 3). A two-tailed test under α=0.05 tested all of the hypotheses.

#### 5.3.1. Background variables

The first regression model (Model 1) included only gender, race, age, holding an MLS, years worked in the library, and salary. Instead of education, this study used an MLS degree because a previous study showed that an MLS degree affected the job satisfaction of library IT workers (Lim, 2007). In addition, an MLS degree is an educational degree, meaning that there is redundant information between the variables. There was a high correlation between education and an MLS degree (r=0.627) in the current sample. Among the variables, salary and gender significantly affected the job satisfaction of library IT workers. More specifically, salary was a positive factor (β=0.358; p<0.000), meaning that those who had a higher salary were more satisfied with their job than those with lower salaries. Female IT workers were more satisfied with their jobs than their male counterparts (β=−0.171; p<0.029). On the other hand, other variables such as race, age, holding an MLS degree, and years worked in the library were not related to workers’ job satisfaction. Race was analyzed as two groups, Caucasians and non-Caucasians, due to a small number of each of the minority ethnic groups. An MLS degree was not a significant factor affecting workers’ job satisfaction when other demographic and socioeconomic variables were considered (see Table 2). However, when all of the research variables were considered, the gender effect disappeared while the MLS effect appeared. A detailed description is presented below.

#### 5.3.2. Work-related variables: sense of belonging, faith in belonging, acceptance, paying dues, job autonomy, promotion opportunities, and the broker’s role

The second regression model (Model 2) included only work-related variables without demographic and socioeconomic variables. A sense of belonging to one’s organization was positively related to job satisfaction (β=0.129; p<0.044). Faith in wanting to belong (β=0.203; p<0.001) and feelings of acceptance (β=0.328; p<0.000) were positively related to job satisfaction, while paying dues did not affect job satisfaction. More specifically, those who had higher faith in wanting to belong to their libraries were more satisfied with their jobs than those with lower faith. Those who felt more accepted by their libraries were more satisfied with their jobs than those who felt fewer feelings of acceptance. However, there was no statistical difference in job satisfaction between those who paid more in dues to their libraries than those who paid less. Job autonomy was positively related to job satisfaction (β=0.166; p<0.000). Those who evaluated their technical expertise as advantageous regarded their position advancement or promotion were more satisfied with

### Table 1

Sample characteristics

<table>
<thead>
<tr>
<th>Sample characteristics</th>
<th>Gender</th>
<th>Race</th>
<th>Years in the library</th>
<th>Education</th>
<th>MLS</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>N=91</td>
<td>45.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>N=107</td>
<td>53.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>African-American</td>
<td>N=5</td>
<td>2.5%</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Asian</td>
<td>N=14</td>
<td>7%</td>
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<tr>
<td></td>
<td>Caucasian</td>
<td>N=172</td>
<td>86%</td>
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</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>N=2</td>
<td>1%</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>N=5</td>
<td>2.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Under 35</td>
<td>N=43</td>
<td>21.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35–44</td>
<td>N=58</td>
<td>29%</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>45–54</td>
<td>N=58</td>
<td>29%</td>
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</tr>
<tr>
<td></td>
<td>Over 55</td>
<td>N=40</td>
<td>20%</td>
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<tr>
<td>Education</td>
<td>Less than a Bachelor’s</td>
<td>N=21</td>
<td>10.5%</td>
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<tr>
<td></td>
<td>Bachelor’s</td>
<td>N=55</td>
<td>27.5%</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Some graduate work</td>
<td>N=13</td>
<td>6.5%</td>
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<tr>
<td></td>
<td>Master’s</td>
<td>N=104</td>
<td>52%</td>
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<tr>
<td></td>
<td>Doctorate</td>
<td>N=6</td>
<td>3%</td>
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<tr>
<td></td>
<td>Yes</td>
<td>N=75</td>
<td>37.5%</td>
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<tr>
<td></td>
<td>No</td>
<td>N=124</td>
<td>62%</td>
<td></td>
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<tr>
<td>Years in the library</td>
<td>Less than 5 years</td>
<td>N=51</td>
<td>25.5%</td>
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</tr>
<tr>
<td></td>
<td>5–10</td>
<td>N=63</td>
<td>31.5%</td>
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<tr>
<td></td>
<td>11–16</td>
<td>N=26</td>
<td>13%</td>
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</tr>
<tr>
<td></td>
<td>17–22</td>
<td>N=23</td>
<td>11.5%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>More than 22 years</td>
<td>N=68</td>
<td>17.5%</td>
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</tr>
<tr>
<td>Salary</td>
<td>Less than 40,000</td>
<td>N=31</td>
<td>15.5%</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>40,000–50,000</td>
<td>N=43</td>
<td>21.5%</td>
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<tr>
<td></td>
<td>50,000–60,000</td>
<td>N=35</td>
<td>17.5%</td>
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<tr>
<td></td>
<td>60,000–70,000</td>
<td>N=35</td>
<td>17.5%</td>
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</tr>
<tr>
<td></td>
<td>70,000–80,000</td>
<td>N=28</td>
<td>14.0%</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>More than 80,000</td>
<td>N=22</td>
<td>11.0%</td>
<td></td>
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</tbody>
</table>

### Table 2

Summary of regression models for job satisfaction

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standardized coefficient (β)</td>
<td>P-value</td>
<td>Standardized coefficient (β)</td>
</tr>
<tr>
<td>Gender</td>
<td>−0.171</td>
<td>0.029</td>
<td>−0.088</td>
</tr>
<tr>
<td>Race</td>
<td>−0.091</td>
<td>0.199</td>
<td>0.008</td>
</tr>
<tr>
<td>Age</td>
<td>−0.097</td>
<td>0.287</td>
<td>0.004</td>
</tr>
<tr>
<td>MLS</td>
<td>0.037</td>
<td>0.645</td>
<td>−0.104</td>
</tr>
<tr>
<td>Years in the library</td>
<td>0.080</td>
<td>0.377</td>
<td>0.013</td>
</tr>
<tr>
<td>Salary</td>
<td>0.358</td>
<td>0.000</td>
<td>0.183</td>
</tr>
<tr>
<td>Sense of belonging</td>
<td>0.129</td>
<td>0.044</td>
<td>0.157</td>
</tr>
<tr>
<td>Acceptance</td>
<td>0.328</td>
<td>0.001</td>
<td>0.159</td>
</tr>
<tr>
<td>Paying dues</td>
<td>0.041</td>
<td>0.378</td>
<td>0.047</td>
</tr>
<tr>
<td>Job autonomy</td>
<td>0.166</td>
<td>0.000</td>
<td>0.175</td>
</tr>
<tr>
<td>Promotion</td>
<td>0.286</td>
<td>0.000</td>
<td>0.268</td>
</tr>
<tr>
<td>Broker's role</td>
<td>−0.046</td>
<td>0.301</td>
<td>−0.073</td>
</tr>
<tr>
<td>N</td>
<td>185</td>
<td>185</td>
<td>185</td>
</tr>
<tr>
<td>R²</td>
<td>0.138</td>
<td>0.701</td>
<td>0.728</td>
</tr>
<tr>
<td>R² change</td>
<td>0.138</td>
<td>0.590</td>
<td></td>
</tr>
</tbody>
</table>

Dependent variable: Job satisfaction.

Dummy variables: Gender (Female: 0, Male: 1), Race (Caucasian: 0, Non-Caucasian: 1), MLS (Non-MLS: 0, MLS: 1).
their jobs than those who did not ($β=0.286; p<0.000$). Finally, the broker’s role was not related to their job satisfaction (see Table 2).

### 5.3.3. Both background and the work-related variables

When all of the variables were considered (Model 3), there were two changes in the significant effects of background variables on the job satisfaction of library IT workers. Gender was no longer significant, while holding an MLS degree was negatively related to the job satisfaction of the library IT workers ($β=-0.104; p=0.040$). That is, when controlling other variables, the gender effect was insignificant (i.e., the part correlation between gender and job satisfaction: $r=-0.074$ while its zero-order correlation: $r=-0.103$) (see Table 3). On the other hand, the variables of both an MLS degree and the broker’s role had a sign of suppression, showing opposite signs between zero-order correlations and regression coefficients. The variables of an MLS degree and the broker’s role suppressed the variance in other variables that were not relevant to job satisfaction. In the case of the variable of an MLS degree, when controlling other variables, its correlation (absolute value) with job satisfaction was increased (zero-order correlation=0.131; partial correlation=0.156; and part correlation=0.082), showing a significant result. Salary remained a significant factor affecting the library IT workers’ job satisfaction ($β=0.183; p<0.0001$) (see Table 2). In other words, the research hypotheses H4 and H6 were supported, while H1, H2, H3, and H5 were not supported (see Table 3). The background variables explained 13.8% of the variance in job satisfaction.

The significant results of all of the work-related variables remained the same in combination with the background variables. The variables of a sense of belonging ($β=0.157; p=0.022$), faith in wanting to belong ($β=0.159; p=0.012$), a feeling of acceptance ($β=0.315; p<0.000$), job autonomy ($β=0.175; p<0.000$) and promotion ($β=0.268; p<0.000$) were positively related to job satisfaction. In other words, the research hypotheses H7, H8, H9, H11 and H12 were supported. Paying dues and serving in a broker’s role were not related to job satisfaction, so hypotheses H10 and H13 were not supported. Among the significant factors, a feeling of acceptance, promotion, salary, and job autonomy were four strong factors affecting the job satisfaction of the library IT workers. The work-related variables explained 59% of the variance in job satisfaction. A summary table of three regression models using different sets of variables and a summary of hypothesis tests and correlations are presented in Tables 2 and 3, respectively.

### 6. Discussion

The study showed that an MLS degree was a factor affecting library IT workers’ job satisfaction when all of the research variables were considered. However, its effect on job satisfaction was negative, which was an unexpected result. One possible reason may be related to the value of an MLS degree in terms of IT workers’ tasks or performance evaluations. Those IT workers with an MLS degree may feel that their MLS degrees were not linked to their performance evaluations, which may decrease their job satisfaction. However, further research is required to validate this argument.

Among the work-related variables, a feeling of acceptance and perceptions regarding workers’ technical expertise as the opportunities for position advancement were particularly important factors affecting the job satisfaction of library IT workers. Their broker’s role of bridging between the technical and library communities was negatively related to job satisfaction, but its effect was not significant. This result indicates that the broker’s role may not be associated with either role conflicts (which may decrease their job satisfaction) nor to the opportunity to form partnership with other units (which may increase their job satisfaction). Or, the broker’s role may be related to the opportunity to form partnerships, but these opportunities to form partnerships may not be related to job satisfaction.

Finally, against expectations, paying dues was not a significant job satisfaction factor. One possible interpretation may be that paying dues to one’s library may be related to a sense of duty or obligation as a library member, which may not cause pleasurable feelings involving their job.

This study’s findings provide a number of implications for library managers. First, given the finding that an MLS degree is related to the job satisfaction of library IT workers, library administrators need to provide different ways of increasing job satisfaction for both the MLS and non-MLS groups by identifying or understanding the different needs or values of the two groups. This requires further research. Second, library administrators need to provide certain mechanisms through which library IT workers may feel welcomed and valued by their libraries. According to Locke (1976), verbal recognition of employees’ work is one of the most important contributions to job satisfaction. This notion suggests that recognizing any achievements by individual IT workers or providing feedback about their performance may increase their feelings of acceptance. Subsequently, library managers may promote the library IT workers’ sense of belonging to their library by providing an environment in which library IT workers feel welcomed. Third, library IT workers who perceived their technical expertise as advantageous regarding promotions were more satisfied with their job than those who did not. This implies that promotion policies or performance evaluations based on expertise or merit may enhance the job satisfaction of library IT workers. Fourth, library administrators need to provide a great amount of discretion to library IT workers in performing their jobs. Finally, salary is also an issue in job satisfaction of library IT workers.
7. Conclusion

This study found that salary, a sense of belonging, faith in wanting to belong, a feeling of acceptance, job autonomy, and promotion due to technical expertise were positively related to job satisfaction. On the other hand, an MLS degree was negatively related to job satisfaction, which was an unexpected result.

The study has some limitations. First, it required a great endeavor to identify IT workers in the sampling process, as a directory of library IT workers does not exist. As a result, 30 libraries out of 99 ARL member libraries in the United States were purposely selected as a study sample. This makes it difficult to generalize the findings of the study to the entire library IT worker population. Second, the promotion variable had only one indicator. More items would have been desirable to measure various aspects of promotion. Third, there is a need for research reexamining the relationship between an MLS degree and the job satisfaction of library IT workers. Finally, this study examined only certain factors. It may have omitted other variables affecting job satisfaction of library IT workers. For instance, job satisfaction researchers have also studied job performance (Christen et al., 2006; Ibrahim, Sejini, & Qassimi, 2004), self-evaluation (Judge, Bono, Erez, & Locke, 2005), personality types (Coehrs et al., 2006; Williamson et al., 2005) and career orientation (McMurray et al., 2002). Further research into the relationships between these variables and job satisfaction is needed to better understand the job satisfaction of library IT workers.

Appendix A. Survey items

Job satisfaction
I am fairly well satisfied with my job.
I am enthusiastic about my job most days.
I am satisfied with my job security.
I am satisfied with my pay or other compensation.
I am satisfied with my peers or co-workers.
I am satisfied with the relationship between my supervisor and me.
I am satisfied with the opportunity for personal growth and development in my job.

Sense of belonging
I feel I belong to the library community.
I feel that I am a member of the library community.
I see myself as part of the library community.

Faith in wanting to belong
I am proud to be part of the library community.
I feel there are a considerable number of respectable people in the library.

Feeling of acceptance
I feel welcomed in the library.
My colleagues appreciate my opinions at staff meetings.
My colleagues appreciate my work.
I feel I am considered as an important member of the library.

Paying dues
I often offer my help whenever others need me.
I often work more than I need to do for my job.
I often go the extra mile for others.
I am willing to sacrifice myself for the library.

Job autonomy
I am able to act independently of my supervisor in performing my job duties.
I am able to do my job independently of others.
The freedom to do pretty much what I want in my job is high.

The opportunity for independent thought or action in my job is high.

Broker’s role
I often translate technical jargon for librarians or library users.
I often communicate with vendors.
I often communicate with the campus technology unit.
I feel like I am a bridge between librarians and the technical community.

Promotion opportunity
My technical expertise gives me an advantage to advance in my position.

References


