

AN EXPLORATORY STUDY OF THE RELATIONSHIP BETWEEN ACADEMIC  
LIBRARY WORK EXPERIENCE AND PERCEPTIONS OF LEADERSHIP  
SKILL DEVELOPMENT RELEVANT TO ACADEMIC  
LIBRARY DIRECTORSHIP

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## ABSTRACT

Though research into academic library director leadership has established leadership skills and qualities required for success, little research has been done to establish where in their career library directors were most likely to acquire those skills and qualities. This research project surveyed academic library directors at Carnegie-designated Master's granting institutions about their previous library positions, and what skills and qualities they perceived to have exercised in those positions. Five research questions were assessed. RQ1: Which of the respondents' last five positions previous to the directorship are most often represented in the path to the academic library directorship? RQ2: Which of the previous positions held by the respondents are perceived to have helped prepare directors the most for the qualities and skills required of the position? RQ3: Is the perception of library leadership skill and quality development equal across departmental experience? RQ4: What, if any position(s), appear to be the "gatekeepers" for academic librarian skill and competency development? RQ5: What are the skills most commonly perceived to be used in each department?

Findings revealed that respondents perceived there to be great opportunities to exercise leadership qualities in previous positions, but few opportunities to develop more empirically measurable leadership skills. In addition, respondents perceived those skill development opportunities to be available only once working in the position of library director or in the Administration department of academic libraries.

## DEDICATION

To my mother, Joanne K. Harris, whose answer to my questions as a child was an enthusiastic “Look it up!” Those simple words continue to drive my desire to help people answer questions. You forged this librarian’s heart, and as always, every good thing I do belongs to you.

To the memories of June and Joseph F. Reilly, Jr., the grandparents who set me up early for a life of reading and learning.

To the Brentwood School District teachers who taught me that learning is a rewarding and joyful endeavor: Joan Rosenberg, Maureen Finnegan, Janice Thorkelsen, Paula Bisulca, Ray Liebert, Ellen Edelstein, Warren Swensen, Cheryl Castano, Tom O’Brien, and to the memories of Austin Harney, Helen Nabrovskis, Yvonne Lagonterie, and Joe Palazzolo.

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Lastly, to Jed Waters Harris-Keith, my husband, who never once complained about driving three hours to spend his weekend in the library, who listens with genuine enthusiasm as I prattle on about research models, and reminds me there is life between revisions. Your support means the world to me, and your love lifts me above all things. Wherever you are is my home.

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Finally, my thanks to all of the academic library directors who enthusiastically completed the survey to help us learn more about academic librarians, leadership, and career paths.

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## LIST OF ABBREVIATIONS

ACRL, Association of College & Research Libraries

ALA, American Library Association

ARL, Association of Research Libraries

IRB, Institutional Review Board

IT, Information Technology

LIS, Library & Information Science

UTC, University of Tennessee at Chattanooga

CHAPTER I  
INTRODUCTION

**Introduction and Background to the Problem**

Leadership in academic libraries has emerged as a pressing topic in an environment currently dominated by budget difficulties, rapid change, and demands for increased demonstration of value, assessment, and accountability for performance. In particular, as current academic library directors retire and institutions look for qualified successors, planning for the academic library leadership becomes crucial to organizational stability. The concept of grooming leadership and succession planning is not new to the library profession (Bridgland, 1999; Curran, 2003; Metz, 1978). Various institutes, associations, and programs focused on developing librarian leadership exist, but many of these programs depend heavily on self-selection or nomination by colleagues. There is little in the way of formal path-setting in the profession that would guide a librarian interested in becoming a director.

A more discerning eye towards how the profession develops its leaders is essential, particularly in light of the recent criticisms, including the Ithaca Report, which notes “a number of important divergences between high level strategies on the one hand and budget priorities on the other, suggesting that library directors are not able to fully execute the strategic direction they have in mind for their libraries” (Long & Schonfeld, 2011, p. 5). Evidence thus exists that better leadership training is necessary for the development of effective directors, and that attainment of the directorship itself does not translate into effective leadership.

Different career avenues within academic librarianship offer exposure to disparate skill-development opportunities based on the department of the librarian's work experience. For instance, librarians involved in acquisitions departments are likely to have more experience with handling budgets and multiple financial accounts. Librarians with experience in reference and instruction departments are likely to have more exposure to collaboration opportunities with faculty members, and access services librarians are more likely to gain experience in managing multiple personnel.

Given the disparity of work within the library, it is highly likely that some departments better prepare librarians for managerial leadership roles as attributed to former American Library Association President Maureen Sullivan, and described in (Ammons-Stephens, Cole, Jenkins-Gibbs, Riehle, & Weare, 2009) than others. However, there is little information available on the subject, and any assertions of this belief are based more on opinion and anecdote than data.

### **Statement of the Problem**

Leadership as a concept is celebrated and encouraged in the librarianship profession through institutes and generalized workshops. While various studies describe the desired skills and qualifications of library directors (Ammons-Stephens et al., 2009; Bailey, 1992; Fitsimmons, 2008; Garrett, 2009; Herson, Powell, & Young, 2002; Herson & Rossiter, 2006; Kreitz, 2009; O'Keefe, 1998; Young, Powell, & Herson, 2003), there has been no connection between those qualities and skills and the library departments that provide the best opportunities to develop those skills.

Little is known about the departmental origins and career trajectory choices of academic library directors. This means the profession has no concept or model for what impact career

trajectory, in terms of departmental experience, may have on the probability a librarian will develop the skills appropriate to an administrative leadership position. Without this information, early-career academic library professionals have little career guidance outside of what may be the very personal experiences of their mentors.

### **Purpose of the Study**

The purpose of this study is two-fold: (1) to determine if academic library directors share particular characteristics in their career trajectory, and (2) to determine whether certain skills relevant to academic library directorship are more likely to be acquired in one professional capacity than another. The study will identify career trajectories of current academic library directors, provide rising professionals some guidance in making career choices, and identify those positions that may best prepare future directors.

### **Research Questions**

A thorough review of the library and information science literature reveals little to no information on career trajectories for those seeking to be academic library directors. This gap informs the first research question: Which of the respondents' last five positions previous to the directorship are most often represented in the path to the academic library directorship? This research question addresses what commonalities academic library directors share in their career trajectories.

What the first research question does not do is connect directors' previous professional library positions to competency development. While the LIS research identifies the skills and qualities that best prepare directors, the research does not yet identify where directors develop



them. Research Question 2 addresses this gap: Which of the previous positions held by the respondents are perceived to have helped prepare directors the most for the qualities and skills required of the position? In this self-reported measure, academic library directors will rate their previous library jobs on each leadership skill and quality. This will allow the mapping of previous positions to the perceived competency development potential of those positions.

Following from Research Question 2, which explores how competency development is mapped across previous positions, Research Question 3 asks: Is the perception of library leadership skill and quality development similar across departmental experience? If skill and quality development is not equal across all departments, this may indicate development gaps that might be addressed through targeted professional development.

Related to competency development, Research Question 4 asks: What, if any position(s), appear to be the “gatekeepers” for academic librarian skill and competency development? This research question will identify “gatekeeper” as any positions that offer competency development not commonly offered across other library units. This may indicate which skills and qualities are perceived as more difficult to develop, or demonstrate that some positions are perceived to carry more competence weight for the directorship than others. This question may inform the career choices of academic library professionals interested in directorship as well as professional development offerings by professional associations.

In addition to questions about “gatekeeping” positions where librarians gain experience difficult to gain in other positions, it is important to know what leadership skills and qualities are perceived to cluster together at the department experience level. This information is useful in terms of identifying which departmental work experiences might complement each other as an academic librarian plans his or her career path to the directorship. It can also inform the design of

professional development opportunities. Research Question 5 asks: What are the skills most commonly perceived to be used in each department? If the skills and qualities most commonly perceived by respondents to be used differ by department, this has implications for career path decisions and for the design of professional development opportunities.

### **Rationale for the Study**

Library scholars have identified the major responsibilities of library directors and attributes essential to the next generation of library directors (Fitsimmons, 2008; Young et al., 2003). Other scholars have explored the idea of specific competencies as evidence of leadership ability in libraries (Mahmoodi & King, 1991). The American Library Association (ALA) and its various divisions have a long history of attempting to establish professional competencies, documentation, and recommendations (Ammons-Stephens et al., 2009), though none have been used to create a core series of required competency and professional development for the field. What has not been accomplished is to collect and examine data on career trajectory and competency development to offer aspiring academic library directors some direction as they build their careers, or to relate competency development to specific library department experience.

### **Theoretical/Conceptual Framework**

If one starts with the end goal in mind (Senge, 2006), the question becomes, what does one do to prepare and position oneself for that end goal? For library professionals interested in taking leadership positions as directors, there must be certain competencies a librarian can develop to best position themselves for the leadership position of library director. While we know what those competencies are (Fitsimmons, 2008; Garrett, 2009; Mahmoodi & King, 1991;

Young et al., 2003), we do not know where academic librarians develop them. While other professions have investigated career path models (Green & Ridenour, 2004), library and information science (LIS) has no such model to guide interested professionals. Part of what this study will do is to provide the foundation for eventual path analysis model development for academic LIS practitioners interested in assuming leadership positions.

### **Significance/Importance of the Study**

There have been no previous published studies on the career trajectories of academic library directors. While most library departments may agree that their central mission involves serving their academic community, the manner in which they accomplish that task varies widely and provides varying levels of opportunity for working with budgets, supervising staff, collaborating with faculty, and engaging in behaviors desirable in a position of administration.

Identifying the best paths for leadership development in terms of developing desirable qualities in an academic director would allow the profession and its associations to target specific areas for development. This would represent an opportunity to widen the pool of prospective directors through offering persons in less-represented professional areas an opportunity to gain the necessary skills.

### **Definition of Terms**

**Academic libraries.** Associated with a particular university or college, an organization that assists the larger organization of higher education by supporting teaching, research, and the curriculum through the collection, curation, and development of information resources (Oakleaf, 2010).

Access Services. Major responsibilities of this department frequently include stacks maintenance, circulation services, document delivery and interlibrary loan, reserve reading collections, building security and maintenance, and user area maintenance. The evolution of technology has led Access Services departments to provide access to both traditional and electronic information resources, regardless of whether they are licensed, or held locally, remotely, or consortially.” (Taylor and Francis Group, 2012, para. 2)

Association of College and Research Libraries (ACRL). The largest division of the American Library Association, it is “a professional association of academic librarians and other interested individuals.” (Libraries, 2012, para. 1)

Association of Research Libraries (ARL). An organization dedicated to influencing the “public policies that affect research libraries and the diverse communities they serve.” (Libraries, 2012). Membership is limited to large research libraries (there is no personal membership option). It should be noted that this association serves a much narrower membership than ACRL.

Competencies. For the purposes of this research, qualities and behaviors are included in the idea of leadership competencies. As noted in Ammons-Stephens, Cole, Jenkins-Gibbs, Riehle, and Weare (2009), competencies are also behavioral in nature, and non-measurable behaviors (as opposed to measurable skills) are important in terms of perceptions of such less quantifiable, but essential, qualities such as interpersonal effectiveness.

Digital Library Services. A library department separate from IT, often responsible for developing new user-oriented technology services.

Library departments. In this paper, “library departments” refer to the essential functioning units of a library. The number of departments within a library is often a function of the size of

the library, with smaller libraries combining functional units (i.e., Acquisitions and Cataloging departments may combine to be called the Materials Processing department in smaller libraries).

Library director. This term is used to indicate the administrative head and decision-making authority for the library. The official title may vary depending on institution and may include Dean, Director, Vice-Provost, or other variations.

Reference department. The library department largely responsible for answering questions about how to find and access library information (Harless & Allen, 1999).

IT. Information technology; the library department responsible for: maintaining, updating and trouble-shooting enterprise-level technologies such as the integrated library system (ILS) and other specialized software; maintaining, updating, troubleshooting and fixing technology items in the library building; and developing new services rooted in technology.

Managerial leadership. A term attributed to former ALA President Maureen Sullivan, encompassing the idea that “In order to manage effectively, one must be an effective leader.” (Ammons-Stephens et al., 2009, p. 70)

### **Methodological Assumptions**

Assumptions include that the sample is large enough to be representative of academic library administrative leadership, that respondents will be able to place their prior work into one of the survey’s departmental classifications, and that they will be honest in completing the survey. The survey and resultant statistics will be dependent upon respondents’ accurate recollection of their work and skill development in previous professional positions. Finally, it is

assumed that testing the measurement instrument on a group of would-be directors, and directors who would have been within the desired population had they not retired will still establish validity and reliability that can be transferred to the population.

### **Delimitations of the Study**

The study will be delimited to library directors at master's colleges and universities (as defined by Carnegie classification). The study will also restrict questions about work departments to the past five non-directorship academic library positions held by respondents, and the more detailed questions will be restricted to the last three positions due to expected memory deterioration (Kahneman, 2013; Tourangeau, 2000), and to acquire information from the respondents' most recent professional experience. Although it is possible that directors gained essential experience in positions prior to their past three academic library positions the expectation is the last three non-directorship professional library positions contributed directly to their skill development relevant to directorship. The study will also focus only on library positions; though it is possible that directors may have gained valuable experience from outside the library profession, the study is intended to highlight what experience specific to work in libraries is most valuable. Respondents with no prior library experience were excluded from the data analysis.

### **Limitations of the Study**

Responses to the survey reflect the perspectives of the library directors and may not reflect the view of others involved in professional leadership positions in librarianship. Restricting the sample to master's-granting institutions may have implications for the ability to

generalize this study to four-year colleges and universities not granting the master's degree. Further, since doctoral-granting institutions are often characterized by greater resource bases and broader responsibilities, the survey sample may have implications for the ability to generalize this study to doctoral-granting and major research institutions.

Given that the sample covers different states, academic institutions may have been affected differently depending on the state budget situation and allocations from different state legislatures. In addition, it is important to note that Carnegie classification of "master's Colleges and Universities" excludes schools granting only the associate's degree, as well as those noted as high-level research institutions (Carnegie Foundation, 2014). Given this study's reliance on Carnegie-classified institutions, for which the last updated data is from 2008, some programs may have changed classification since the last data collection.

## CHAPTER II

### LITERATURE REVIEW

#### **Introduction**

Academic library directors provide both leadership and stability for their organizations. Their role in terms of advocating for library resources, providing visionary leadership for new services and trends, is essential to the functioning and development of the library. In turn the library serves as the home of research resources and guidance for the university and college campus. Focus has been placed on general leadership training opportunities (Neely & Winston, 1999), mentorship for new directors (Hardesty, 1997), and even what directors do in their post-directorship professional lives (Mech & McCabe, 1998), but little light has been shed on developing library administrative leadership skills within the departmental organizations where individuals garner their practical work experience.

The 2002 Association of College and Research Libraries (ACRL) Ad-hoc Task Force on Recruitment and Retention white paper noted that more than 60% of Association of Research Library librarians were due to retire in the next decade (Libraries, 2002). This sea-change in terms of the expected mass retirement of experienced leaders has led to a call in the library literature for a look at directorship positions in general, for well-prepared and forward-looking administrators to take the place of soon-to-be retirees. There have been a number of studies exploring the characteristics the profession requires of its library directors, largely through identifying characteristics and traits current directors perceive necessary for incoming directors



(Bailey, 1992; Fitsimmons, 2008; Garrett, 2009; Herson, Powell, & Young, 2001; Herson et al., 2002; Herson, Powell, & Young, 2003; Herson & Rossiter, 2006; Kreitz, 2009; OKeefe, 1998; Weingand & Ryan, 1984; Young et al., 2003).

In an environment characterized by calls for increased assessment of library impact on the academic institution (Oakleaf, 2010), the challenge of keeping libraries and librarians relevant (Rogers, 2011), and matching strategic plans with resource allocation (Long & Schonfeld, 2011), developing an effective cadre for next generation of library leadership, is essential.

### **Leadership**

Traditionally, leadership has been conceptualized as an individual-level skill or quality. Examples of this include transformational leadership theory (Bass, 1985), which draws sharp distinctions between leader and follower, and trait perspectives which have been supported by evidence associating specific traits with leadership emergence and perceptions (Judge & Bono, 2000). Personality research has identified five dominant personality dimensions terms “the Big Five,” which are extroversion, agreeableness, conscientiousness, emotional stability, and openness to experience (Barrick & Mount, 1991). These dimensions have been demonstrated to be stable parts of a person’s character from childhood, and have also been demonstrated to appear in cross-cultural contexts (Blaylock & Rees, 1984).

More recent and complex views of leadership view it as a process of shared vision, a more complex phenomenon, better characterized as complex interactions between a designated leader and the social and organizational environment (Fiedler, 1996). Contemporary perspectives approach leadership as a social process (Barker, 1997; Wenger & Snyder, 2000), where

leadership development consists of harnessing the social system to develop communities of practice. Given the complexity of the concept of leadership, and the desire to train effective leaders, leadership development becomes an essential task of a healthy organization.

### **Leadership: Making a Difference?**

An important question, before delving into leadership development, is whether leadership makes a difference to the success of an organization. Contextualist researchers argue that even effective leadership is constrained by the situational factors (Hall, 1977; Pfeffer & Salancik, 1978). Lieberman and O'Connor (1972) are often cited as the researchers whose study debunks the “myth” of the impactful leader. The same methodology bore the same dismal results with regard to the impact of leadership on organizational performance in other studies (Salancik & Pfeffer, 1977). A number of subsequent researchers, however, have called the methodology of their study into question (Aldrich, 1979; Hambrick & Mason, 1984; Nan Weiner, 1978). Later research (Hogan, Curphy, & Hogan, 1994; Thomas, 1988; N. Weiner & Mahoney, 1981) demonstrates that leadership does indeed have an impact on organizational performance. For the purpose of this study, that leadership does impact organizational performance is an assumption.

### **Leadership Development**

Within the leader-as-individual traditions, leadership development is thought to be primarily through training individual intrapersonal skills and abilities focusing on dyadic transactions of leaders and followers (Bass, 1985; Evans, 1970). However, more contemporary views of leadership and leadership development focus on systems-based, organizational transformation, and social-relationship approaches as more realistic characterizations of

leadership skills and organizational needs (Bass, 1998; Fairholm, 2004; Kouzes & Posner, 1987). Though, as mentioned above, research has demonstrated differing impacts of leadership on organizational performance, subsequent studies demonstrate leadership development does have an impact on organizational success (Bass, 1998; Charan, Drotter, & Noel, 2001; Fulmer & Goldsmith, 2001; McCall & Hollenbeck, 2002; Whetton & Cameron, 2005). Given this research, there is a compelling argument that both individual development (*leader* development) and building the social capital within an organization among all its members (*leadership* development) are both important concerns (Day, 2000).

Various researchers note the lack of a general model for the development of leadership skills (Day, 2000; Day & Halpin, 2004; Yukl, 2002). Conger (1993) noted that most programs are built around four areas which include skill-building, concepts, team-building, and feedback, and that few leadership development programs are truly innovative and break from this mold. Other researchers note that effective leadership development programs share six characteristics: a comprehensive organizational needs assessment, the selection of an appropriate candidate pool, sufficient infrastructure to support the program, the design and implementation of a comprehensive learning system, a method for evaluation, and actions to reward successes and improve upon weaknesses (Leskiw & Singh, 2007).

Fulmer (1997) noted that effective leadership development programs have evolved from passive learning exercises offered once or twice a career to programs designed for frequent interaction in simulated situations to demonstrate the ability to apply learned concepts to real-world challenges. Fulmer (1997) also points out that the tradition of satisfying a training requirement and then being effectively “done” has been replaced by an expectation of lifelong learning so that organizations can maximize competitive advantage. This design allows leaders

to see the impacts of their work in real time as they solve problems, and lends credence to the relevance of the leadership development program.

Following from this action-learning orientation espoused by theorists and implemented in many programs, Lord and Hall (2005) propose that changes in leadership skills can be viewed from the perspective of a general theory of learning and expertise, and that leadership performance can be organized in terms of progression in skills from novice to expert. Pernick (2001) outlines the design of a successful leadership development program, highlighting the necessity that participants integrate their learning into their work, including being given the opportunity to fail and learn from those failures.

### **Leadership Skill Development: A Cognitive Approach**

Lord and Hall (2005) posit that the cognitive science literature on skill development and expertise can be mapped to individuals' leadership skill development, noting:

...leadership skills develop from what is basically a cognitive bootstrapping process, in which microlevel skills (productions) are first learned through problem-related experiences or observational learning, and then are organized in to increasingly higher level system that guide behavior, knowledge, and social perceptions. (p. 592)

The approach of cognitive science to skill acquisition and development assumes that

skilled performance in many complex domains (including leadership) can be understood in terms of the underlying information processing involved [...] Skill *development*, then, involves changes in a leader's information processing activities (that is how information is accessed and used) as well as both quantitative and qualitative changes in his or her knowledge base. (Lord & Hall, 2005, p. 593)

Studies of skill acquisition notably reveal that factors influencing performance in the early stages of practice are not identical to those influencing performance in later stages of practice (Fleishman & Hempel, 1955; Fleishman & Mumford, 1989). In short, with experience, factors that influence later skill development may not be the same as those factors that influenced early

development. Leadership skills also move in this direction, from novice to expert, moving from highly structured, well-supervised problems to solving ill-defined organizational problems requiring more complex creative thinking (Mumford, Zaccaro, Harding, Jacobs, & Fleishman, M. D. Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000).

Other researchers have demonstrated that while leadership skills can be learned (Coad & Berry, 1998), there is a lag between learning those skills and translating them into leadership behaviors (Hirst, Mann, Bain, Pirola-Merlo, & Richver, 2004). In addition to this, some skills are more or less required depending on the individual's level within the organization (Mumford, Campion, & Morgeson, 2007). This connection between leadership development and skill application leads to an important discussion about the development of expertise, and the role of experience as it relates to leadership skill and competency development.

### **Academic library leadership development training programs**

The library profession has been pro-active in developing avenues for librarians to practice leadership skills and behaviors, and some of these endeavors include the Library Leadership and Management Association (LLAMA, a division of the American Library Association), the Triangle Research Libraries Network (TRLN) Management Academy, the ALA Emerging Leaders Program, the Snowbird Leadership Institute, and the Harvard Leadership Institute for Academic Librarians, among others (Mason & Wetherbee, 2004).

Initiatives focusing on developing librarian leadership skills, such as the ALA Emerging Leaders Program, emphasize developing those skills in the context of service within state and national organizations for librarians in their first five years of the profession (American Library Association, n.d.; Sullivan, 1999). These initiatives seek to develop leadership qualities, but are

focused largely on service activities and not directly related to either grooming library directors or academic librarianship in general. The initiative focuses on those in their first five years of professional librarianship, and the leadership skills taught are general in nature and are more focused on generating social leadership skills within the professional organization than those skills and qualities specifically related to leadership positions.

The Association of Research Libraries also offers an 18-month Leadership and Career Development Program to “prepare mid-career librarians from traditionally under-represented racial and ethnic minority groups to take on increasingly demanding leadership roles in ARL libraries.” (Association of Research Libraries, 2014, para. 1). While it is possible that a library director at a master’s level university may have served at a larger research institution and attended such a program, it is unlikely that such would be standard practice.

Young, Powell, and Hernon (2003) list a variety of leadership institutes, as well as leadership inventories and assessments, where librarians might hone their leadership skills, but no mention is made as to the importance or significance of particular experiences or the department in which the librarian works.

There have been a few attempts to influence the leadership development specifically of library directors. Hatcher (1997) notes that succession planning can help directors groom replacements from within their own libraries. Hardesty (1997) notes that the College Libraries Section (CLS) of the Association of College & Research Libraries (ACRL, a division of ALA) created an ad hoc College Leadership Committee with the intent to develop a College Library Directors Mentor Program. The resulting program matched first-year directors with experienced mentors and directors from other institutions, and participants engaged in a three-day seminar occurring prior to the mid-winter ALA meeting. The program survives on a year-to-year basis

and is dependent on funding through ALA. While the focus on new directors is laudable, the initiative is targeted specifically on the development and mentoring of first-year college library directors. To date, the program has little to do with training and recruitment of library directors, or gathering data on their prior experience. Very telling is the author's statement that

seldom does the position of associate director exist at small colleges to prepare a librarian for the college library directorship; second, many college library directors come from larger institutions and are often unfamiliar with the traditions, norms and political structures of small colleges. (Hardesty, 1997, p. 281)

### **Competency and Leadership Development**

The term "competency" describes the characteristics that lead to success at a task, and can be operationalized as knowledge, skills, and abilities (Tubbs & Schulz, 2006). While some researchers identify competencies at a fine level, defining and operationalizing those skills and abilities, making them more or less easy to measure (and thus to measure progress), other researchers identify competencies more broadly (Halbesleben, Novicevic, Harvey, & Buckley, 2003).

Models of sustainable advantage have been developed by theorists who focus on competencies (Lado, Boyd, & Wright, 1992), a mechanism which links human resource development with organizational strategy to achieve organizational goals (LeDeist, Delamare, & Winterton, 2005). In this way, human resource authorities conduct job analyses to identify the specific tasks required of a position, then the specific skills required to be successful at completing those tasks. Evaluation criteria are then developed to identify at what level the employee should demonstrate a competency in each of those skills. Competency-based training programs are competency-tested rather than giving credit by courses taken; are centered on behaviorally stated, measurable objectives; evaluation is criteria-based; immediate feedback to

trainees is offered; and are multi-media to meet individual learning needs (Naquin & Holton, 2006). Competency frameworks have been used in designing leadership development programs for entire sectors, for instance, in health education (Wright et al., 2003).

Mumford, Campion, and Morgeson (2007) demonstrated that different categories of skill requirements emerge at different levels of the organization, leading to important questions about competency development within the hierarchy of an organization. DeRue and Wellman (2009) discovered that the relationship between challenges and leadership skill development demonstrates a pattern of diminishing returns, which one might expect as leaders become more comfortable accessing their knowledge and skills to address problems.

Some researchers do emphasize that uncritical acceptance of competency models for leadership may lead to a return of the “great person” view of leadership, while others assert that those developing and using competency models can be effective if they do not oversimplify the idea of leadership effectiveness (Hollenbeck, McCall, & Silzer, 2006). Conger and Ready (2004) recognize the possible drawbacks of competency-based leadership development as complicated, overly conceptual, and current (in that they are built around current realities and not future scenarios). However, the authors also note that organizations can still harness the advantages of clarity, consistency, and connectivity to other human resource processes, while limiting the more problematic aspects of competency-based development. Carroll, Levy and Richmond (2008) argue that competency is a distinctly managerial concept and framework, impoverishing the concept of leadership and causing it to be mechanistic and regulatory. Optimistic interpretations see the concept of competency as applied to leadership as a way to operationalize vague concepts and expectations. Though Tubbs and Schulz (2006) note that there has not been any agreement



on a set of global leadership competencies, a number of competencies necessary for excellent academic library leadership have indeed been identified.

### **Library leadership competencies identified**

Traits of library leaders across all types of libraries (academic, public, and school) have also been compared to traits of corporate leaders, with the result that they appear largely similar. Sheldon (1992) noted that in addition to the shared traits of intensity/enthusiasm, excellent communication skills, consistency (which affords the development of trust in followers), and self-confidence, library leaders exhibit an additional characteristic not generally found in corporate leaders – motivation through the “societal value” of their work (Sheldon, 1992, p. 391). One may note that Sheldon’s (1992) traits and association-denoted competencies mirror leadership theory, noting the importance of communication (Scandura, 1999), trust-building with followers (Dirks & Ferrin, 2002), and self-confidence (T. A. Judge, Bono, Ilies, & Gerhardt, 2002). The focus on emotional intelligence (Hernon & Rossiter, 2006) mirrors the leadership literature focus on structure/consideration models (Bowers & Seashore, 1966) and gendered-behavior leadership models (Gershenoff & Foti, 2003). In the current budget climate, another noted competency for library leadership is fund-raising ability (Winston & Dunkley, 2002b).

Schirer-Suter (2008) performed a content analysis of nationally advertised academic library director positions from 2002-2003, noting that in addition to the commonly-required MLS degree, directors are more often asked to possess the doctorate, and are more often required to engage in leadership activities external to the library. Schirer-Suter (2008) also noted that doctoral-granting and research-focused university library director job ads emphasized more education (most particularly in a more common demand for a doctoral degree), greater degree of

experience, higher expectations for involvement in the profession, and “greater qualification requirements and job expectations dealing with the library director's external role, and a much smaller expectation of involvement in the daily internal operations and management of the library” (Schirer-Suter, 2008, p. 27). Position descriptions differed in these requirements for master’s-granting and four-year colleges and universities, as well as community colleges. Pajewski (2010) notes in an informal job ad assessment that nearly all library management positions, both at the directorship level and at lower levels of management, at all sizes and specialties of libraries, required a number of years of demonstrated supervision and management. It follows, then, that departments offering librarians this experience are likely more represented among administration, but there is no available research confirming this assertion. Garrett (2009) identified 25 specific skills and 25 qualities characteristic of library leadership from the current literature, which inform the instrument for this study.

### **Connecting Leadership Development to Experience**

A number of researchers contend that to the extent leadership can be learned, it is learned through experience (Arvey, Rotundo, Johnson, Zhang, & McGue, 2006; Arvey, Zhang, Krueger, & Avolio, 2007; McCall, 2010) and that the type of experience matters (Douglas, 2003; McCall & Hollenbeck, 2002; McCall, Lombardo, & Morrison, 1988). Pratte and Rury (1991) posit that understanding a discipline cannot be mandated by theory as imposed from above, but needs to grow out of experiential knowledge and ongoing practice. Critical reflection becomes an essential tool in leadership development (Densten & Gray, 2001), forcing leaders to learn from personal experiences (Boud, Keogh, & Walker, 1985), and occasionally experience discomfort and dissonance (Brookfield, 1994; Dewey, 1910) as leaders examine underlying power structures

and examine their perceptions of themselves. Leadership development programs integrating critical reflection, theoretical work, and experiential learning have demonstrated progressive increases in leadership competency (Ladyshevsky, 2007).

Lord and Hall (2005) note that much leadership training has “a central behavioral component that attempts to teach leaders to exhibit more effective behavioral styles” (p. 599). Such behavioral skills may be relatively quickly acquired, so those training programs often are only of a few days duration. Zenger, Ulrich, and Smallwood (2000) emphasize that to be effective, leadership development programs should not focus solely on helping individuals learn translatable leadership behaviors and traits, but also on ensuring organizational awareness of where the participants expect to practice their leadership skills. This recognition that leadership is practiced within a social context is echoed both by those researching and implementing leadership development programs (Pernick, 2001) and by leadership theorists.

Novice leaders self-reported greater learning than experienced leaders in an action learning approach emphasizing real-life learning through workplace project demands (Hirst et al., 2004). Recognizing that short-term, broadly conceptualized leadership skill institutes often do not (and cannot) offer the kind of protracted experiential learning that the work environment does, one implication of thinking about leadership skill development in terms of knowledge structures and expertise is that much leadership development happens within an individual’s work experience.

Mumford, Campion, and Morgeson (2007) demonstrated that different categories of skill requirements emerge at different levels of the organization, leading to questions about competency development within the hierarchy of an organization. Tubbs and Schulz (2006) note

that there has not been any agreement on a set of global leadership competencies, but a number of competencies necessary for excellent academic library leadership have been identified.

### **Library Literature Focus on ARL (or “Big Library”) Leadership**

Due to their presence, influence on professional practice, and resources, Association of Research Library (ARL) member libraries are often spotlighted in studies regarding academic library directorship (Hernon et al., 2001, 2002, 2003; Young et al., 2003). It is important to note that while these libraries wield great influence in terms of goal-setting and funding in the world of academic libraries, there are only 126 ARL member libraries (Association of Research Libraries, 2010) compared with thousands of libraries at the four-year, master’s, and doctoral-granting level not included in their number. Studies that have largely focused on this group of directors have thus omitted the vast majority of academic library directors. This omission represents a very large gap in terms of the study of academic library directorship (Hernon et al., 2001, 2002, 2003; Young et al., 2003). Existing research shows ARL directors and ACRL directors demonstrate differences in desired attributes of a director (Young et al., 2003). Most notably, the ACRL directors have placed greater emphasis on record of achievement, and emphasized the need for both the MLS degree and a second advanced degree (Young et al., 2003).

Research demonstrates that ARL experience does not necessarily reflect the majority of academic library experience, and that experience is essential to building necessary skills. It follows that the experience of non-ARL library directors is an important factor in understanding academic library leadership skill development.

## **Review of Literature Conclusion**

The literature demonstrates a strong call for leadership within the profession as libraries move into uncharted waters in terms of electronic resources, distance delivery, increasing use of technology, and uncertain budgets. This is heightened by demographic evidence predicting massive turnover in library directors within the decade, and a concern that library management courses are, in many instances, far behind what is actually occurring and likely to be irrelevant in the workplace (Totten & Keys, 1994). There are a variety of leadership institutes and programs either targeted at talented librarians or library directors, and any number of assessments an individual may take advantage of to improve their skill sets (American Library Association, ALA Emerging Leaders Program; Mahmoodi, 1991; Neely, 1999). However, there is little mention in the library and information science literature regarding the best path for leadership development for librarians as they gain expertise within particular departments. In addition, to date, the focus in the library literature on leadership at the academic directorship level has largely focused on the 126 ARL libraries, which are not representative of the vast majority of academic libraries.

There is an implicit assumption with these library leadership institutes and programs that it does not matter which career strand in librarianship a professional takes, so long as they cultivate the necessary traits and skills. On the contrary, according to leadership development research and expertise theory, experience is an essential ingredient in leadership development. Because researchers note that certain leadership skills do not emerge until one reaches the highest level of an organization (Mumford et al., 2007), this makes academic library directors the appropriate population to study, given that they have reached the apex of the library organization.

Academic library leadership is a key factor in the retention of staff, petitioning for resources from college and university administration, and in providing direction in a fast-moving environment of technology change and information management. While succession planning and grooming new leaders is recognized as essential to academic library success (Bridgland, 1999; Curran, 2003; Metz, 1978), exactly which skills those new leaders should be groomed to have, and how they should develop those skills in the course of their careers, is a more complicated issue.

The library and information science literature does not address what library work experience offers the best opportunity to develop the leadership skills and qualities required of academic library directors. Given disparities in the type of work done in different library departments (for example, budgeting, personnel management, outreach and advocacy, technology planning and implementation), to date, the library and information science research has identified the leadership skills and qualities necessary to be a successful academic library director (Ammons-Stephens et al., 2009; Bailey, 1992; Fitsimmons, 2008; Garrett, 2009; Hernon et al., 2002; Hernon & Rossiter, 2006; Kreitz, 2009; O'Keeffe, 1998; Young et al., 2003).

What has not yet been studied is where in their careers academic librarians have the opportunity to develop those necessary leadership skills and qualities. This study identifies which library departments offer relevant experience in developing those necessary leadership skills and qualities, and which departments may need supplementary development opportunities, which can inform leadership development programs and career planning. This gap in the literature – lack of a clear experiential path in terms of departmental-level work for those interested in developing leadership skills and becoming library administrators at mid-level academic institutions – represents an important area for research development. This study aims

to narrow this gap in the literature by exploring which library departments may offer better leadership preparation experience.

## CHAPTER III

### RESEARCH METHODS

#### **Background to the Problem**

To date, the library and information science research has identified the leadership skills and qualities necessary to be a successful academic library director (Ammons-Stephens et al., 2009; Bailey, 1992; Fitsimmons, 2008; Garrett, 2009; Hernon et al., 2002; Hernon & Rossiter, 2006; Kreitz, 2009; OKeefe, 1998; Young et al., 2003). What has not yet been studied is where in their careers academic librarians have the opportunity to develop those necessary leadership skills and qualities. This study is intended to identify which library departments offer relevant experience in developing those necessary leadership skills and qualities, and which departments may need supplementary development opportunities, which can inform leadership development programs and career planning.

#### **Population and Sample**

The population of interest for this study in terms of survey respondents, often referred to as “academic library administrative leadership,” is that of academic library directors and deans at master’s colleges and universities as classified by the Carnegie Foundation (Carnegie Foundation, 2014). This population includes colleges and universities offering master’s degrees and some doctoral degrees, but excludes those classified as major research institutions and those offering associate’s degrees. The Carnegie Foundation offers a list of these institutions, and contact information for the library directors at each of those institutions is easily gleaned from



institutional websites when not available from the *Higher Education Directory*. This is a population of directors at 728 institutions. This research project was a census, so the sample was the full population. It is an easily delineated population, and surveying the entire population did not add significant difficulty to the research design.

Of the 728 institutions on the list of master's granting colleges and universities, a number included multiple branches of an institution that shared the same library director. Many of the for-profit institutions did not offer easy access to library director contact information. After online searches, email queries, and phone queries failed to identify a library director or email address, those institutions were removed from the list, as were duplicates of institutions sharing directors. Ultimately, email addresses were found for 666 directors at distinct institutions, and this was the ultimate population for the study.

### **Overview of Methodology**

The research methodology for this particular research project is best described as mixed methods. Specifically, per Creswell and Plano Clark (Creswell & Plano Clark, 2011), an embedded mixed-methods design was used for this study, which combined a large-n quantitative study with a small-n qualitative part of the instrument both delivered simultaneously. The instrument was submitted to the UTC Institutional Review Board to determine suitability for use on human participants. The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) approved this research project #13-145 (see Appendix A).

For this project, data collection using an online survey instrument programmed in Qualtrics was followed by quantitative data analysis using the Statistical Package for Social Science (SPSS) and Microsoft Excel.

## **Restatement of Research Questions**

Before the justification for the research methods, a restatement of the research questions themselves may prove useful. Research Question 1 asks: Which of the respondents' last five positions previous to the directorship are most often represented in the path to the academic library directorship? Research Question 2 asks: Which of the previous positions held by the respondents are perceived to have helped prepare directors the most for the qualities and skills required of the position? Research Question 3 asks: Is the perception of library leadership skill and quality development equal across departmental experience? Research Question 4 asks: What, if any position(s), appear to be the "gatekeepers" for academic librarian skill and competency development? Research Question 5 asks: What are the skills most commonly perceived to be used in each department?

## **Instrumentation**

The survey used to collect data for the research questions was the *Academic Library Director Leadership Skills and Qualities Survey* (see Appendix B). This survey is organized into six sections. Section I contains the purpose statement and confidentiality statements. Section II contains the demographic information (gender, ethnicity, years in position, years employed in libraries, years in the workforce, etc.). Section III collects data on the past five positions held by respondents prior to their current directorship. Sections IV and V of the instrument each have 25 statements on a 5-point Likert scale used to collect data on perceived leadership skills (section IV) and qualities (section V) exercised by respondents in their most recent three positions. Additionally, section VI has four open-ended questions to help explain the academic library directors' responses and provide context for the ratings in previous sections of the instrument.

The survey items for sections IV, V, and VI were developed from the research study conducted by Garrett (2009). Because no instrument exists to measure perceptions of skill development over multiple positions, the sections IV and V of the instrument are a slight revision of Garrett's (2009) instrument, and required field testing for reliability and validity.

To address Research Question One, questions 8, 11, 14, 17, and 20 of the survey instrument (see Appendix B) asked respondents about the position titles and library departments of their past five professional positions. Respondents offered 877 open-ended survey responses about previous position titles. Determining those positions occurring most often in respondent histories required an ordering and summary of the data.

Research Question Two was addressed by questions 28 through 33 of the survey instrument (see Appendix B), in which the respondents chose on a Likert scale how often they exercised a particular leadership skill or quality in their most recent three professional positions. Each leadership quality and skill set of 25 items was converted to a total composite score between 0 and 100. This was accomplished by assigning values to the Likert scale (Never =0, Rarely=1, Occasionally/Sometimes=2, Often=3 Always/Daily=4) and then adding respondent ratings of each of the 25 items (as in the manner done by Garrett [2009]). Responses were then ordered, highest to lowest. Respondents' reported positions having the higher composite scores (with maximum potential scores of 100 for both leadership qualities and for leadership skills) reflected the perception that those positions helped respondents better develop the leadership skills and qualities addressed in the survey. A pre-determined score of 90 points or higher indicates that respondents perceived a position to be highly likely to allow participants to develop leadership skills or qualities.

Research Question Three is addressed by the Likert data measuring respondent perception of leadership skill and quality development (questions 28 through 33 in the instrument, Appendix B). Variances of the composite scores in the population are tested, and if there are significant composite score differences, those will be compared pairwise by library department.

Research Question Four Library explores “gatekeeper” positions perceived to offer leadership development not commonly offered across other library positions. These positions were identified by questions 28 through 33 of the survey instrument (Appendix B). Average scores were calculated by averaging the leadership skill and quality scores of respondents’ past three library positions to identify those leadership skills and qualities respondents scored the lowest, indicating they perceived little chance to develop them over the course of their careers. Pairwise comparisons of library positions by skill will determine which positions were perceived to offer the most experience in these least-developed skills and qualities.

Research Question Five is also answered by the Likert data measuring respondent perception of leadership skill and quality development (questions 28 through 33 in the instrument, Appendix B). Scores are tested for any difference in distributions. For scores demonstrating difference, pairwise comparisons grouped by library department for each leadership skill and quality will identify perceived strengths and weaknesses of skill-building by library department.

### **Reliability and validity of the instrument**

Internal consistency reliability “is applied not to single items but to groups of items that are thought to measure different aspects of the same concept” (Litwin, 1995, p. 21). This

measure is often used to ensure that a group of items that purports to measure one variable does indeed focus on that variable. Internal consistency measure was calculated with Cronbach's alpha, which reflects the homogeneity of the scale used to measure the variable. The Cronbach's alpha for this study was .926.

If a cursory review of the survey questions by untrained persons comes back with the verdict that the questions 'seem okay,' this is face validity. Litwin (1995) notes that this casual assessment of question appropriateness is not considered by many researchers to be a de facto measure of validity, though it may be useful in instrumentation design. Face validity of the Academic Library Skills and Qualities Survey was accomplished by asking colleagues and faculty in the EdD program and librarian colleagues for feedback on the initial instrument design. The only change made at this stage was to separate the library department choices of "Special Collections/Rare Books and Manuscripts/Preservation" and "Special Collections".

According to Litwin (1995), content validity can be defined as "a subjective measure of how appropriate the items seem to a set of reviewers who have some knowledge of the subject matter" (p. 35). A review of the items for relevance and focus on the variables of interest is not a scientific measure of accuracy but an opinion by qualified judges. In effect, it offers the researcher an answer to whether the researcher "implement[ed] the program we intended to implement and did we measure the outcome we wanted to measure? In yet other terms, did we operationalize well the ideas of the cause and the effect?" (Trochim, 2006, "Introduction"). For this study, content validity was established by asking four retired library directors, three methodologists in library science, two methodologists in the EdD program, aspiring library directors, and the library director member of the dissertation committee (who is not a member of the intended population to be studied) for an assessment of the instrument. The instrument was

revised as necessary based on that feedback. The only recommended change was minor; adding “Archives” as a separate library department option from Special Collections.

Construct validity refers to the extent to which an instrument adequately measures the construct it is intended to measure (Westen & Rosenthal, 2003). Construct validity for the instrument was established in the previous iteration of the instrument (Garrett, 2009). The instrument was field tested through a pilot survey designed in Qualtrics and distributed by email. The 22 participants included the dissertation committee members and volunteers solicited from the academic library community including methodologists, aspiring directors, retired directors, and current library directors at institutions similar to, but not included in, the intended population. Recommendations for changes were minor and addressed typographical errors, and one instance where the survey logic was in error, which was corrected. It was also noted that for the Likert scales, the instructions to participants asked them to rate each skill and quality with a numerical score, but the instrument choices were textual. This was corrected before distribution.

### **Data Collection**

After IRB approval and field testing of the instrument as noted above, survey data were collected through an online survey instrument designed in Qualtrics (available through UTC) that allowed for anonymous response and easy importation of responses into both the SPSS data analysis software package and Microsoft Excel. Participants were emailed directly a maximum of four times (and a minimum of one time) over the course of four weeks. Respondent emails and professional mailing addresses were collected from the *Higher Education Directory* and checked against university/college websites for currency and accuracy.

Recipients received via email to their institutional email addresses a letter describing the topic of the research, the intent of the research, how the data would be used, and assurance of confidentiality, information about UTC's IRB approval of the instrument, and an offer to share research data and results with respondents, should they be interested. In addition to the link to take the survey, this email also offered an opt-out link, which would remove them from receiving any further emails about the project. Qualtrics offered an automatic-reply email to those participants completing the survey, and a shorter reminder email was sent weekly to solicit responses from non-participants. The first email and invitation to participate was sent to participants on February 28, 2014. Abbreviated reminder emails were sent to non-respondents who did not choose to opt-out weekly on March 6, March 13, and March 20, with notice that the survey would close on March 28, 2014. The timing of the instrument was intended to reach the desired population of directors during the active academic semester when most participants would be active and checking their work email, and the reminder emails at intervals ensured that those respondents who may have been away from work for their institution's spring break or other reasons would have the chance to participate.

Incentives for participation included being entered in a drawing for two \$50 gift cards to Amazon.com and 10 smaller \$15 gift cards for Starbucks as well as the incentive of providing enlightening information to further the leadership development of the field of academic librarianship. Participants were also offered the option of receiving the results of the study. This information was collected through the Qualtrics instrument and separated into a different file from the rest of the data before analysis to preserve user anonymity.

## CHAPTER IV

### RESULTS

The library and information science research literature indicates the profession knows little about the career paths and leadership skill development of academic library directors. The main purpose of this study was to investigate the career paths and leadership development of academic library directors. This chapter presents the results of the study using the Academic Library Director Leadership Skills and Qualities Survey (Appendix B) completed for the first time by academic library directors in master's granting colleges and universities. There are three main sections to this chapter. The first section addresses data preparation; the second section sets forth demographic descriptive statistics; and the third section reports the results of the survey and analysis of the data with regard to the research questions.

#### **Data Preparation**

The complete file of collected survey data was exported into Microsoft Excel and then into IBM's SPSS software. In order to ensure confidentiality, all identifying information was stripped from the data before analysis by deleting columns containing any identifying information. Columns recording open-answer responses were reviewed and identifying information such as state, organization, and library name were redacted. Some aspects of the data required additional minor preparation before analysis, and a rationale and the resulting procedure will be explained later in this chapter.



Before discussing the analyses, it should be noted that the  $N$ , or total, for various statistical tests varies somewhat throughout the chapter, and some data preparation and conventions were required to make the collected data ready for analysis. There are a number of reasons for the discrepancy in  $N$ . First, although the Qualtrics survey software did create a pop-up notice in the event a respondent did not answer a question when they chose to move to the next section of the instrument, the software did not force answers or require respondents to answer a particular question before they moved on to the next question. This means that, although participants were gently reminded to answer all questions, respondents could choose to refuse to answer any question and still complete the instrument.

Second, certain responses to questions caused the survey to “branch,” and therefore not offer respondents the opportunity to answer specific questions. This coding is explicitly described in Appendix B, although the process was invisible to respondents taking the survey. As a result, respondents who noted that they had no previous position, who indicated that they could not remember a previous position, or who indicated a non-library position did not have the opportunity to fill out the skills and qualities sections of the survey that would have pertained to those positions. Thus, skipped entries and the branching process are the explanation for the changing  $N$ . The unequal  $N$  effect is most pronounced in the Likert scale section of the instrument, a section which was intended to collect director perceptions of previous library work. Thus, minor sample size varies across items, and could have minor effects on the reliability of the response.

With regard to data preparation and analysis, questions 4 and 5 of the instrument (see Appendix B) asked participants how many years they have worked in the library profession. Most respondents provided answers in whole numbers, but four entries indicated more than a

certain number of years (such as “thirty plus” or “20+), or close to a certain number (“nearly 20”). For purposes of statistical analysis, these responses were truncated at the indicated minimum year, so “thirty plus” became 30, “nearly 20” became 19, “less than one” became 0, and so on. This convention relies on the assumption that by choosing to use the truncated year total (for instance, using 30 instead of “thirty plus”, and 19 for “nearly 20”) no important information was lost.

The organizational structure of most master’s level academic libraries large enough to have separate departments is semi-hierarchical, with library staff members reporting to librarians, librarians reporting to department or unit heads or chairs, and those department heads reporting to the director or administrative office. This documented organizational structure (Harris, 2010) and the department list used by the American Library Association membership menu were used to conceptualize and organize the open-ended responses for position titles. The respondents’ 877 open-ended position title responses were identified, organized, and collapsed into categories.

Positions clearly denoting administrative responsibility for the entire library were categorized as “Library Director,” positions indicating department headships or chairships reporting for their department or unit to an administrative office were categorized as “Head,” professional librarian positions were categorized as “Librarian,” staff positions as “Staff,” and remaining positions that could not be translated into the common academic library organizational structure via the departments listed in the instrument (see Appendix B) were categorized as “Other.” Positions indicated as outside of academic libraries were coded “Nonlibrary.” This designation included any position not within an academic library, and includes library media specialists who generally work in the K-12 environment as well as positions in public libraries.

For consistency, the positions of Library Director and Assistant Director were designated to the “Administration” department, which resulted in 21 departments recoded for Director and 18 departments recoded for Assistant Director. (For more details on how responses were coded and the full list of free-text answers and corresponding coded position titles, please see Appendix C.)

Finally, responses to all open-ended questions were reviewed for information that might identify respondents, and this information (which included specific names of libraries and organizations) was redacted to maintain respondent anonymity.

### **Demographic Information**

The population of interest included the academic library directors at 724 master’s colleges and universities so classified by the Carnegie Foundation. Of the 724 institutions, contact information was only found for 666 library directors. This gap resulted from two factors. One is that for 20 private not-for-profit colleges and universities, multiple campuses on the Carnegie list shared a library system with a single academic library director. For consistency, those directors were only contacted once. The second factor is that many of the private for-profit institutions on the Carnegie list outsource their library operations to private companies, and staff members at those institutions were unable to offer contact information for a single traditional library director. This was the case for 38 of the 73 private for-profit institutions. This may cause difficulties with generalizing findings to the libraries serving private for-profit academic institutions.

Using Qualtrics survey software, 666 library directors were contacted, and 296 responses were received (a 40.66% response rate). Responses were received from directors representing private non-profit institutions (59.46%), public institutions (37.84%), and private for-profit

institutions (2.7%) in 49 states and Guam. This response rate by institution is very close to the actual demographics of institution type in the Carnegie Foundation data in which private not-for-profit institutions are 52.49% of cases, and public institutions are 37.43% of cases. The representation of for-profit institutions in respondent data is less than the 10% indicated by the Carnegie Foundation data. Table 4.1 summarizes the demographic characteristics of respondents.

Table 4.1 Demographics of Respondents

Variable	Value	Frequency	Percent of Total
Gender	Male	112	38.89
	Female	176	61.11
	Total	288	100
Ethnicity	African-American	10	3.46
	White	261	90.31
	Hispanic	6	2.08
	Asian	4	1.38
	Other (Please specify)	8	2.77
	Total	289	100
Institution Type	Private Non-profit	176	59.46
	Public	112	37.84
	Private For-profit	8	2.70
	Total	296	100
Enrollment Profile	Exclusively	2	0.67
	Graduate/Professional		
	High Undergraduate	130	43.92
	Majority	10	3.38
	graduate/professional		
	Majority	56	18.92
	Undergraduate		
	Very High	98	33.11
Undergraduate			
Total	296	100	

*Note.* The descriptive statistics for this table do not include responses left blank by respondents.

A majority of respondents identified as female (61.11%), and an overwhelming number (90.31%) identified as “White.” This statistic is representative of the profession of librarianship,

which has struggled to encourage diversity in its ranks (Lipscomb, 2004; Lipscomb, 2005; Peterson, 1996). The data also demonstrate that most of the institutions represented are private non-profit and public colleges and universities. There was some difficulty including private for-profit respondents, as many of those institutions outsource library operations, a procedure that made it difficult to find useful contact information for a director on campus.

The data summarized in Table 4.2 describe the work history of respondents. In particular, the table details the length of time respondents have spent in the library profession specifically, and the length of time respondents have participated in the full-time workforce.

Table 4.2 Years in Profession and Years in Workforce

Variable	<i>N</i>	Minimum	Maximum	Mean	SD
Total Years in the Library Profession	287	1	55	27.14	10.849
Total Years in Full-Time Workforce	287	1	60	30.86	10.476

*Note.* Although 296 respondents completed the survey, only 287 responded to Question 3. The descriptive statistics for this table do not include the blank responses.

Of note in Table 4.2 is that respondents' average length of time in the library profession was 27.14 years. It is important to recognize the standard deviation as indicated in Table 4.2. The large standard deviation indicates respondents have a great deal of experience in librarianship, with 68% of respondents reporting that they have worked in librarianship for between 16 and 37 years. The respondents represent a great deal of experience, with only slightly more years in the workforce at large than in libraries, indicating that most respondents have spent the majority of their working years in librarianship.

Related to the length of time in the profession, the instrument also questioned respondents about how long they had served in their current position as academic library director, as may be seen in Table 4.3.

Table 4.3 Years in Current Position

Years in Current Position	Frequency	Percent of Total
Less than a year	32	11.07
1-2 years	32	11.07
3-4 years	55	19.03
5-6 years	40	13.84
7-9 years	31	10.73
10 or more years	99	34.26
Total	289	100

*Note.* Although 296 respondents completed the survey, only 289 responded to Question 6. The descriptive statistics for this table do not include blank responses.

While more than a third of respondents (34%) have occupied their current position for 10 or more years, a full 40.17% of respondents have served as directors in their current position for four years or fewer, indicating a great deal of relative inexperience alongside veteran library director respondents.

### **Research Questions**

This study was designed to address five research questions:

- 1) Which of the respondents' last five positions previous to the directorship are most often represented in the path to the academic library directorship?
- 2) Which of the previous positions held by the respondents are perceived to have helped prepare directors the most for the leadership qualities and skills required of the position?

- 3) Is the perception of library leadership skill and quality development equal across departmental experience?
- 4) What, if any position(s), appear to be the “gatekeepers” for academic librarian skill and competency development?
- 5) What are the skills most commonly perceived to be used in each department?

Each research question will now be addressed in sequential order. All data bearing on the particular question will be included in the section dedicated to that research question.

### **Research Question One**

To determine if there was any commonality to the career paths of current academic library directors, Research Question One asked: Which of the respondents’ last five positions previous to the directorship are most often represented in the path to the academic library directorship? Identifying those positions was an opportunity to detail commonalities in academic library directors’ professional experience, and provide preliminary data for possible career path analysis. To address Research Question One, questions 8, 11, 14, 17, and 20 of the survey instrument (see Appendix B) asked respondents about the position titles and library departments of their past five professional positions. Respondents offered 877 open-ended survey responses about previous position titles. Determining those positions occurring most often in respondent histories required an ordering and summary of the data.

Because duties can vary significantly between departments, in order to address the research question in a meaningful way it was important to include the library department with the professional title category to accurately represent respondents’ position histories fully. Respondents identified the library department of each professional position. Using those

answers, library departments were appended to the collapsed title structures described in the data preparation section above. Respondents identified each position as belonging to one of 11 commonly-occurring departments in academic libraries, or used a free-text option if those options were insufficient. When coding the free-text options, they were placed in one of three other categories: “Multiple,” where positions had reporting responsibilities to more than one library department identified on the instrument; “None,” where the free-text answer indicated that the library was too small to have separate departments in its organizational structure; and “Other,” where the free-text answer for department could not be categorized as one of the 11 departments in the instrument, nor in “Multiple” or “None.”

Finally, using respondent information about the department in which the position was located, those titles (Library Director, Assistant Director, Head, Librarian, Staff, Other) were combined with the corresponding library department, or organizational unit per the options in the instrument (Appendix B). In this way, an answer of “department chair” as a position title, and “access services” as the library department where that title was located in the organization, resulted in a coding of “Head, Access Services,” where the position (indicative of place in organizational hierarchy) and the department (indicative of the type of work done) both carry crucial information. For the complete list of position and department mapping, please see Appendix C.

Table 4.4 aggregates this collection of academic library directors’ previous positions organized by title and department. The table includes a list of all of the library positions appearing in respondent library work histories, and the frequency with which those positions appear across all directors’ work histories.



Table 4.4 Frequency Table of Academic Library Director Previous Positions

Position Title	Frequency	Percentage of Total
Library Director	150	17.10
Assistant Library Director	75	8.55
Head, Access Services	23	2.62
Head, Advancement/Development	1	0.11
Head, Archives	1	0.11
Head, Collection Development	14	1.60
Head, Digital Library Services	6	0.68
Head, Information Technology	12	1.37
Head, Multiple	24	2.74
Head, Other	65	7.41
Head, Outreach	1	0.11
Head, Reference & Instruction	43	4.90
Head, Special Collections/Rare Books/Manuscripts	7	0.80
Head, Technical Services	34	3.88
(Head Positions, Total)	(231)	(26.34)
Librarian – Access Services	25	2.85
Librarian - Administration	4	0.46
Librarian – Archives	3	0.34
Librarian – Collection Development	12	1.37
Librarian – Digital Library Services	3	0.34
Librarian – Information Technology	10	1.14
Librarian – Multiple	40	4.56
Librarian – Other	63	7.18
Librarian - Outreach	1	0.11
Librarian – Reference & Instruction	133	15.17
Librarian – Special Collections/Rare Books/Preservation	4	0.46
Librarian – Technical Services	53	6.04
(Librarian Positions, Total)	(351)	(40.02)
Staff	70	7.98
Total (N)	877	100

*Note.* Although 296 respondents completed the survey, the totals above reflect the number that answered. In addition, if respondents chose “Not Applicable/No Previous Position,” the programmed survey logic disallowed answers for positions further in the past. The descriptive statistics for this table do not include the blank responses.

Research Question One asked: Which of the respondents’ last five positions previous to the directorship are most often represented in the path to the academic library directorship?

Using the information in Table 4.4, “Library Director” occurs most frequently as a previously held position (17.10%), indicating that many respondents served in the directorship previously in their work history. The next two most often-held positions by current academic library directors were “Librarian – Reference and Instruction” and “Assistant Library Director” at 15.17% and 8.55%, respectively.

### **Observations**

Other important observations that can be made from the data in Table 4.4 include that there are a number of library departments vastly under-represented in these data. In particular, those departments with little representation in respondent histories include Archives, Special Collections/Rare Books and Manuscripts/Preservation, Information Technology, and Digital Library Services positions. Another 125 positions were categorized as “Other,” meaning that those positions could not be mapped to any of the 11 department options on the survey instrument (Appendix B). This large group of departments that could not be mapped to the existing library department options offered by the primary professional association may indicate the need for a review of changing organizational dynamics in academic libraries.

### **Research Question Two**

Having identified the positions occurring most frequently in director work histories, it is important to identify the professional library positions that library directors perceive to have been most useful in developing their leadership skills and qualities. Research Question Two asked: Which of the previous positions held by the respondents are perceived to have helped prepare directors the most for the leadership qualities and skills required of the position?

Answering this question allows us to identify positions likely to appear on a successful career path for aspiring directors.

This research question was addressed by questions 28 through 33 of the survey instrument (see Appendix B), in which the respondents chose on a Likert scale how often they exercised a particular leadership skill or quality in their most recent three professional positions. Each leadership quality and skill set of 25 items was converted to a total composite score between 0 and 100. This was accomplished by assigning values to the Likert scale (Never =0, Rarely=1, Occasionally/Sometimes=2, Often=3 Always/Daily=4) and then adding respondent ratings of each of the 25 items (as in the manner done by Garrett, [2009]). Responses were then ordered, highest to lowest. This was done for all academic library positions, as respondents were not asked to rate non-library positions. The respondents' reported positions having the higher composite scores (with maximum potential scores of 100 for both leadership qualities and for leadership skills) reflected the perception that those positions helped respondents better develop the leadership skills and qualities addressed in the survey. A pre-determined score of 90 points or higher indicates that respondents perceived a position to be highly likely to allow participants to develop leadership skills or qualities. Table 4.5 summarizes these data for leadership skills for positions receiving composite scores of 90 or higher.

Table 4.5 Library Positions with Composite Leadership Skills Scores of 90 Through 100

Position Title	Frequency	% of Total
Library Director	11	64.72
Assistant Library Director	1	5.88
Head, Access Services	1	5.88
Head, Multiple	1	5.88
Head, Special Collections	1	5.88
Librarian - Other	2	11.76
Total	17	100

*Note.* Although 296 respondents completed the survey, the totals above reflect the number that answered. In addition, if respondents chose “Not Applicable/No Previous Position,” the programmed survey logic disallowed answers for positions further in the past. The descriptive statistics for this table do not include the blank responses.

Respondents indicated that only 17 library positions reached high scores (composite scores of 90 and above) for the perceived opportunity to exercise leadership skills. More than 65% of those positions were academic library directorships, meaning that respondents perceived that the greatest opportunity to exercise leadership skills occurred only once they were library directors. Table 4.6 summarizes the high composite scores (scores ranging from 90 to 100) for the perceived exercise of leadership qualities in respondents’ previous positions. The full list of composite scores for leadership skills and qualities by library position are included as Appendix D.

Table 4.6 Library Positions with Composite Leadership Qualities Scores of 90 Through 100

Position Title	Frequency	% of Total
Library Director	75	25.34
Assistant Library Director	39	13.18
Head, Access Services	10	3.38
Head, Collection Development	4	1.35
Head, Digital Library Services	4	1.35
Head, Information Technology	2	0.68
Head, Multiple	13	4.39
Head, Other	20	6.76
Head, Reference & Instruction	17	5.74
Head, Technical Services	8	2.70
(Head, Total)	(78)	(26.35)
Librarian – Access Services	4	1.35
Librarian – Administration	5	1.69
Librarian – Collection Development	4	1.35
Librarian – Digital Library Services	2	0.68
Librarian – Information Technology	5	1.69
Librarian - Multiple	12	4.05
Librarian - Other	15	5.07
Librarian – Reference & Instruction	34	11.49
Librarian – Technical Services	16	5.41
(Librarian, Total)	(97)	(32.77)
Staff	7	2.36
Total	296	100

*Note.* Although 296 respondents completed the survey, the totals above reflect the number that answered. In addition, if respondents chose “Not Applicable/No Previous Position,” the programmed survey logic disallowed answers for positions further in the past. The descriptive statistics for this table do not include the blank responses.

In contrast to the 17 positions identified as highest-scoring in developing leadership skills, respondents scored a much larger pool of 296 positions from widely varying departments as having high scores in the opportunity to exercise leadership qualities. Library Director and Assistant Library Director positions combined represented just over 38% of the total positions with the highest composite scores for leadership quality exercise, and department head positions (with a total of 78) represented 26% of the total. Of note is that 97 positions (more than 32% of

the high scoring positions) in the Librarian category were also identified by respondents as having offered a great deal of opportunity to exercise leadership qualities earlier in their careers.

### **Observations.**

Responses indicate that academic library directors perceive themselves to have had far more opportunity to exercise leadership qualities than leadership skills during the earlier part of their careers as academic librarians. The data indicate that the previous academic library position perceived to have helped prepare directors the most for the leadership qualities and skills required of the position is the position of Library Director itself. This has important consequences for the profession and leadership development initiatives, which will be discussed in greater detail in Chapter V.

### **Research Question Three**

Whether there is a general perception by academic library directors of differences in skill development by department is important to critically investigate, as it may influence the career choices of aspiring academic library directors, or the opinions of those tasked with hiring academic library directors. To this end, Research Question 3 asked: Is the perception of library leadership skill and quality development equal across departmental experience? The data used to answer this question involved all library departments representing more than 2% of cases. These seven departments included Access Services, Administration, Collection Development, Digital Library Services, Information Technology, Reference and Instruction, and Technical Services.

This research question was answered by using the Likert data measuring respondent perception of leadership skill and quality development (questions 28 through 33 in the

instrument, Appendix B). The Levene statistic was run in SPSS to test the assumption of the equality of variances. Table 4.7 indicates that that there was a significant difference between the variances of the composite scores in the population.

Table 4.7 Test of Homogeneity of Variances of Composite Scores

	Levene Statistic	Df1	Df2	Sig.
Leadership Skills Composite Score	2.960	6	575	.007*
Leadership Qualities Composite Score	3.695	6	575	.001*

\*Significant at the  $p \leq .05$  level

Given that the assumption of homogeneity of variance was not met in the analysis of the composite scores for leadership skills and leadership qualities, the ANOVA test could not be used due to a violation of that assumption. Because of these violated assumptions of homogeneity of variance, the Kruskal-Wallis one-way analysis of variance, a non-parametric method, was used as displayed in Table 4.8 to explore the composite score data. The null hypothesis for the Kruskal-Wallis test is that there is no difference between the distribution of scores of the populations from which the sample was selected (Hinkle, Wiersma, & Jurs, 2003). For this application of the test, the null hypothesis was that there is no difference between the distributions of scores of the different library departments.

Table 4.8 Kruskal-Wallis  $H$  Statistic Grouped by Library Department

	Composite Leadership Skill Score	Composite Leadership Quality Score
H	53.824	6.748
Df	6	6
Asymp. Sig.	.000*	.345

\*Significant at the  $p \leq .001$  level

Given the data in Table 4.8, the statistic for the composite leadership skill score was significant at the  $p \leq .001$  level, there was an observed difference among library departments based on the composite leadership skill scores. However, the statistic for the composite leadership quality score was .345, a value that does not reach the level at which we could reject the null hypothesis.

The next step of the analysis involved comparing the seven relevant departments (Access Services, Administration, Collection Development, Digital Library Services, Information Technology, Reference and Instruction, and Technical Services) pairwise on composite leadership skill scores to determine where the differences in scores (indicated by the previously run Kruskal-Wallis test) lies. With 21 pairwise department comparisons, this was accomplished by determining the Mann-Whitney  $U$  statistic. To determine significance of each  $U$  statistic for the pairwise comparison, the Holm-Bonferroni step-down test of significance, which can be applied to any family of pairwise comparisons and does not require any assumptions about normality or variance, was used.

The Holm-Bonferroni method controls for potentially inflated Type I error rates (false-positive results) without the potentially much exaggerated Type II (false negative) error rate of the traditional Bonferroni adjustment alone (Holm, 1979; Scholfield, 2014). The Holm-Bonferroni method consists of ordering the  $p$ -values for pairwise comparisons smallest to largest.



The smallest p-value is tested at  $\alpha/k$ , where k represents the total number of pairwise comparisons. If the smallest p-value is greater than  $\alpha/k$ , the null hypothesis is retained and we can conclude that there is no evidence of differences between the means of any of the pairs. However, if that p-value is less than or equal to  $\alpha/k$ , we can reject the null hypothesis and conclude that the means of that pairwise comparison are significantly different at the level of  $\alpha$ . At that point, the next step is to test the next smallest pairwise p-value at  $\alpha/(k-1)$ . If that p-value is greater than  $\alpha/(k-1)$ , the null hypothesis is retained and the pairwise analysis ends; if that p-value is less than or equal to  $\alpha/(k-1)$ , we can reject the null hypothesis and test the third-smallest p-value at  $\alpha/(k-2)$ , and so on until a p-value is greater than the threshold, or until all pairwise p-values are compared (Holm, 1979; Scholfield, 2014).

The Mann-Whitney U tests the null hypothesis that there is no difference in the scores of the populations tested. In this case, the null hypothesis is that there is no difference in the composite leadership skill scores between each pair of library departments. Table 4.9 offers the results of the Mann-Whitney *U* statistic. While the analysis was conducted with an  $\alpha$  of .05, because the Holm-Bonferroni adjustment technique results in a changing  $\alpha$  value requirement for significance the Holm-Bonferroni adjusted  $\alpha$  value is included as the second  $\alpha$  value for all pairs with a statistically significant relationship. Comparing composite leadership skill scores pairwise, Table 4.9 shows only four department pairs were found to have significant differences in composite leadership skill scores.

Table 4.9 Mann-Whitney *U* Statistic and Significance for Department Pair Composite Skill Scores

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Svc. (N=75)
Access Services (N=53)	4957 .002/.0027*	447 .189	204 .119	361.5 .223	3473 .172	1784 .326
Admin. (N=255)	Admin.	1488 .001/.0026*	1261 .570	1305 .006	12519 .000/.0025*	6238 .000/.0023*
Collection Dev. (N=21)			55.5 .016	175 .918	1518 .788	723 .567
Dig. Lib. Services (N=11)				48.5 .034	471.500 .018	231.500 .019
IT (N=17)					1215.500 .753	579.000 .556
Ref. & Instruction (N=150)						5457.5 .716

\* Significant as determined by the Holm-Bonferroni  $\alpha$  value

### Observations

In all four cases, Administration was significantly higher than another department. The four cases were Administration when paired with each of Access Services, Collection Development, Reference and Instruction, and Technical Services.

Research Question Three asked if the perception of library leadership skill and development is equal across departmental experience. From the analysis above, we can conclude that while perceptions of leadership quality development appears to be equal across department experience, leadership skill development is not equal across departments. Research Question Five will offer further analysis of pairwise department comparisons for leadership skills.

## **Research Question Four**

There are certain skills and qualities that appear essential for successful academic library directorship (Hernon et al., 2002; Hernon & Rossiter, 2006; Kreitz, 2009; OKeefe, 1998). For aspiring directors, it is important to understand which departments and positions are perceived to offer the most support for rarely-developed leadership skills and qualities. To investigate this issue, Research Question Four asked: What, if any position(s), appear to be the “gatekeepers” for academic librarian skill and competency development? This question can be approached by identifying leadership skills and qualities least likely to be developed, and then identifying the departments and positions perceived as offering the greatest opportunity in them.

### **Leadership skills and qualities least likely to be developed**

Research Question Four asked what, if any, positions appear to be gatekeepers, or what positions offer the best opportunity to develop skills least often exercised in library director career paths. Library positions perceived to offer leadership development not commonly offered across other library positions were identified by questions 28 through 33 of the survey instrument (Appendix B). These scores were calculated by averaging the leadership skill and quality scores of respondents’ past three library positions. Table 4.10 describes the average scores for each leadership skill and quality. From this table, we can identify those leadership skills and qualities respondents scored the lowest, indicating they perceived little chance to develop them over the course of their careers.

Table 4.10 Average Leadership Skill and Quality Scores

Leadership Skill	Average Score Across 3 Past Positions	Leadership Quality	Average Score Across Past 3 Positions
Allocating Resources	2.4	Able to Compromise	3.14
Budget Management	2.21	Accessible	3.72
Building Community Partnerships	2.19	Approachable	3.78
Building Teamwork	2.92	Articulate	3.62
Business Ethics	2.44	Comfortable with Ambiguity	3.19
Community Relations	2.08	Credibility	3.57
Communicating Expectations	2.86	Diplomatic	3.48
Compliance Issues	1.81	Even-handed	3.49
Computer Technology	3.06	Exercises Good Judgments	3.59
Conflict Resolution	2.31	Flexibility	3.60
Cultural Diversity	2.01	Good Interpersonal/ Personal Qualities	3.66
Decision-making	3.34	Good Listener	3.58
Enforcing Policies and Procedures	2.98	Handles Stress	3.33
Faculty and Staff Development	2.41	Integrity	3.65
Facilities Planning	1.83	Intuitive	3.34
Fundraising/ Donor Relations	0.85	Keeps Commitments	3.64
Legal Issues	1.23	Open-Minded	3.55
Managing Change	2.84	Optimistic	3.37
Problem Solving	3.39	Organizational Agility	3.27
Program Evaluation	2.15	Persuasive	3.12
School Safety Issues	1.01	Self-Confident	3.37
Strategic Planning	2.12	Sense of Humor	3.54
Student-Focused Learning	2.33	Sense of Perspective	3.5
Time Management	3.33	Treats People with Dignity/ Respect	3.80
Vision Articulation	2.3	Works on Multiple Tasks Simultaneously	3.65

*Note.* Although 296 respondents completed the survey, the totals above reflect the number that answered. The changing *N* for these descriptive statistics do not include blank responses. In addition, if respondents chose “Not Applicable/No Previous Position,” the programmed survey logic disallowed answers for positions further in the past. The descriptive statistics for this table do not include the blank responses.

Five leadership skills average scores were under the natural cutoff point of a 2.0 score, indicating that respondents perceived themselves to have developed those skills less often than “Rarely,” according to the instrument. Those five leadership skills perceived as least likely to be developed and their average scores included Fundraising/Donor Relations (0.85), School Safety

Issues (1.01), Legal Issues (1.23), Compliance Issues (1.81), and Facilities Planning (1.83). The five leadership qualities identified as least likely to be developed were Persuasive (3.12), Able to Compromise (3.14), Comfortable with Ambiguity (3.19), Organizational Agility (3.27), and Handles Stress (3.33).

### **Observations**

There is a striking difference in the mean scores between leadership skills and qualities. Table 4.10 makes it plainly evident that academic library directors perceived there to be far less opportunity to develop leadership skills than leadership qualities. No leadership quality received an average score of below 3.14 on the Likert scale, indicating that respondents broadly felt they often had opportunity to exercise those qualities. By contrast, only four leadership skills received average scores above 3, indicating respondents perceived themselves to have had far fewer leadership skill development opportunities. Those skills were Computer Technology, Decision Making, Problem Solving, and Time Management. The remaining 21 leadership skills, on average, were exercised rarely or never in directors' previous positions, according to respondent perceptions. This indicates a very large gap in leadership competency development for academic library directors.

### **Library position and perceived development.**

As detailed in Table 4.4 earlier in this chapter, 877 position titles were collected with the survey instrument (Appendix B). Of these, respondents completed the Likert scale questions (questions 28 through 33 of the instrument) for 516 positions. Table 4.11 details the frequencies of position titles for those entries.

Table 4.11 Frequency Table of Academic Library Director Previous Positions with Likert Data

Position Title	Frequency	Percentage of Total
Library Director	117	22.67
Assistant Library Director	58	11.24
Head, Access Services	15	2.91
Head, Advancement/Development	1	0.19
Head, Collection Development	11	2.13
Head, Digital Library Services	5	0.97
Head, Information Technology	8	1.55
Head, Multiple	15	2.91
Head, Other	32	6.20
Head, Reference & Instruction	26	5.04
Head, Special Collections/Rare Books/Manuscripts	1	0.19
Head, Technical Services	20	3.88
Librarian – Access Services	12	2.33
Librarian - Administration	4	0.78
Librarian – Collection Development	5	0.97
Librarian – Digital Library Services	2	0.39
Librarian – Information Technology	10	1.94
Librarian – Multiple	11	2.13
Librarian – Other	33	6.4
Librarian - Outreach	1	0.19
Librarian – Reference & Instruction	80	15.50
Librarian – Technical Services	32	6.20
Staff	17	3.29
Total (N)	516	100

*Note.* Although 296 respondents completed the survey, the totals above reflect the number that answered. In addition, if respondents chose “Not Applicable/No Previous Position,” the programmed survey logic disallowed answers for positions further in the past. The descriptive statistics for this table do not include the blank responses.

Of the 23 positions in Table 4.11, nine represented less than 2% of cases, and those cases (included in Table 4.11) were removed from further analysis for lack of representation. Fourteen positions remained for the analysis. Before analyzing the variance for the data, tests for the assumptions of ANOVA were conducted. The Levene test indicated homogeneity of variance.

For datasets smaller than 2000 elements, the Shapiro-Wilk test is used to test the null hypothesis that variables are normally distributed. Table 4.12 presents these data.

Table 4.12 Shapiro-Wilk Test of Normality

	Statistic	df	Sig.
Leadership Skills Composite Score	.983	479	.000*
Leadership Qualities Composite Score	.749	479	.000*

\*Significant at the  $p \leq .001$  level

A significant p-value reaches the rejection threshold, and we can conclude the composite score data come from a non-normal distribution. Given that the assumption of normality is not met in the analysis of the composite scores for leadership skills and leadership qualities, the ANOVA test cannot be used due to a violation of that assumption.

### **Composite scores and position**

The Kruskal-Wallis one-way analysis of variance, a non-parametric method, is used in to explore the composite leadership score data, grouped by the 16 library positions comprising more than 2% of cases in Table 4.11. The null hypothesis for the Kruskal-Wallis test is that there is no difference between the distribution of scores of the populations from which the sample was selected (Hinkle, Wiersma, & Jurs, 2003). For this application of the test, the null hypothesis is that there is no difference between the distributions of scores of the different library positions. Table 4.13 presents these data.

Table 4.13 Kruskal-Wallis  $H$  Statistic Grouped by Library Position

	Composite Leadership Skill Score	Composite Leadership Quality Score
H	152.805	21.914
Df	13	13
Asymp. Sig.	.000*	.057

\*Significant at the  $p \leq .001$  level

In Table 4.13, the  $H$  statistic for the composite leadership skill score is significant at the  $p \leq .001$  level, indicating that there is a statistically significant difference among library positions based on the composite leadership skill scores. However, the statistic for the composite leadership quality score is .057, which does not reach the level at which we might reject the null hypothesis. We can conclude that library department does have a statistically significant relationship to leadership skill scores.

### ***Gatekeeper positions***

As defined in Chapter I, and for the purposes of this research study, a “gatekeeper” position is any academic library position perceived to offer competency development not commonly offered across other library positions. Research Question Four is concerned with which positions are gatekeepers, or have significantly more opportunity to practice those skills appearing most rarely in library director career histories as collected with the instrument (Appendix B). As noted above, those five leadership skills least likely to be developed, and falling under a natural cutoff point of a 2.0 average Likert score, included Fundraising/Donor Relations, School Safety Issues, Legal Issues, Compliance Issues, and Facilities Planning. The next step of the analysis involved comparing the 14 relevant library positions pairwise on these five gatekeeper skills (a total of 91 pairwise comparisons) to determine which positions were



perceived to offer the most experience. This was accomplished by determining the Mann-Whitney  $U$  statistic. The Mann-Whitney  $U$  tests the null hypothesis that there is no difference in the scores of the populations tested. In this case, the null hypothesis is that there is no difference in the individual leadership skill scores between each pair of library positions.

To determine significance of each  $U$  statistic for the pairwise comparison, the Holm-Bonferroni step-down test of significance, which can be applied to any family of pairwise comparisons and does not require any assumptions about normality or variance, was used as before in a manner identical to Research Question Three. While the analysis was conducted with an  $\alpha$  of .05, because the Holm-Bonferroni adjustment technique results in a changing  $\alpha$  value requirement for significance, the Holm-Bonferroni adjusted  $\alpha$  value is included as the second  $\alpha$  value for all pairs with a statistically significant relationship. Tables 4.14 through Table 4.18 offer the results of the Mann-Whitney  $U$  statistic for each gatekeeper skill. While the analysis was conducted with an  $\alpha$  of .05, because the Holm-Bonferroni adjustment technique results in a changing  $\alpha$  value requirement for significance, the Holm-Bonferroni adjusted  $\alpha$  value is included as the second  $\alpha$  value for all pairs with a statistically significant relationship. Where there is a significant difference between library positions for the skill, this is noted with an asterisk, and the position with the higher rank for the skill is noted.

Table 4.14 Mann-Whitney *U* Statistic and Significance for Position Pair Fundraising/Donor Relations Skill Scores

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Other (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Lib. Dir.	2906.0 .21037	461.500 .00256	351.50 .01223	560.00 .05539	1080.00 .00051/ .00062*	928.50 .00185	616.50 .00064	246.00 .00016/ .00060*	264.00 .00102	816.50 .00000/ .00056*	1868.0 .00000/ .00055*	1104.00 .00035/ .00061*	285.50 .00000/ .00055*
					Lib. Dir.			Lib. Dir.		Lib. Dir	Lib. Dir.	Lib. Dir.	Lib. Dir.
Asst. Dir.		239.5 .00582	184.50 .02316	304.50 .14193	575.000 .00420	497.50 .01128	320.50 .00221	112.50 .00013/ .00059*	128.50 .00116	399.50 .00000/ .00058*	902.50 .00000/ .00058*	590.50 .00383	120.00 .00000/ .00057*
								Asst. Dir.		Asst. Dir.	Asst. Dir.		Asst. Dir.
Head Access			81.500 .95408	75.500 .15792	206.500 .50668	171.00 .48030	149.00 .97040	67.500 .19725	67.000 .35198	210.50 .33569	483.00 .16704	226.500 .73424	81.000 .02557
Head CD				57.500 .24411	154.50 .61915	128.000 .58953	108.000 .92678	49.500 .22667	49.000 .37663	153.50 .37166	353.00 .21653	168.500 .81792	60.000 .03733
Head Mult.					182.00 .34766	156.50 .43154	100.500 .13195	36.000 .00590	40.000 .02612	126.50 .00634	284.00 .00066	182.00 .28125	37.500 .00021/ .00060*
													Head Mult.
Head Other						397.00 .91718	274.00 .44872	117.00 .03831	119.50 .10864	375.50 .04042	857.50 .00432	475.00 .75437	136.50 .00181
Head R&I							227.00 .42597	97.500 .0453	99.500 .111914	312.00 .04448	713.50 .00611	393.500 .70300	114.50 .00235

Table 4.14 Continued

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Head							227.00	97.500	99.500	312.00	713.50	393.500	114.50
R&I							.42597	.0453	.111914	.04448	.00611	.70300	.00235
Head								91.500	90.500	284.00	652.500	300.500	110.50
TS								.19522	.35295	.32497	.14479	.68529	.02372
Lib									63.000	178.5	447.00	138.000	88.500
Access									.80956	.53610	.68828	.10630	.36117
Lib.										173.00	430.500	137.000	78.000
Mult.										.77795	.95047	.22065	.27350
Lib											1253.00	427.500	218.00
Other											.68887	.13178	.09403
Lib.												985.000	550.00
R&I												.03024	.12779
Lib.													168.50
TS													.00994

\*Significant as determined by the Holm-Bonferroni  $\alpha$  as indicated in table

Table 4.14 describes the Mann-Whitney  $U$  statistic and significance for each library position pair score for the skill Fundraising/Donor Relations. The positions of library director and assistant library director are demonstrated to have statistically significantly higher scores in this leadership skill than librarian and staff positions.

Table 4.15 describes the Mann-Whitney  $U$  statistic for leadership skill scores in school safety issues. Where there is a significant difference between library positions for the skill, this is noted with an asterisk, and the position with the higher rank for the skill is noted. Table 4.15 indicates that the positions of library director and assistant library director are demonstrated to have statistically significantly higher scores in the School Safety Issues leadership skill than most other positions. The positions of assistant library director and head of multiple departments hold stronger relationships with school safety skill development.

Table 4.15 Mann-Whitney *U* Statistic and Significance for Position Pair School Safety Issues Skill Scores

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Lib. Dir. (N=115)	2825.50 .42018	722.00 .39035	291.000 .00307	583.000 .11672	1473.50 .20609	1090.50 .04443	598.00 .00179	593.00 .51934	327.00 .02629	1226.00 .00277	2739.0 .00000/ .00054*	1376.5 .04435	598.5 .01200
Asst. Dir.		380.50 .63575	111.00 .00061	311.500 .25433	658.00 .06855	465.000 .00819	243.000 .00032/ .00056*	316.00 .81017	140.50 .01124	518.000 .00047/ .00057*	1137.50 .00000/ .00055*	592.50 .00814	251.00 .00281
Head Acc. Svcs.			36.000 .01108	97.500 .73631	171.000 .13485	129.500 .06245	72.000 .00964	83.000 .72096	39.500 .03829	146.500 .01753	327.000 .00303	161.50 .06078	71.000 .02536
Head CD				17.500 .00065	100.500 .03300	93.500 .06972	94.500 .61864	19.000 .00207	54.500 .96623	144.00 .25849	361.500 .31656	110.50 .04812	77.500 .39409
Head Mult.					127.500 .02279	88.000 .00464	41.500 .00047/ .00058*	68.000 .38501	26.000 .00751	95.500 .00089	201.500 .00005/ .00056*	111.00 .00452	44.500 .00208
Head Other						360.000 .46574	202.500 .04964	134.00 .13651	108.50 .13379	407.500 .13706	919.000 .02808	454.50 .54653	200.50 .14943
Head R&I							188.500 .14162	88.000 .02411	95.000 .18073	377.000 .38838	858.000 .16982	402.50 .81950	187.00 .36023

Table 4.15 Continued

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Head TS								45.000	89.500	279.000	698.500	224.50	149.50
								.00280	.77023	.46850	.60376	.09410	.67034
Lib Acc.									30.000	100.000	214.000	113.00	48.000
									.03314	.00773	.00097	.02771	.01071
Lib. Mult.										139.500	349.500	116.00	75.500
										.41781	.51137	.16396	.58882
Lib. Other											1249.00	451.00	270.50
											.70166	.27643	.82258
Lib. R&I												1023.0	667.00
												.08765	.96194
Lib. TS													223.50
													.27417

\*Significant as determined by the Holm-Bonferroni  $\alpha$  as indicated in table

Table 4.16 presents the data for the Mann-Whitney U statistic for the leadership skill of Legal Issues. Per Table 4.16, The positions of library director, assistant library director, and head of multiple departments have statistically significantly higher scores in the Legal Issues leadership skill than reference and instruction librarian positions.

Table 4.16 Mann-Whitney *U* Statistic and Significance for Position Pair Legal Issues Skill Scores

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Lib. Dir.	3228.00 .86592	757.00 .42401	33.500 .00687	800.000 .96821	1414.50 .0597	934.00 .00176	784.0 .01800	455.00 .04163	265.00 .00090	1382.00 .01264	2347.0 .00000/ .00054*	1575.0 .19214	473.00 .00036/ .00056*
Asst. Dir.		386.50 .55547	160.00 .00737	397.000 .97554	687.00 .07355	451.000 .00264	378.0 .01996	221.00 .04182	125.50 .00104	671.000 .01708	1123.50 .00000/ .00055*	766.50 .19026	224.50 .00051
Head Access Svcs.			44.000 .03769	88.500 .45440	159.00 .07331	120.500 .03512	97.00 .06644	58.000 .10332	39.000 .01802	171.500 .07813	313.500 .00210	187.50 .21459	65.500 .01323
Head CD				34.000 .01187	129.500 .21494	124.00 .49499	96.00 .53919	51.000 .30976	53.000 .58792	139.000 .21741	425.00 .89873	115.00 .07308	84.000 .62188
Head Mult.					168.00 .20475	99.000 .01077	88.00 .05588	48.000 .03597	24.000 .00199	153.500 .05149	238.000 .00030/ .00056*	183.500 .30110	47.500 .00285
Head Other						348.000 .35401	280.00 .54275	169.00 .62825	112.00 .07623	490.00 .76170	916.00 .02825	458.00 .58518	187.00 .07919
Head R&I							258.00 .96237	142.00 .62511	105.00 .17005	381.500 .43287	868.00 .20213	318.500 .10339	169.50 .16837



Table 4.16 Continued

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Head								112.00	84.000	301.000	676.00	257.00	135.00
TS								.73989	.25000	.57318	.28337	.21436	.25032
Lib.								41.000	191.000	355.00	158.00	68.000	
Access								.08836	.84364	.13088	.33322	.10381	
Lib.										115.500	391.500	94.000	93.000
Mult.										.05489	.56298	.01589	.97889
Lib.											973.000	461.000	190.50
Other											.02361	.34849	.04992
Lib.												806.5	617.50
R&I												.00150	.57119
Lib.													159.50
TS													.01309

\*Significant as determined by the Holm-Bonferroni  $\alpha$  as indicated in table

Table 4.17 presents the data for the Mann-Whitney U statistic for the leadership skill of Compliance Issues. Table 4.17 indicates that library director, assistant director, head of Access Services, and head of multiple department positions have an advantage in the Compliance issues skill over reference and instruction librarian positions.

Table 4.17 Mann-Whitney *U* Statistic and Significance for Position Pair Compliance Issues Skill Scores

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)	
Lib. Dir.	3138.0 .63327	723.500 .51950	272.500 .00118	656.00 .23981	1298.00 .01561	1069.50 .01777	1044.50 .49706	561.00 .26635	515.00 .28987	1809.0 .67288	2149.0 .00000/ .00055* Lib. Dir.	1483.5 .08146	602.5 .00788	
Asst. Dir.		336.00 .33791	145.000 .00319	304.00 .15103	673.500 .05488	552.500 .05040	542.500 .73958	288.50 .37248	270.00 .44740	938.00 .98274	1128.00 .00000/ .00055* Asst. Dir.	771.00 .20807	316.00 .02298	
Head Access			33.000 .01259	86.000 .57002	149.000 .08524	118.500 .06153	123.00 .54295	65.500 .32791	59.500 .32397	213.50 .67748	258.000 .00158* Head Access Svcs.	168.50 .17383	68.500 .03903	
Head CD				25.000 .00366	105.00 .05235	87.500 .05447	60.500 .03615	35.000 .04869	39.500 .14898	96.000 .01785	362.50 .45805	106.00 .04501	72.000 .28868	
Head Mult.					130.000 .02656	106.000 .02491	107.000 .23499	59.000 .17956	50.000 .12978	187.00 .29328	209.000 .00020/ .00056* Head Mult.	147.00 .05918	57.000 .01177	
Head Other							398.500 .93940	272.500 .45310	168.50 .61619	168.00 .94092	431.00 .26478	853.00 .02028	470.00 .71091	225.00 .38863

Table 4.17 Continued

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Head R&I							228.000 .46210	144.50 .70092	139.00 .89012	360.00 .27766	700.00 .02125	744.50 .71441	188.50 .39907
Head TS								117.50 .91964	97.500 .59775	318.00 .82150	492.500 .01239	294.00 .61601	126.00 .16949
Lib Access									60.500 .72695	186.50 .76100	289.000 .03447	184.50 .83792	78.000 .27072
Lib. Mult.										154.00 .45459	315.000 .17110	172.00 .90908	79.000 .48232
Lib. Other												465.50 .40116	199.00 .08795
Lib. R&I												847.50 .01019	570.00 .43096
Lib. TS													221.00 .27010

\*Significant as determined by the Holm-Bonferroni  $\alpha$  as indicated in table.

Table 4.18 describes the Mann-Whitney  $U$  statistic and significance for each library position pair score for the Facilities Planning skill. Library director and assistant director positions have an advantage in this skill over nearly every other position. Positions as head of multiple departments and heads of the “other”-designated department have advantages over, heads of collection development, “other”-designated librarian positions, reference and instruction librarian positions, and staff positions. Heads of reference and instruction departments have an advantage over reference and instruction librarian positions and over staff positions.

Table 4.18 Mann-Whitney *U* Statistic and Significance for Position Pair Facilities Planning Skill Scores

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Lib. Dir.	3097.50 .54052	699.500 .21455	66.000 .00000/ .00054*	579.500 .07407	1212.00 .00444	858.00 .00045/ .00071*	407.00 .00000/ .00055*	402.00 .01343	225.50 .00026/ .00069*	588.00 .00000/ .00056*	1081.00 .00000/ .00056*	699.50 .00000/ .00057*	197.50 .00000/ .00058*
Asst. Dir.		370.500 .40672	40.000 .00000/ .00058*	306.500 .15906	643.500 .02845	455.500 .00374	222.00 .00002/ .00064*	213.5 .03389	123.00 .00097	321.50 .00000/ .00059*	602.000 .00000/ .00060*	379.00 .00000/ .00060*	111.500 .00000/ .00061*
Head Access Svcs.			21.000 .00098	93.500 .59029	200.500 .43230	147.500 .18500	79.000 .01427	67.500 .25292	44.000 .03819	118.50 .00306	237.000 .00013/ .00067*	132.00 .01121	44.500 .00099
Head CD				7.500 .00007/ .00064*	40.000 .00012/ .00066*	49.500 .00123	51.500 .01094	24.500 .00786	25.000 .01344	110.00 .04008	336.500 .19768	101.00 .02895	89.500 .82921
Head Mult.					199.500 .64660	130.000 .12203	65.500 .00530	65.000 .28502	36.000 .01448	87.500 .00048/ .00072*	157.500 .00001/ .00063*	109.00 .00428	30.000 .00022/ .00068*
										Head Mult.	Head Mult.		Head Mult.

Table 4.18 Continued

	Asst. Dir. (N=57)	Head Acc. (N=15)	Head CD (N=11)	Head Mult. (N=14)	Head Other (N=31)	Head R&I (N=26)	Head TS (N=20)	Lib. Acc (N=12)	Lib. Mult. (N=11)	Lib. Oth. (N=33)	Lib. R&I (N=79)	Lib TS (N=32)	Staff (N=17)
Head						338.000	190.00	161.00	106.50	269.00	514.500	303.00	89.000
Other						.27974	.01562	.47901	.05539	.00073/ .00074*	.00000/ .00062*	.00609	.00011/ .00065*
										Head Other	Head Other		Head Other
Head R&I							209.50 .24040	152.00 .89644	119.00 .40166	296.50 .03398	571.00 .00038/ .00070*	317.50 .10978	89.500 .00073/ .00074*
											Head R&I		Head R&I
Head TS								92.500 .26229	106.50 .87754	284.00 .37275	558.00 .03325	301.00 .70894	90.000 .01054
Lib Access									52.000 .36616	133.50 .08429	266.00 .01032	144.50 .19538	402.000 .01343
Lib. Mult.										149.00 .35065	287.500 .05539	159.50 .63141	45.000 .01572
Lib. Other											1095.50 .16020	494.50 .64543	177.00 .02545
Lib. R&I												1000.5 .07092	517.50 .11472
Lib. TS													165.50 .01908

\*Significant as determined by the Holm-Bonferroni  $\alpha$  as indicated in table

## **Observations**

From these analyses, we may conclude that while perceptions of leadership quality development appears to be equal across library positions, leadership skill development is not equal across departments. In fact, positions at the library director and assistant director positions offer the most advantage in gaining experience in those leadership skills that academic library directors rarely exercised in positions before the directorship. Secondary “gatekeeper” positions appear to be department head positions, especially in Access Services and headships of multiple departments.

Of note in the data is that the most abundant leadership skill development opportunities tend to cluster at the directorship and assistant directorship, and at the position of head of multiple departments. Another large clustering of skill development opportunities occurs at the Library Director position, which aligns with the data from previous research questions.

## **Research Question Five**

Research Question Four explored the relationship between professional position and leadership skill and quality development. Research Question Five explores the relationship between library department and development. Knowing which library departments are likely to build different skills and qualities should prove important to aspiring academic library directors, and should also help academic library professional associations to better target leadership development opportunities to constituents. To shed light on this issue, Research Question Five asked: What are the leadership skills and qualities most commonly perceived to be used in each department?



### **Relationship between department and skill development**

The data analysis in Research Question Three established that there is a relationship between library department and leadership skill (though not leadership quality) development. Department relationship to composite leadership scores was explored previously in this chapter. For this research question, the analysis explores department relationship to each individual leadership skill.

As demonstrated in Research Question Three, the assumption of homogeneity of variance was not met in the analysis of the composite scores for leadership skills and leadership qualities using the Levene test. Because of this, the ANOVA test could not be used. Instead, the Kruskal-Wallis one-way non-parametric analysis of variance, was conducted on each of the 25 leadership schools. The null hypothesis for the Kruskal-Wallis test in this case is that there is no difference between the distributions of scores of library departments for each leadership skill. Table 4.19 details the Kruskal-Wallis H statistic grouped by library department for each skill.

Table 4.19 Results of Kruskal-Wallis  $H$  Statistic for Leadership Skills Grouped by Library Department

Leadership Skill	H	df	Sig.
Allocating Resources	128.758	6	.000*
Budget Management	172.467	6	.000*
Building Community Partnerships	62.407	6	.000*
Building Teamwork	63.782	6	.000*
Business Ethics	36.912	6	.000*
Community Relations	48.757	6	.000*
Communicating Expectations	50.101	6	.000*
Compliance Issues	52.622	6	.000*
Computer Technology	40.371	6	.000*
Conflict Resolution	52.173	6	.000*
Cultural Diversity	35.870	6	.000*
Decision-making	71.555	6	.000*
Enforcing Policies and Procedures	47.158	6	.000*
Faculty and Staff Development	59.063	6	.000*
Facilities Planning	160.552	6	.000*
Fundraising/Donor Relations	108.176	6	.000*
Legal Issues	70.651	6	.000*
Managing Change	54.150	6	.000*
Problem Solving	27.996	6	.000*
Program Evaluation	30.991	6	.000*
School Safety Issues	79.776	6	.000*
Strategic Planning	84.292	6	.000*
Student-Focused Learning	99.717	6	.000*
Time Management	10.430	6	.165
Vision Articulation	52.601	6	.000*

\*Significant at the  $\alpha \leq .05$  level

Per Table 4.19, the statistic for every leadership skill score except for time management was significant at the  $\alpha \leq .05$  level, indicating that there is a difference among library departments based on individual leadership skill scores. Given this information, we can conclude that there is a general perception by respondents that there is a difference in leadership skill (but not leadership quality) development opportunity by department.

The next step in the analysis was to again employ the Mann-Whitney  $U$  statistic to determine which departments were perceived to have offered greater opportunity to develop

leadership skills in each pair. The pairwise comparisons were initially tested at an  $\alpha$  value of .05. To determine significance of each  $U$  statistic for the pairwise comparison, the Holm-Bonferroni step-down test of significance was used in a manner as described in Research Questions Three and Four. For each of the 24 skills with a significant Kruskal-Wallis H statistic in Table 4.19, a pairwise comparison between the seven departments was conducted to determine which pairs of departments had statistically significant differences in leadership skill development scores. The data on unique library department pairs with a significant Mann-Whitney  $U$  test statistic is presented in Table 4.20. As in Research Questions Three and Four, while the initial alpha had a value of .05, the Holm-Bonferroni adjusted  $\alpha$  value is included as the second  $\alpha$  value for all pairs with a statistically significant relationship. All pairwise comparisons are included in Appendix E.

Table 4.20 Mann-Whitney *U* Statistic for Statistically Significant Department Pairs by Leadership Skill

Leadership Skill	Stronger Dept.	Weaker Dept.	Mann-Whitney <i>U</i>	Sig./HB Sig.
Allocating Resources	Admin.	Ref. & Instr.	5084.000	.00000/.0025*
	Admin.	Access Services	2225.500	.00000/.00238*
	Admin	Tech. Services	4954.500	.00006/.00294*
	Admin.	IT	781.000	.00011/.00312*
	Coll. Dev.	Access Services	183.000	.00006/.00277*
	Coll. Dev.	IT	63.500	.00223/.00357*
	Coll. Dev.	Ref. & Instr.	386.000	.00000/.00263*
Budget Management	Tech. Services	Ref. & Instr.	3317.000	.00124/.00333*
	Admin.	Access Services	1515.500	.00000/.00238*
	Admin.	IT	746.500	.00007/.00312*
	Admin.	Ref. & Instr.	3805.000	.00000/.0025*
	Admin.	Tech. Services	4959.000	.00008/.00333*
	Coll. Dev.	Access Services	167.500	.00000/.00294*
	Coll. Dev.	Ref. & Instr.	440.000	.00000/.00263*
Building Community Partnerships	Tech. Services	Access	1012.500	.00033/.00357*
	Admin	Ref. & Instr.	2758.5	.00000/.00277*
	Admin	Access Svcs.	3354.500	.00005/.00263*
	Admin.	IT	639.000	.00001/.0025*
	Admin.	Tech. Services	3638.000	.00000/.00238*
	Admin	Ref. & Instr.	11787.000	.00167/.00294*
	Ref. & Instr.	Tech. Services	3303.000	.00085/.00277*
Building Teamwork	Access Services	IT	188.500	.00125/.00312*
	Admin.	Coll. Dev.	1019.000	.00011/.00277*
	Admin.	IT	520.000	.00000/.00238*
	Admin	Ref. & Instr.	9867.000	.00000/.0025*
	Admin.	Tech. Services	5221.500	.00037/.00294*
	Digital Lib.	Coll. Dev.	30.500	.00206/.00357*
	Digital Lib.	IT	7.500	.00008/.00263*
	Digital Lib.	Ref. & Instr.	303.500	.00202/.00333*
	Tech. Services	IT	286.500	.00251/.00384*

Table 4.20 Continued

Leadership Skill	Strong Dept.	Weaker Dept.	Mann-Whitney <i>U</i>	Sig./HB Sig.
Business Ethics	Access Services	Ref. & Instr.	2387.000	.00217/.0025*
	Admin.	Ref. & Instr.	9562.5	.00000/.00238*
Community Relations	Admin.	IT	859.500	.00063/.00263*
	Admin.	Tech. Services	3720.500	.00000/.00238*
Communicating Expectations	Ref. & Instr.	Tech. Services	3167.500	.00013/.0025*
	Access Services	Ref. & Instr.	2356.500	.00130/.00263*
Compliance Issues	Admin.	IT	825.000	.00026/.0025*
	Admin.	Ref. & Instr.	9119.5	.00000/.00238*
Computer Technology	Access Services	Coll. Dev.	233.500	.00148/.00294*
	Access Services	Ref. & Instr.	2061.000	.00012/.0025*
	Admin.	Coll. Dev.	1022.500	.00022/.00263*
	Admin.	Ref. & Instr.	9032.000	.00000/.00238*
Conflict Resolution	Admin.	Tech. Services	5310.000	.00127/.00277*
	Dig. Lib. Services	Access Services	87.500	.00071/.00294*
	Dig. Lib. Services	Coll. Dev.	34.500	.00267/.00357*
	Dig. Lib. Services	Ref. & Instr.	332.000	.00373/.00416*
	IT	Access Services	129.500	.00002/.00238*
	IT	Admin.	898.500	.00062/.00277*
	IT	Coll. Dev.	52.500	.00019/.00263*
	IT	Ref. & Instr.	503.000	.00015/.0025*
	Tech Services	Access Services	1078.000	.00094/.00312*
	Tech. Services	Coll. Dev.	375.000	.00279/.00384*
Cultural Diversity	Tech. Services	Ref. & Instr.	3450.000	.00259/.00333*
	Admin.	IT	830.500	.00040/.0025*
Leadership Skill	Admin.	Ref. & Instr.	9164.500	.00000/.00238*
	Access Services	IT	175.500	.00118/.00263*
	Admin.	Coll. Dev.	1199.000	.00270/.00294*
	Admin.	IT	737.500	.00011/.00238*
	Admin.	Ref. & Instr.	11738.000	.00225/.00277*
	Admin.	Tech. Svc.	4950.500	.00026/.0025*

Table 4.20 Continued

Leadership Skill	Strong Dept.	Weaker Dept.	Mann-Whitney <i>U</i>	Sig./HB Sig.
Decision-making	Admin.	Access Services	3626.000	.00013/.0025*
	Admin.	Ref. & Instr.	7883.000	.00000/.00238*
	Admin.	Tech. Services	5691.500	.00268/.00277*
Enforcing Policies and Procedures	Tech. Services	Ref. & Instr.	3225.000	.00020/.00263
	Access Services	Ref. & Instr.	2141.000	.00011/.0025*
Faculty and Staff Development	Admin.	IT	902.000	.00074/.00263*
	Admin.	Ref. & Instr.	9489.500	.00000/.00238*
	Admin.	Access Services	3249.500	.00001/.00263*
	Admin.	Coll. Dev.	846.000	.00001/.00277*
	Admin.	Ref. & Instr.	10445.500	.00000/.00238*
	Admin.	Tech. Services	4801.500	.00000/.0025*
Facilities Planning	Access Services	Coll. Dev.	204.500	.00022/.00294*
	Admin.	Access Services	2961.500	.00000/.00238*
	Admin.	Coll. Dev.	227.000	.00000/.0025**
	Admin.	Dig. Lib. Services	453.500	.00144/.00357*
	Admin.	IT	880.500	.00083/.00312*
	Admin.	Ref. & Instr.	5229.000	.00000/.00263*
	Admin.	Tech. Services	2773.000	.00000/.00277*
Fundraising/ Donor Relations	Dig. Lib. Services	Coll. Dev.	33.000	.00230/.00384*
	Tech. Services	Coll. Dev.	337.500	.00115/.00333*
	Admin.	Access Svcs.	2406.000	.00000/.00238*
	Admin.	Ref. & Instr.	7098.000	.00000/.0025*
Legal Issues	Admin.	Tech. Services	3981.000	.00000/.00263*
	Admin.	Coll. Dev.	1125.000	.00086/.00263*
	Admin.	Ref. & Instr.	7740.000	.00000/.00238*
	Admin.	Tech. Services	4954.000	.00010/.0025*

Table 4.20 Continued

Leadership Skill	Strong Dept.	Weaker Dept.	Mann-Whitney <i>U</i>	Sig./HB Sig.
Managing Change	Admin.	Access Services	3759.500	.00140/.00263*
	Admin.	Ref. & Instr.	8768.500	.00000/.00238*
	Dig. Lib. Services	Access Services	95.000	.00145/.00277*
	Dig. Lib. Services	Ref. & Instr.	200.500	.00010/.0025*
	Tech. Services	Ref. & Instr.	3458.500	.00290/.00294*
Problem Solving Program Evaluation	Admin.	Ref. & Instr.	10784.000	.00000/.00238*
	Admin.	Tech. Services	3990.500	.00000/.00238*
School Safety Issues	Ref. & Instr.	Tech. Services	3225.000	.00114/.0025*
	Access Services	Coll. Dev	224.000	.00048/.00294*
	Access Services	IT	201.500	.00227/.00333*
	Access Services	Ref. & Instr.	2348.500	.00068/.00312*
	Access Services	Tech. Services	1110.000	.00347/.00357*
	Admin.	Coll. Dev	776.000	.00001/.00263*
	Admin.	IT	708.500	.00008/.00277*
	Admin.	Ref. & Instr.	8735.500	.00000/.00238*
	Admin.	Tech. Services	4128.000	.00000/.0025*
	Strategic Planning	Admin.	Access Svcs.	2912.000
Admin.		Coll. Dev.	930.000	.00004/.00277*
Admin.		IT	976.000	.00284/.00416*
Admin.		Ref. & Instr.	8200.000	.00000/.0025*
Admin.		Tech. Services	4194.000	.00000/.00263*
Dig. Lib. Services		Access Services	76.000	.00041/.00333*
Dig. Lib. Services		Coll. Dev.	18.000	.00022/.00294*
Dig. Lib. Services		IT	25.500	.00269/.00384*
Dig. Lib. Services		Ref. & Instr.	229.000	.00029/.00312*
Dig. Lib. Services		Tech. Services	119.500	.00086/.00357*

Table 4.20 Continued

Leadership Skill	Strong Dept.	Weaker Dept.	Mann-Whitney <i>U</i>	Sig./HB Sig.
Student-Focused Learning	Admin	Coll. Dev.	969.500	.00012/.00333*
	Admin	IT	435.000	.00000/.0025*
	Admin.	Tech. Services	3628.500	.00000/.00263*
	Ref. & Instr.	Access Svcs.	1840.000	.00000/.00238*
	Ref. & Instr.	Admin.	11264.000	.00024/.00357*
	Ref. & Instr.	Coll. Dev	462.000	.00000/.00277*
	Ref. & Instr.	IT	209.000	.00000/.00294*
	Ref. & Instr.	Tech. Services	1766.000	.00000/.00312*
Vision Articulation	Admin.	Access Services	3342.500	.00008/.00263*
	Admin.	Coll. Dev.	949.000	.00027/.00277*
	Admin.	Ref. & Instr.	10188.000	.00000/.00238*
	Admin.	Tech. Services	4091.000	.00000/.0025*

\* Significant as determined by the Holm-Bonferroni  $\alpha$  value

### Observations

Given these data, one may conclude there is a general perception by academic library directors that there are significant differences in skill development by department. Of 504 possible pairwise comparisons for all 24 skills, 128 (25.40%) were statistically significant. In particular, in most of the statistically significant relationships in Table 4.20, the Administration department is strongly perceived to have offered far greater opportunity to develop leadership skills than various other departments, indicating that a great deal of leadership development occurs only once an academic librarian's career path takes them into administrative departments.

Also of note is that in any statistically significant relationship between departments on leadership skill except for Computer Technology, the IT department is regarded as the weaker department. Respondents indicated that Digital Library Services departments offered statistically



significant advantages in developing the leadership skills of Managing Change and Strategic Planning, and Collection Development departments largely possessed strength in Allocating Resources and Budget Management.

Research Question Five asked: What are the leadership skills and qualities most commonly perceived to be used in each department? There is no perceived difference in leadership quality development by department, but Table 4.20 offers data indicating perceived skill development advantages by department pair; where a pair is not listed, no significant statistical relationship between department and level of skill development exists.

## CHAPTER V

### DISCUSSION

#### **Research Project Summary**

The library and information science research literature indicates the profession knows little about the career paths and leadership skill development histories of academic library directors. The main purpose of this study was to investigate the career paths and leadership development of academic library directors and to identify whether leadership skill and quality development differed by professional position, or by department of library work. This chapter summarizes the results of the study using the Academic Library Director Leadership Skills and Qualities Survey (Appendix B) completed for the first time by academic library directors at master's granting colleges and universities.

A quantitative approach was used in completing this study. The quantitative components of the research were conducted through the collection and examination of data via the Academic Library Director Leadership Skills and Qualities Survey (Appendix B). Academic library directors were surveyed about position information for the past five academic library positions prior to their current directorship and their perceptions of leadership development in the past three academic library positions held prior to their current directorship. The coding of these data was used to examine the career paths of current academic library directors at Master's granting institutions and any relationships between position title, academic library work experience, and leadership development. The following sections of Chapter V discuss the limitations of the

study, the major findings established as a result of this study, and implications of those findings organized in order by research question, recommendations for action, and recommendations for future research.

### **Limitations of the Research Study**

The following section of Chapter V discusses the three major limitations that could have affected the results of this research study, its findings, and its conclusions. These limitations include limitations in the research sample, participant limitations, and limitations related to the Academic Library Director Leadership Skills and Qualities Survey (Appendix B).

#### **Research Sample Limitations**

As noted in Chapter IV, responses received were reflective of the distribution of institution types in the population. Responses were received from directors representing private non-profit institutions (59.46%), public institutions (37.84%), and private for-profit institutions (2.7%). Except for the for-profit institution response rate, the response rate by other institutions is very close to the actual demographics of institution type in the Carnegie Foundation data in which private not-for-profit institutions are 52.49% of cases, and public institutions are 37.43% of cases.

The representation of for-profit institutions in respondent data, however, is less than the 10% benchmark indicated by the Carnegie Foundation data, therefore those data may be less representative of realities in academic libraries at for-profit institutions. Prior to the study, including for-profit institutions in the study was not considered a hardship, as it was expected the libraries for those institutions would function similarly to the academic libraries of private non-

profit and public institutions. The group was included to gather as much information as possible about all of the possible academic library types. Future studies may consider excluding the private for-profit academic libraries, as their organizations appear to function differently than traditional libraries in higher education.

### **Participant Limitations**

A number of limitations to this study also relate to the participants themselves and how they may have responded to the survey instrument, or not. Because this was a retrospective research study, memory is likely to be the participant limitation with the greatest effect.

Memory is an issue known to be methodologically problematic when asking respondents to address questions about events occurring in the past. A number of methodological issues arise with retrospective studies, including that not everything is stored in memory, humans are likely to incorporate post-event information, which colors recollection, and retrospective biases informed by experience since the memory was first created (Kahneman, 2013; Tourangeau, 2000).

The Academic Library Director Leadership Skills and Qualities Survey (Appendix B) collected information about directors' five positions prior to their current directorship, and respondents indicated their perceptions of leadership development opportunities for the three positions immediately prior to their current directorship. Because the instrument requested participants enter information such as position title, years of employment for each position, and perceptions of leadership skill development opportunities for past positions, the instrument was highly dependent on accurate memory. To work to circumvent the effect memory may have on responses, the instrument moved respondents backwards through time, asking them about their

most recent professional experiences first, to situate responses within a frame of memory least corrupted by time. Respondents were asked to recall their position title and department first, to situate them, and then asked to offer their perceptions of skill development for that particular position. This approach capitalizes on order effects for batteries of questions (Kahneman, 2013; Siminski, 2008), and the possible scale-anchoring effect, where respondents contrast previous questions to the question at hand, is appropriate for the Likert-scale questions of this instrument (Dillman, Smyth, Christian, & Stern, 2003).

This research study attempted to mediate these limitations relating to memory by offering respondents a “Do Not Remember” option for each question in the attempt to reduce pressure on participants to fill in information, even if that information was inaccurate. In addition, because most higher education accrediting bodies require certain records be kept for faculty and administrators, it is highly likely that academic library directors have electronic access to their curriculum vitae, which also serves to mitigate the memory issue.

### **Limitations of the Instrument**

While the Academic Library Director Leadership Skills and Qualities Survey (Appendix B) did collect information about position titles, those data were coded to position level (directorship, assistant directorship, department head or chair, librarian, and staff) based on researcher judgment of the respondents’ position title and department descriptions. The instrument should have offered concrete options for position level in the organization in addition to collection information about position title and library department.

Additionally, the instrument did not collect information on leadership development opportunities outside of academic library work responsibilities. The next iteration of the

Academic Library Director Leadership Skills and Qualities Survey could be supplemented with additional questions about leadership development experiences through professional associations and other organizations to explore how external development opportunities may provide leadership skill development for professionals in positions or library departments with particular weaknesses.

Finally, a number of respondents indicated previous experience in positions outside of academic libraries, but the instrument was not designed to collect perception of skill development opportunities for those positions. The Academic Library Director Leadership Skills and Qualities Survey should be slightly redesigned before its next application to allow respondents to rate non-library positions on the same Likert scale for leadership skill development opportunities.

With these limitations understood, the next sections of Chapter V summarize the data and implications for academic libraries for each of the five research questions that guided the study.

### **Research Question One**

The first research question of the study was designed to discover whether there was any commonality to the career paths of current library directors at Master's granting universities and colleges per Carnegie Foundation categorization (Carnegie Foundation). Research Question One asked: Which of the respondents' last five positions previous to the directorship are most often represented in the path to the academic library directorship?

Respondents identified each of their last five academic library positions prior to their current directorship as belonging to one of 11 commonly-occurring departments in academic libraries as determined by professional membership association department identification

options. Where possible, positions were also coded with the position type within the organization, as detailed in Chapter IV. These position designations included library director, assistant director, head (where a response indicated the position was a department head or chair position), librarian, and staff.

## **Findings**

The position appearing most often in respondent work histories was that of library director. The next most popular positions in respondent work histories were assistant library director, and reference and instruction librarian. Positions occurring very rarely in work histories included positions in Archives, Special Collections/Rare Books and Manuscripts/Preservation, Information Technology, and Digital Library Services. Only one respondent indicated previous work in an academic library department dedicated to outreach and marketing, and 125 positions (14.25%) could not be mapped to the list of departments offered by the instrument. In addition, staff positions were relatively rare in respondent work histories.

## **Interpretation of Findings**

The positions of library director and assistant director appeared most often in respondent work histories, indicating that many academic library directors have held more than one directorship. The instrument only collected information about positions prior to respondents' current position as academic library director.

In addition, a number of library departments appeared to be vastly under-represented in these data, including positions within Archives, Special Collections/Rare Books and Manuscripts/Preservation, Information Technology, and Digital Library Services. Also of

interest are the 125 positions categorized as “Other,” meaning that those positions could not be mapped to any of the 11 department options on the survey instrument (Appendix B).

It is likely that positions located in Digital Library Services departments, which focus on connecting various library systems and services and presenting useful online interface integrations to the public, have not existed long enough for very many directors to have similar positions in their work histories (Choi & Rasmussen, 2006). Less clear is why positions located in the departments of Information Technology, Archives, and Special Collections/Rare Books and Manuscripts/Preservation lack representation in respondent work histories comparable to other areas of librarianship.

The under-represented departments (including Archives, Special Collections/Rare Books and Manuscripts/Preservation, Information Technology, and Digital Library Services) may reflect the fact that such departments are expensive to maintain (Graham), require specialized training (Choi & Rasmussen, 2006), and may not exist at smaller college and university libraries. This may be the explanation for why professionals working in these departments were a small minority of respondents, but it may also imply that librarians with aspirations of directorship do not enter these areas of the profession.

The prevalence of position noted as “Other” (over 14% of responses) may indicate a splintering of traditional library departments and responsibilities, which is important when reviewing this information in the context of academic library organizational structure. The implication may be that with work that fails to fit within the traditional library structure units, such as digital services, scholarly communication, and electronic resources work, new professional nomenclature and structures are growing to accommodate the ways libraries currently work with information and technology. Some researchers have called for academic



libraries to implement change as a result of likely disruptions to usual practice by technology (Choi & Rasmussen, 2006; Ross & Sennyey, 2008), which the data in this research study appear to support. Traditional lists of library departments maintained by professional organizations and used in research to identify library work areas may have to be updated to reflect this reality of change in academic libraries and to offer a common nomenclature to the profession.

### **Research Question Two**

In the interest of identifying which positions were most valuable in terms of perceived leadership skill development, Research Question Two asked: Which of the previous positions held by the respondents are perceived to have most prepared directors for the leadership qualities and skills required of the position?

### **Findings**

Respondents indicated that only 17 library positions reached predetermined high scores (composite scores of 90 and above) for the perceived opportunity to exercise leadership skills. The position of academic library director represented more than 65% of those positions. Department head positions were not well represented in the list of positions with leadership skill composite scores, indicating that those positions may not offer as much leadership skill development as one might expect.

By contrast to the few positions with high composite scores for leadership skills, 296 positions from widely varying departments reached high scores in the opportunity to exercise leadership qualities. The positions of library director and assistant director represented just over 38% of the total positions with the highest composite scores for leadership qualities, department

head positions represented 26% of the total, and librarian positions represented 32% of the high scoring positions for leadership qualities.

### **Interpretation of Findings**

The high representation of director positions reaching high leadership skill composite scores indicates respondents perceived that the greatest opportunity to exercise leadership skills occurred only once they were library directors. However, leadership quality composite scores were uniformly high with little variance for library director and assistant director, department head, and librarian positions.

The evidence strongly suggests that while ample opportunity exists at all position levels to develop leadership qualities, academic librarians have little opportunity to develop the majority of important leadership skills before moving into the director or assistant director positions. The lack of skill development opportunity as evidenced in the data strongly implies that many first-time academic library directors perceive themselves as underprepared for their new leadership role. This may mean that first-time directors must concern themselves with learning many of the necessary leadership skills, such as resource allocation, budgeting, and other administrative and leadership competencies in their first few years.

The likely influence of lack of leadership skill development on academic libraries is that instead of serving as the campus leader and advocate on such complicated issues as scholarly communication, open access initiatives, and other issues facing academic libraries and college and university faculty, the new academic library director is busy attempting to make up for skill deficits more immediately impactful, such as handling the budget. To determine if this is the case, further study is recommended on this topic later in this chapter.

### **Research Question Three**

Aspiring directors and search committees tasked with hiring academic library directors should be interested in knowing whether the library departments a candidate worked in were likely to have an impact on leadership skill and quality development. To this end, Research Question Three asked: Is the perception of library leadership skill and quality development equal across departmental experience?

### **Findings**

The statistical analysis detailed in Chapter IV revealed that there was an observed difference among library departments based on the perceived composite leadership skill scores, but no observed difference between departments in leadership quality composite scores. When the seven relevant departments (Access Services, Administration, Collection Development, Digital Library Services, Information Technology, Reference and Instruction, and Technical Services) were compared pairwise on composite leadership skill scores to determine where the differences in scores lay, Administration department held statistically significant advantages over Access Services, Collection Development, Reference and Instruction, and Technical Services departments. Of note is that no library department aside from Administration held any such strong relationship based on perceived composite leadership skill score.

### **Interpretation of Findings**

The Administration department held the statistical advantage for composite leadership skill scores over four of the seven departments examined in Chapter IV (Access Services, Collection Development, Reference and Instruction, and Technical Services). This coincides

with and offers confirmatory evidence for the findings from Research Question Two, where the positions of library director and assistant director held the majority of highest composite leadership skill scores (scores of 90 and above).

That Administration was not statistically higher in composite leadership skill score than the remaining two library departments (Digital Library Services and Information Technology) may be due to individual skill scores being offset; for example, it is likely that these two departments scored higher in one skill (such as computer technology) while Administration scored higher on another. This may also be the explanation for why no other department pairs appear to have significant difference in composite leadership skill scores. The pairwise comparisons for individual leadership skill scores will be explored further in Research Question Five findings.

Based on composite leadership skill scores, the data provide evidence that academic library directors perceive themselves to have had the most opportunity to develop leadership skills largely only in positions residing in the academic library administration department. The likely implications of the findings for Research Question Three are that for purposes of leadership skill development, it does indeed matter which library department an academic librarian works in, and work outside of the directorship and assistant directorship does not, in fact, prepare academic librarians very well for leadership roles. This has consequences for academic library leadership succession planning, position criteria, hiring decisions, and particularly for the different skill development needs of new directors compared to more experienced academic library directors.

## **Research Question Four**

Given that the library and information science research literature identifies the leadership skills and qualities necessary to be an effective academic library director (Hernon et al., 2002; Hernon & Rossiter, 2006; Kreitz, 2009), Research Question Four asked: What, if any position(s), appear to be the “gatekeepers” for academic librarian skill and competency development? These positions were identified by determining the positions most likely to offer skill development opportunities for those five skills respondents indicated they had least opportunity to develop in previous positions.

### **Findings**

The five leadership qualities identified as least likely to be developed were ability to compromise, comfort with ambiguity, handling stress, organizational agility, and persuasiveness, and each had an average score across all respondents of over 3.1, indicating respondents felt they were able to exercise that leadership quality “Often” in the academic library position. As described in Chapter IV, no statistically significant difference in leadership quality scores was detected among library positions or departments as scores were uniformly high with little variance. The construct for leadership qualities will be discussed in greater detail later in Chapter V.

The five leadership skills least likely to be developed as determined by averaging scores across all responses included compliance issues, facilities planning, fundraising/donor relations, legal issues, and school safety issues. Chapter IV explained the data determining significant relationships between particular positions with respect to each of these skills. For all five of these skills, the positions of library director and assistant director held statistically significant

advantages over various other academic library positions as detailed in Chapter IV and were the sole positions offering significant development advantages in compliance and fundraising. However, in addition to those administrative positions, heads of departments designated as “Other” and “Multiple” were also perceived to offer stronger development opportunities than many librarian and staff positions, particularly for skill development related to legal issues, school safety issues, and facilities planning. This may indicate that heads of cross-functional departments are more likely to have opportunities to develop leadership skills than heads of other more traditional academic library departments.

### **Interpretation of Findings**

The positions of library director and assistant director held strong advantages in each of the five skills least likely to be developed along an academic library director’s career (compliance, facilities planning, fundraising, legal issues, and school safety issues). Heads of multiple departments, and heads of departments designated “Other”, were also perceived to offer statistically significant skill development advantages over positions as librarian and staff for three of the five skills (facilities planning, legal issues, and school safety issues).

The data for the compliance skill are likely representative, given that library administrators (such as the director and assistant director) are often responsible for approving compliance-related materials and policies required for their institutions, including such requirements as the Americans with Disabilities Act (Carpenter, 1996). The head of multiple departments evidenced a stronger relationship to the compliance skill than reference and instruction librarian positions. This is likely due to the fact that heads of multiple departments that include public services are often responsible for billing library users for late or lost

materials, collecting money, reconciling transactions to institutional audit standards, and ensuring that billing and collection practices comply with campus, state, and federal laws, as well as whatever audit requirements may exist (Harris, 2010a). These positions are also likely responsible for safety compliance factors for those academic libraries open during late and overnight hours (Dimarco & Van Dam, 1998).

For facilities planning, the positions of library director and assistant director held an advantage over most other positions, which is not surprising given evidence that academic library directors are routinely involved in facility expansions and renovations (Long & Schonfeld, 2011). Because the head of multiple and other department positions are likely to include public service responsibilities, as noted above, it is not surprising that heads of those departments would be involved in facilities-related activities such as shifting the library collection, addressing cleaning and renovation needs of the physical library space, rearranging space and furniture in the library building for events or other library user needs, locating staff offices, and various other physical space issues.

Academic fundraising is often accomplished through development offices and high level academic administrators (Winston & Dunkley, 2002a), so it is likely that few positions outside the highest library positions (such as director and assistant director) would engage in such activities. The idea of competency in fundraising as necessary for academic librarians has been addressed previously in the research literature as a desirable competency (Heron et al., 2003; Winston & Dunkley, 2002b), though this research study may be the first to confirm that academic library directors are likely to be underprepared to exercise the skill.

The significant results for legal issues skill development also involved academic library director and assistant director positions. Many legal issues in academic libraries relate to campus

policies, which would be referred to library administrators who may or may not need to forward legal issues to the institution's campus legal office. Legal issues also surround digitizing collections (Prochaska, 2009), and ADA compliance of renovations (Carpenter, 1996). The head of multiple departments position, particularly where that position may include a public services department, is likely to include responsibilities revolving around confidential patron data, billing library users for lost or damaged materials, and building security. All of these responsibilities may involve legal decision-making, such as release of records and policy about when to involve law enforcement.

For the development of the school safety skill, it is likely that the responses indicating the advantage in school safety issues for the head of multiple departments is related to the public services work in academic libraries. Heads of public services departments often have responsibility for: handling monetary transactions and money storage; managing the staffing of at least one public service desk; clearing the building both at closing time and during emergencies such as fire, earthquake, or active shooter incidents; interacting with the general public both for customer service and in enforcing policies and procedures, and handling safety issues related to keeping the library open during late hours (Dimarco & Van Dam, 1998). Given this information, the data for school safety issues skill development appear to align with the work responsibilities of the head of multiple departments and administrative positions.

When studying these results, however, one should be mindful that though academic library directors were asked about their opportunity to exercise these leadership skills in their career histories, respondents were not asked to rank the importance of these leadership skills. It is possible that though respondents had fewest opportunities to develop these particular skills, other skills may be more crucial to successful leadership development.



Overall, the findings for Research Question Four indicate that positions other than director, assistant director, and headship of departments with public service responsibilities in academic libraries are likely to have significant skill deficits in compliance, facilities planning, fundraising, legal issues, and school safety issues. This information should influence decisions made about what professional development opportunities are most appropriate, particularly related to the leadership skills most likely to be missing from an individual's skillset based on their work experience in academic libraries.

### **Research Question Five**

Academic library professionals, aspiring academic library directors, and search committees tasked with hiring academic library directors likely all have an interest in knowing which library departments are more likely to provide leadership development opportunities than others. This information may be useful in determining the weaknesses of a particular director or aspiring director compared to others based on the academic institution's needs, both when searching for a new director or seeking to equip an existing director with necessary leadership skills. To this end, Research Question Five asked: What are the skills most commonly perceived to be used in each department?

### **Findings**

As noted for Research Question Three, the data indicated a relationship between library department and composite leadership skill, though not composite leadership quality, scores. Research Question Five addressed the relationship between department and each individual

leadership skill. As demonstrated in Chapter IV, the data indicated a significant relationship between library department and every leadership skill except time management.

Further analysis in Chapter IV explored the relationship between each of seven departments representing more than two percent of cases, and 24 leadership skills indicating a statistically significant relationship. Research Question Five asked: What are the skills most commonly perceived to be used in each department? The seven relevant departments (Administration, Access Services, Collection Development, Digital Library Services, Information Technology, Reference and Instruction, and Technical Services) were compared pairwise for each of the 24 leadership skills to determine whether respondents perceived themselves to have had different levels of skill development opportunity in different academic library departments. While Chapter IV described the statistical results for each individual skill, the following sections related to Research Question Five will focus on the broader trends in the data.

As suggested by the findings for other research questions, respondents overwhelmingly indicated that the Administration department was where they perceived the most leadership skill development opportunities. The only skill for which the Administration department was not perceived to have offered greater development opportunity was computer technology. The Administration department was perceived to offer the most opportunities to develop leadership skills, and was the only department to offer such a development advantage over others in the skills of conflict resolution, faculty and staff development, fundraising and donor relations, problem-solving, and vision articulation.

Access Services, Administration, Collection Development, and Technical Services departments offered advantages related to resource allocation and budget management skill

development. Only Administration and Digital Library Services departments held advantages in managing change and in developing the leadership skill of strategic planning.

### **Interpretation of Findings**

Administration was found to be the only department to offer skill development advantage in faculty and staff development, fundraising and donor relations, problem-solving, and vision articulation. It is likely that Administration departments are responsible for the vision articulation for the academic library and for library advocacy on campus related to this vision (Todaro, 2010). Administration departments did not have a significant perceived advantage over Digital Library Services and Information Technology departments in vision articulation skill development, which may indicate that work in these departments involves vision articulation to some degree. This is likely related to the requirement that complicated projects involving multiple teams and deliverables be properly aligned with the future of the library and campus demands and planned accordingly to ensure the availability of resources.

Of note is that Digital Library Services departments, though not well represented as noted in Research Question One, were perceived by respondents to have offered significant advantages, along with the Administration department, in strategic planning and managing change. The library and information science literature does indicate that as age and length of tenure as academic library director increase, directors view change as less of a challenge. That is, the longer one is a library director, the less of a challenge managing change appears to be (McElrath, 2002). This is likely due to a number of factors. Longer terms as library directors may correlate with comfort with managing change, but this may be due to increased confidence or it may indicate that academic library directors engage in managing change most when they are

new to an institution and engage in organizational change less as they become more accustomed to institutional culture (McElrath, 2002). As library directors inhabit the Administration department in academic libraries, this would explain the findings that Administration departments offer more development opportunity in managing change.

The same may be true for Digital Library Services departments, as librarians in this area are also likely to engage in managing change on a regular basis due to shifting demands for digital integration of library services (Choi & Rasmussen, 2006). In addition, it is likely that library professionals working in Digital Library Services departments recognize that they are engaged in constant change due to implementing new projects, sun-setting old initiatives, and engaging in project management to ensure adequate time and resources. The likely implications of these findings are that those departments tasked with employing organizational, technological, and workflow change are most likely to offer greater opportunity for skill-building in this area. Those departments (such as Reference and Instruction) may be less likely to encounter regular change in work responsibilities and may be at a disadvantage in developing skills related to managing change.

Administration, Collection Development, and Technical Services departments offered advantages related to resource allocation and budget management skill development. Administration is likely to deal with developing and administering the academic library's budget. Collection Development departments (and occasionally Technical Services departments, depending on the organization) are responsible for paying invoices related to purchasing physical and electronic materials for the library's collection. Of note is that only Administration holds an advantage in developing budget management skills over Access Services departments. The likely implication from these results is that if an academic librarian does not have significant budgeting

or staff allocation responsibilities, they are unlikely to develop the leadership skill of allocating resources or budgeting to a sufficient degree before becoming a library director. That only Administration has a significant advantage in budgeting skill over Access Services may be due to the fact that many academic library Access Services departments depend heavily upon student workers (Draper, Oswald, & Renfro, 2008; Harris, 2010b), and members of that department are likely to be responsible for budgeting for student worker salaries.

Administration and Access Services departments were considered to offer stronger development opportunities in business ethics, communicating expectations, compliance, cultural diversity, enforcing policies and procedures, facilities planning, and school safety issues, which confirm the findings of Research Question Four. As noted earlier, Access Services departments often have responsibility for: handling monetary transactions; managing the staffing of public service desks; clearing the building both at closing time and during emergencies such as fire, earthquake, or active shooter incidents; interacting with the general public both for customer service and in enforcing policies and procedures; and handling safety issues related to keeping the library open during late hours (Dimarco & Van Dam, 1998; Harris, 2010a).

Implications of these findings include that most first-time academic library directors are likely to be unfamiliar with exercising a number of leadership skills. It is likely that without support and engaging a steep learning curve, first-time academic library directors may fall prey to errors of judgment and inexperience.

### **Broader Implications of the Research Study**

A significant trend in the data evident in each of the five research questions was the phenomenon that while leadership skills were often significantly related to the research

questions, the leadership qualities identified in previous library science research were not. This section of Chapter V reviews the broader implications for the data on leadership qualities and leadership skills.

### **Leadership Qualities**

Though most of the leadership skills explored in this research project demonstrated statistically significant relationships to academic library director work experience, the leadership qualities explored in this study did not. As noted in the literature review for this study, the term “competency” describes the characteristics that lead to success at a task and can be operationalized as knowledge, skills, and abilities (Tubbs & Schulz, 2006). The leadership skills explored in this research study may easily be conceptualized as competencies. While some researchers identify competencies by defining and operationalizing skills and abilities, making them more or less easy to measure, other researchers identify competencies more broadly (Halbesleben et al., 2003). The leadership qualities adopted from Garrett (2009) explored in this study were broadly conceptualized, which may have made them less easy for respondents to measure empirically in terms of applied progress or ability level. This may have led to a higher tendency on the part of respondents to inflate their perceptions of quality development, because each quality was less concrete (Ljungquist, 2007). This lack of concreteness, or empirical measurability, in the qualities constructs may be responsible for their lack of significance in this research study.

## **Leadership Skills**

There is a striking difference in the mean scores between leadership skills and qualities. The data analysis in Chapter IV described the distinct statistical evidence indicating academic library directors perceived there to be far less opportunity to develop leadership skills than leadership qualities. No leadership quality received an average score below 3.14 on the Likert scale, indicating that respondents broadly felt they often had opportunity to exercise those qualities. By contrast, only four leadership skills received average scores above 3, indicating that academic library directors perceived themselves to have had ample opportunity to develop only four leadership skills: computer technology, decision-making, problem solving, and time management. The remaining 21 leadership skills, on average, were perceived to have been exercised rarely or never in respondents' previous positions. This indicates a large gap in leadership competency development for academic library directors, which will be discussed further in the recommendations for action section of this chapter.

As described in the analysis of Research Question Five, the Administration department offers the greatest leadership skill development opportunities for nearly all skills but computer technology, indicating that the most significant skill development opportunities exist once one becomes a director or assistant director.

### **Academic librarians underprepared for directorship.**

Most compelling in this research study is that the data consistently offer strong evidence that development of many of the leadership skills necessary for success as an academic library director only present themselves to professionals once they are in the library director or assistant director position. More than half of library directors surveyed in one study indicated that

graduate school did not prepare them for library directorship (Mackenzie & Smith, 2011), and the data from this research study indicate that professional experience outside of the academic library directorship also fails to prepare professionals for the position of academic library director. This has serious implications and consequences, particularly for new academic library directors, organizational succession planning, and professional organizations involved in leadership development.

In addition to the likelihood that new academic library directors are underprepared and must concentrate on skill development in their first years in the position, the clustering of leadership skill development in administration departments also implies a serious challenge for effective succession planning in academic libraries. If most leadership skill development opportunity appears only for positions in administrative departments, there is a lack of clear progression of development and responsibility for those academic librarians or staff members interested in working their way into administrative leadership roles in academic libraries.

Another implication of the data illuminating different leadership skill development opportunities in different library departments and positions is that academic librarians who are upwardly mobile and interested in a career trajectory likely to lead them to the academic library directorship may avoid certain assignments where these data indicate little development opportunity.

Finally, evidence that library position and department are linked to leadership skill development, and evidence that not all departments and positions are equal with respect to such development, indicates that though a number of leadership institutes exist for academic librarians (Mason & Wetherbee, 2004), the professional associations catering to the needs of academic



librarians should reassess their leadership programming and design such leadership development with a focus on where they can provide the greatest impact for academic librarians.

### **Leadership skill development connected to experience.**

As noted in the Chapter II literature review, a number of researchers contend that to the extent leadership can be learned, it is learned through experience (Arvey et al., 2006; Arvey et al., 2007; McCall, 2010) and that the type of experience matters (Douglas, 2003; McCall & Hollenbeck, 2002; McCall et al., 1988). These assertions are confirmed in the analysis of the data in this research study relevant to academic library directors, which strongly indicates that experience in the directorship is the primary way academic library directors learn relevant leadership skills. Mumford, Campion, and Morgeson (2007) demonstrated that different categories of skill requirements emerge at different levels of the organization, which is also supported by the evidence from this research study. Because compliance, facilities, fundraising and legal issues are likely to be heavily influenced by the locality of laws, regulations, and other requirements, it may be necessary for academic libraries and statewide associations to be involved in designing skill development programming in these areas.

### **Summary of the Findings**

This research study explored academic library directors' perception of leadership skill and quality development opportunities in their academic library work histories. The quantitative data analysis provided strong evidence of a relationship between library position and leadership skill development opportunity and library department and leadership skill development opportunity. In addition, the data indicated that most directors perceived relevant leadership skill

development opportunities were available only once they reached the position of library director or assistant library director.

The findings of this research study indicate that the concept of leadership qualities may lack empirical measurability, as respondents indicated uniform high ratings in their perceived ability to exercise leadership qualities in their previous academic library work. By contrast, respondents indicated a perceived lack of skill development opportunity at all levels outside the academic library directorship and administrative department. Previous studies indicating that graduate work in librarianship does not prepare librarians for leadership and administrative roles (Mackenzie & Smith, 2009, 2011) were supported. This study also explored perceptions of skill development opportunity by department, revealed that the academic library department where one gains professional experience has statistically significant impact on which leadership skills professionals have the opportunity to develop, and identified the gaps professionals are likely to have in leadership skills based on their academic library work histories.

### **Recommendations for Action**

The goal of this research study was to inform practice in academic librarianship and provide evidence recommending possible areas for transforming the current state of leadership development in the discipline. The four recommendations for action that follow are offered in the spirit of improving the profession and how we prepare our colleagues for the academic library directorship.

### **Recommendation One: Informing Prospective Academic Librarians**

Current library and information science research indicates that graduate work in library and information science did not prepare academic library directors for management or the directorship (Mackenzie & Smith, 2009, 2011). This research study indicates that professional experience as an academic librarian may not prepare academic library directors well, either, depending on the positions they pursue during their careers. Given the evidence from this research study that skill development opportunities do differ by academic library department and position, the first recommendation for action is to share this information with Library and Information Science graduate programs and students. Such sharing of information offers those graduate students considering academic librarianship as a profession the opportunity to make informed decisions about pursuing library department specializations in their coursework, internships, and future professional positions

### **Recommendation Two: Informing Current Academic Library Practitioners**

The second recommendation for action based on the results of this research study is to disseminate the results to practicing academic librarians in order to encourage discussion and identification of leadership skill development opportunities. Novice leaders self-reported greater learning than experienced leaders in approaches that emphasizing learning through workplace projects (Hirst et al., 2004). Because short-term leadership institutes often do not (and cannot) offer the kind of protracted experiential learning that the work environment does, one implication of thinking about leadership skill development in terms of knowledge structures and expertise is that much leadership development happens within an individual's work experience.

Acknowledging this, practicing academic librarians may be interested to learn how their experience relates to the data in this research study regarding leadership skill development, and librarians with an interest in the directorship may be interested in developing skill inventories to identify possible leadership skill deficits. They may also consider developing partnerships with other academic librarians, department heads, and administrators in different departments and positions to identify possible skill development opportunities and become involved in projects where they can increase leadership skills they identify as likely to be weak, given their current work experience.

### **Recommendation Three: Encourage Targeted Action by Professional Associations**

Another area for action involves professional associations, particularly those serving academic librarians. Lord and Hall (2005) note that much leadership training focuses on teaching leaders behavioral styles which may be relatively quickly acquired, so such training programs often are only of a few days duration. Zenger, Ulrich, and Smallwood (2000) emphasize that to be effective, leadership development programs should focus not just on helping individuals learn leadership behaviors but also on helping them learn where in their professional work participants expect to practice those skills. This recognition that leadership is practiced within a social context is echoed both by those researching and implementing leadership development programs (Pernick, 2001) and by leadership theorists. Because of the importance of relating learning to actual practice, engaging the professional associations serving the development needs of academic librarians will be crucial to improving leadership skill development opportunities.

A number of leadership institutes and initiatives exist (Neely & Winston, 1999). However, this research study indicates that skill development needs will differ depending on an

academic librarian or library directors' previous work experience. Strong evidence indicates that the positions an academic librarian chooses, and the department of those positions within the academic library structure, matter to leadership skill development. It behooves those professional associations serving academic librarians, including the American Library Association, the Association for College and Research Libraries, and state associations, to redesign institutes, workshops, and other leadership skill development opportunities accordingly. Given that previous experience informs skill development so heavily, professional associations may want to use the data from this research study (as well as from relevant future research, described below) to develop leadership skill inventories that will steer prospective participants to the opportunities where their current leadership skill sets are weakest. Leadership development programs integrating critical reflection, theoretical work, and experiential learning have demonstrated progressive increases in leadership competency (Ladyshevsky, 2007), and with the evidence from this research study, academic library professional associations should integrate practice-oriented skill development in their offerings.

#### **Recommendation Four: Informing Current Academic Library Directors**

The final recommendation for action based on the results of this research study is to share this information about leadership skill development relevant to the academic library directorship with current academic library directors. Mumford, Campion, and Morgeson (2007) demonstrated that different categories of skill requirements emerge at different levels of the organization, which, as noted above, leads to questions about competency development within the hierarchy of an organization. In particular, if academic library professionals are interested in the directorship, it behooves the profession to provide scaffolded (Palincsar, 1986) leadership opportunities. It is

likely that the most effective way for this to be accomplished is to encourage academic library directors and department heads to consider how work responsibilities or special projects might be crafted to allow aspiring directors to gain experience in skill-building.

This action would allow academic library directors to survey their own librarians about their work experience and perception of leadership skill development opportunity in their current positions, and to identify individuals interested in development, and opportunities within their libraries to offer development. This action would also allow current directors to engage in crucial succession planning (Bridgland, 1999; Curran, 2003) and to focus on local leadership development needs within their institution, as well as offer the opportunity to identify which skills may be most crucial to their particular institution in the coming years.

### **Recommendations for Additional Research**

Because this is the first known research study to attempt a career-path analysis of the academic library directorship with a focus on previous academic library experience, additional research is warranted in a number of areas illuminated by, but outside the scope of, this study. Further exploration and analysis is warranted in type of institution, position level, library department, and work experience outside academic libraries. Each of these areas for future research is discussed in more detail in the following sections.

#### **Avenues for Future Research: Type of Institution**

Because this research study focused only on those academic library directors at Carnegie-designated (2010) Master's-granting institutions, additional research is necessary to determine whether library directors at other institutions, such as those at baccalaureate and associate's-

granting colleges, exhibit similar perceptions of leadership development in their career histories. It may be the case that academic library directors stronger in some skills than others gravitate to different types of academic institutions. Though this research avenue is outside the scope of this research study, such information would be useful to inform the professional development choices of aspiring directors and might lead to different development choices based on institution type of interest. Determining whether different types of academic institutions require different skills to be successful would also inform how leadership development programs are structured by the organizations offering such programs.

### **Avenues for Future Research: Library Positions within the Organization**

Future research should collect specific data regarding the different levels of the positions within the organization to clarify the data and remove opportunity for coding error. The data in this study indicate that while positions as library director and assistant library director offer the greatest opportunity to develop leadership skills across the board, additional research is necessary to explore how leadership development opportunity changes as an individual progresses upward through the library hierarchy. Another avenue for research is to explore the differences in work assignments and development opportunities at different position levels. Additional study of the kinds of leadership skills developed at different position levels, and what specific work assignments are related to developing those skills, may offer information relevant to academic library director succession planning.

### **Avenues for Future Research: The Work of Library Departments**

According to the data collected in this research study, library department appears to have significant relationships to respondent perceptions of skill development opportunities. However, a number of respondents indicated that they worked in library departments not matching the current professional nomenclature and in departments that combined traditional areas of work. This indicates that additional research is needed to explore how traditional library departments are changing, how libraries are reorganizing due to new technologies, work efficiencies, and library patron expectations, and what new department naming conventions are characteristic in academic libraries.

Another area for future research relevant to library department in academic library director work histories are the departments appearing very infrequently in respondent career paths. Data in Chapter IV indicated that a number of library departments were coded as “Other” or “Multiple,” indicating that the often-referenced American Library Association department list may require updating. Library departments may also be a function of institution size, budget, staffing levels, and local library service needs. More research is needed to make any definitive statements.

### **Avenues for Future Research: New Academic Library Directors**

Given that the data strongly indicate that academic library directors rarely have the opportunity to exercise leadership skills prior to becoming an academic library director, it would be useful to study the first five years of the academic directorship. Longitudinal studies of academic library director and assistant director experience to identify what areas of the directorship offer the opportunity to develop various skills, and at what point in a new academic



library director's tenure that learning and skill development occurs, would be useful additional data to inform the design of professional development targeted to new directors. It would serve the profession to study the learning journey of a new academic library director, to compare that experience to the learning and skill exercise of a seasoned academic library director entering their second directorship position to identify how much leadership skill development is based on learning local organizational culture and practices, and to determine how much leadership skill may be transferable to different institutions.

### **Avenues for Future Research: Experience Outside Academic Libraries**

As noted earlier in this chapter, a number of respondents indicated previous experience in positions outside of academic libraries, but the Academic Library Director Leadership Skills and Qualities Survey (Appendix B) did not collect respondent perceptions of leadership development in positions outside of the academic library as the instrument was not designed to collect perception of skill development opportunities for those positions. The research literature does indicate that librarianship is often a second or third career (Whitten & Nozero, 1997), meaning that academic librarians are likely to come to the profession with relevant experience and leadership development opportunities from other sectors, which was outside the scope of this research study. Future research should address how this work experience outside of academic libraries contributes to the leadership development of academic librarians at large and academic library directors specifically.

## **Conclusion**

The intent of this research study was to best serve the needs of those interested in academic library directorship. It has rarely been clear how an academic librarian should plan their career path with the end goal of academic library directorship in mind (Mackenzie & Smith, 2009, 2011). The discussion of the results of this research provided a detailed description of the possible implications of the study's findings with regard to the work histories of current academic library directors and their perceptions of leadership skill development opportunities in previous academic library positions. An examination of the data detailed in Chapter IV revealed strong evidence of a statistically significant relationship between leadership skill development and both position and department of academic library work, as measured by respondent scores rating leadership skill development opportunities in their previous academic library work.

This study has the potential to assist in broadening the current understanding of leadership development for those pursuing careers in academic librarianship. The data and analysis from this study could provide relevant research for academic librarians interested in developing the leadership skills necessary to be a successful director, for current academic library directors as they look to pursue professional development or establish succession plans, and for professional associations serving the professional development needs of academic librarians.

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APPENDIX A  
IRB APPROVAL

Institutional Review Board  
Dept. 4915  
615 McCallie Avenue  
Chattanooga, TN 37403-2598  
Phone: (423) 425-5867  
Fax: (423) 425-4052  
instrb@utc.edu  
<http://www.utc.edu/irb>

## MEMORANDUM

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TO: Colleen S. Harris-Keith **IRB # 13-145**

FROM: Lindsay Pardue, Director of Research Integrity  
Dr. Bart Weathington, IRB Committee Chair

DATE: October 8, 2013

SUBJECT: IRB #13-145: An Exploratory Study of the Relationship Between Library Department Experience and Perceptions of Skill Development Relevant to Academic Library Directorship

The IRB Committee Chair has reviewed and approved your application and assigned you the IRB number listed above. You must include the following approval statement on research materials seen by participants and used in research reports:

***The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project # 13-145 .***

Please remember that you must complete a Certification for Changes, Annual Review, or Project Termination/Completion Form when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page <http://www.utc.edu/irb> or email [instrb@utc.edu](mailto:instrb@utc.edu)

Best wishes for a successful research project.

APPENDIX B

ACADEMIC LIBRARY DIRECTOR SKILLS AND QUALITIES SURVEY

## Appendix B: Academic Library Director Skills and Qualities Survey

It should be noted that missing question numbers in the survey instrument are due to the software structure, and not to missing questions or erroneous numbering.



Dear Director,

My name is Colleen Harris-Keith and I am a librarian and doctoral student in the University of Tennessee at Chattanooga's Learning and Leadership program in the College of Health, Education and Professional Studies. I am conducting a research study under the direction of Dr. Ted Miller to explore the development of leadership skills in academic library directors.

I am requesting your participation, which will involve the completion of a brief survey. Your participation in this study is voluntary, and you may choose not to participate or to withdraw at any time. The attached questionnaire is anonymous. The results of the research study may be published, but your name and institution will not be known.

If you have any questions about the research study, please call me at [redacted] or email me at [redacted]@utc.edu. You may also feel free to contact my advisor, Dr. Ted Miller, by email at ted-miller@utc.edu or by phone at (423) 425-4540.

Whether you choose to complete the survey or not, you will have the opportunity to enter a drawing for two \$50 Amazon.com gift cards and 10 \$15 Starbucks gift cards. You will be directed to a page where your name and email address will be requested; this information will be collected and stored separately from your responses to the survey, maintaining your anonymity.

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #13-145. If you have any questions concerning the UTC IRB policies or procedures or your rights as a human subject, please contact Dr. Bart Weathington, IRB Committee Chair, at (423) 425-4289 or email instrb@utc.edu.

Clicking the link below to the survey will be considered your consent to participate. Thank you in advance, I appreciate your participation.

Sincerely,  
Colleen S. Harris-Keith  
colleen-harriskeith@utc.edu  
Ed.D. Candidate  
College of Health, Education & Professional Studies  
University of Tennessee at Chattanooga  
Chattanooga, Tennessee

Q1

- Take the survey (1)
- No, thank you (2)

If No, thank you Is Selected, Then Skip to End of Survey

Purpose and Confidentiality Statements:

The focus of this research project is to evaluate the leadership skills and qualities that academic library directors developed during their work in libraries and recommend possible updates and/or changes to the training received at library schools for new and potential library directors. We want to know what you perceive to be the leadership skills and qualities learned in your professional experience. Please give honest responses. Please do not indicate names or identifying data on this survey. All information will be kept confidential by the researcher. Only group data will be in the final report. If you want a copy of the results, we will provide you a copy upon notification.

Demographic items: Select only one answer for each item in this section.

Q2 Gender

- Male (1)
- Female (2)

Q3 Ethnicity

- African-American (1)
- White (2)
- Hispanic (3)
- Asian (4)
- Other (Please specify) (5) \_\_\_\_\_

Q4 Total years in the library profession: \_\_\_\_\_

Q5 Total years in full-time workforce: \_\_\_\_\_

Q6 Years in current position:

- Less than a year (1)
- 1-2 years (2)
- 3-4 years (3)
- 5-6 years (4)
- 7-9 years (5)
- 10 or more years (6)

Q7 Please list, in reverse chronological order (with 5 being the most recent to 1 being most distant), the last five positions you held in libraries prior to your current directorship, the department in which that position was located in that library, and the length of time (in years) spent in that position.

If you cannot remember the position, please choose "Do Not Remember".

If any of your last 5 positions was a non-library position, please choose "Nonlibrary Position".

If you have held fewer than 5 positions prior to your current position, for any slot prior to your last position, please choose "Not Applicable".

Q8 Most recent position title prior to current directorship:

Please write complete title below: (1) \_\_\_\_\_

Do Not Remember (2)

Nonlibrary position (3)

Not Applicable/No previous position (4)

If Not Applicable Is Selected, Then Skip to End of Block

If Do Not Remember Is Selected, Then Skip to Second most recent position title

If Nonlibrary Position Is Selected, Then Skip to Second most recent position title

Q9 Library department of most recent position prior to current directorship from Question 8:

Access Services (Circulation, Interlibrary Loan) (1)

Administration (2)

Archives (if separate from Special Collections) (3)

Collection Development (if separate from Special Collections) (4)

Advancement/Development (5)

Digital Library Services (if separate from IT department) (6)

Reference and Instructional Services (7)

Information Technology (IT) (8)

Outreach/Promotions/Marketing (9)

Special Collections/Rare Books and Manuscripts/Preservation (10)

Technical Services (Cataloging, Acquisitions, Serials) (11)

Other (please specify): (12) \_\_\_\_\_

Q10 Inclusive years of position from Question 8.

(Please enter year as a four-digit number. For example: 2004)

Year started position (1) \_\_\_\_\_

Year left position (2) \_\_\_\_\_

Q11 Second most recent position title prior to current directorship:

- Please write complete title below: (1) \_\_\_\_\_
- Do Not Remember (2)
- Nonlibrary Position (3)
- Not Applicable (4)

If Not Applicable Is Selected, Then Skip To End of Block

If Do Not Remember Is Selected, Then Skip To Third most recent position title

If Nonlibrary Position Is Selected, Then Skip To Third most recent position title

Q12 Library department of position from Question 11:

- Access Services (Circulation, Interlibrary Loan) (1)
- Administration (2)
- Archives (if separate from Special Collections) (3)
- Collection Development (if separate from Special Collections) (4)
- Advancement/Development (5)
- Digital Library Services (if separate from IT department) (6)
- Reference and Instructional Services (7)
- Information Technology (IT) (8)
- Outreach/Promotions/Marketing (9)
- Special Collections/Rare Books and Manuscripts/Preservation (10)
- Technical Services (Cataloging, Acquisitions, Serials) (11)
- Other (please specify): (12) \_\_\_\_\_

Q13 Inclusive years of position from Question 11.

(Please enter year as a four-digit number. For example: 2004)

Year started position (1) \_\_\_\_\_

Year left position (2) \_\_\_\_\_

Q14 Third most recent position title prior to current directorship:

- Please write complete title below: (1) \_\_\_\_\_
- Do Not Remember (2)
- Nonlibrary position (3)
- Not Applicable (4)

If Not Applicable Is Selected, Then Skip To End of Block

If Do Not Remember Is Selected, Then Skip To Fourth most recent position title

If Nonlibrary position Is Selected, Then Skip To Fourth most recent position title

Q15 Library department of position from Question 14:

- Access Services (Circulation, Interlibrary Loan) (1)
- Administration (2)
- Archives (if separate from Special Collections) (3)
- Collection Development (if separate from Special Collections) (4)
- Advancement/Development (5)
- Digital Library Services (if separate from IT department) (6)
- Reference and Instructional Services (7)
- Information Technology (IT) (8)
- Outreach/Promotions/Marketing (9)
- Special Collections/Rare Books and Manuscripts/Preservation (10)
- Technical Services (Cataloging, Acquisitions, Serials) (11)
- Other (please specify): (12) \_\_\_\_\_

Q16 Inclusive years of position from Question 14.

(Please enter year as a four-digit number. For example: 2004)

Year started position (1)

Year left position (2)

Q17 Fourth most recent position title prior to current directorship:

- Please write complete title below: (1) \_\_\_\_\_
- Do Not Remember (2)
- Nonlibrary position (3)
- Not Applicable (4)

If Not Applicable Is Selected, Then Skip To End of Block

If Do Not Remember Is Selected, Then Skip To Fifth most recent position title

If Nonlibrary position Is Selected, Then Skip To Fifth most recent position title

Q18 Library department of position from Question 17:

- Access Services (Circulation, Interlibrary Loan) (1)
- Administration (2)
- Archives (if separate from Special Collections) (3)
- Collection Development (if separate from Special Collections) (4)
- Advancement/Development (5)
- Digital Library Services (if separate from IT department) (6)
- Reference and Instructional Services (7)
- Information Technology (IT) (8)
- Outreach/Promotions/Marketing (9)
- Special Collections/Rare Books and Manuscripts/Preservation (10)
- Technical Services (Cataloging, Acquisitions, Serials) (11)
- Other (please specify): (12) \_\_\_\_\_

Q19 Inclusive years of position from Question 17.

(Please enter year as a four-digit number. For example: 2004)

Year started position (1)

Year left position (2)

Q20 Fifth most recent position title prior to current directorship:

- Please write complete title below: (1) \_\_\_\_\_
- Do Not Remember (2)
- Nonlibrary position (3)
- Not Applicable (4)

If Not Applicable Is Selected, Then Skip To End of Block

If Do Not Remember Is Selected, Then Skip To End of Block

If Nonlibrary position Is Selected, Then Skip To End of Block

Q21 Library department of position from Question 20:

- Access Services (Circulation, Interlibrary Loan) (1)
- Administration (2)
- Archives (if separate from Special Collections) (3)
- Collection Development (if separate from Special Collections) (4)
- Advancement/Development (5)
- Digital Library Services (if separate from IT department) (6)
- Reference and Instructional Services (7)
- Information Technology (IT) (8)
- Outreach/Promotions/Marketing (9)
- Special Collections/Rare Books and Manuscripts/Preservation (10)
- Technical Services (Cataloging, Acquisitions, Serials) (11)
- Other (please specify): (12) \_\_\_\_\_

Q22 Inclusive years of position from Question 20.

(Please enter year as a four-digit number. For example: 2004)

Year started position (1) \_\_\_\_\_

Year left position (2) \_\_\_\_\_

Q28 From what you can remember of your most recent position title prior to current directorship (from Question 8), as best you can, please choose how often you exercised the particular skill in that position. Select only one answer for each item in this section. The options include Never, Rarely, Occasionally/Sometimes, Often, and Always/Daily. If you do not remember how often you used the quality in question, please choose “Don’t Remember.”

	Never (1)	Rarely (2)	Occasionally/ Sometimes (3)	Often (4)	Always/ Daily (5)	Don't Remember (6)
Allocating Resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Budget Management (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Community Partnerships (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Teamwork (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Ethics (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Relations (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating Expectations (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance Issues (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Technology (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict Resolution (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural Diversity (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision-making (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcing Policies and Procedures (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty and Staff Development (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilities Planning (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fundraising/Donor Relations (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Legal Issues (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Change (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem Solving (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Program Evaluation (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School Safety Issues (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic Planning (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student-Focused Learning (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time Management (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vision Articulation (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never (1)	Rarely (2)	Occasionally/ Sometimes (3)	Often (4)	Always/ Daily (5)	Don't Remember (6)
Allocating Resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Budget Management (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Community Partnerships (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Teamwork (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Ethics (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Relations (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating Expectations (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance Issues (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Technology (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict Resolution (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural Diversity (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision-making (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcing Policies and Procedures (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty and Staff Development (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilities Planning (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fundraising/Donor Relations (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal Issues (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Change (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem Solving (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Program Evaluation (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

School Safety Issues (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic Planning (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student-Focused Learning (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time Management (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vision Articulation (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q29 From what you can remember of your most recent position title prior to current directorship (from Question 8), as best you can, please choose how often you exercised the particular quality in that position. Select only one answer for each item in this section. The options include Never, Rarely, Occasionally/Sometimes, Often, and Always/Daily. If you do not remember how often you used the quality in question, please choose “Don’t Remember.”

	Never (1)	Rarely (2)	Occasionally/ Sometimes (3)	Often (4)	Always/ Daily (5)	Don't Remember (6)
Able to Compromise (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessible (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approachable (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Articulate (good oral/written/presentation skills) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comfortable with Ambiguity (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Credibility (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diplomatic (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even-handed (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercises Good Judgments (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good Interpersonal/Personal Qualities (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good Listener (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Handles Stress (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrity (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intuitive (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeps Commitments (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Open-Minded (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Optimistic (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizational Agility (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Persuasive (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-Confident (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of Humor (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of Perspective (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treats People with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Dignity/Respect (24)						
Works on Multiple Tasks Simultaneously (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q30 From what you can remember of your second most recent position prior to your current directorship (from Question 11), as best you can, please choose how often you exercised the particular skill in that position. Select only one answer for each item in this section. The options include Never, Rarely, Occasionally/Sometimes, Often, and Always/Daily. If you do not remember how often you used the quality in question, please choose “Don’t Remember.”

	Never (1)	Rarely (2)	Occasionally/ Sometimes (3)	Often (4)	Always/ Daily (5)	Don't Remember (6)
Allocating Resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Budget Management (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Community Partnerships (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Teamwork (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Ethics (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Relations (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating Expectations (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance Issues (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Technology (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict Resolution (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural Diversity (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision-making (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcing Policies and Procedures (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty and Staff Development (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilities Planning (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fundraising/Donor Relations (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Legal Issues (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Change (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem Solving (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Program Evaluation (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School Safety Issues (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic Planning (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student-Focused Learning (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time Management (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vision Articulation (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q31 From what you can remember of your second most recent position prior to your current directorship (from Question 11), as best you can, please choose how often you exercised the particular quality in that position. Select only one answer for each item in this section. The options include Never, Rarely, Occasionally/Sometimes, Often, and Always/Daily. If you do not remember how often you used the quality in question, please choose “Don’t Remember.”

	Never (1)	Rarely (2)	Occasionally/ Sometimes (3)	Often (4)	Always/ Daily (5)	Don't Remember (6)
Able to Compromise (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessible (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approachable (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Articulate (good oral/written/presentation skills) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comfortable with Ambiguity (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Credibility (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diplomatic (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even-handed (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercises Good Judgments (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good Interpersonal/Personal Qualities (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good Listener (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Handles Stress (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrity (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intuitive (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeps Commitments (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Open-Minded (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Optimistic (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizational Agility (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Persuasive (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-Confident (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of Humor (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of Perspective (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treats People with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Dignity/Respect (24)						
Works on Multiple Tasks Simultaneously (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q32 From what you can remember of your third most recent position prior to your current directorship (from Question 14), as best you can, please choose how often you exercised the particular skill in that position. Select only one answer for each item in this section. The options include Never, Rarely, Occasionally/Sometimes, Often, and Always/Daily. If you do not remember how often you used the quality in question, please choose “Don’t Remember.”

	Never (1)	Rarely (2)	Occasionally/ Sometimes (3)	Often (4)	Always/ Daily (5)	Don't Remember (6)
Allocating Resources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Budget Management (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Community Partnerships (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building Teamwork (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business Ethics (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Relations (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating Expectations (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance Issues (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Technology (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict Resolution (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural Diversity (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decision-making (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcing Policies and Procedures (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty and Staff Development (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilities Planning (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fundraising/Donor Relations (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Legal Issues (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Change (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem Solving (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Program Evaluation (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School Safety Issues (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic Planning (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student-Focused Learning (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time Management (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vision Articulation (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q33 From what you can remember of your third most recent position prior to your current directorship (from Question 14), as best you can, please choose how often you exercised the particular quality in that position. Select only one answer for each item in this section. The options include Never, Rarely, Occasionally/Sometimes, Often, and Always/Daily. If you do not remember how often you used the quality in question, please choose “Don’t Remember.”

	Never (1)	Rarely (2)	Occasionally/ Sometimes (3)	Often (4)	Always/ Daily (5)	Don't Remember (6)
Able to Compromise (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessible (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approachable (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Articulate (good oral/written/presentation skills) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comfortable with Ambiguity (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Credibility (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diplomatic (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even-handed (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exercises Good Judgments (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good Interpersonal/Personal Qualities (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good Listener (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Handles Stress (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrity (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intuitive (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeps Commitments (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Open-Minded (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Optimistic (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizational Agility (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Persuasive (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-Confident (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of Humor (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of Perspective (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treats People with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Dignity/Respect (24)						
Works on Multiple Tasks Simultaneously (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q34 Which of your previous positions best prepared you for your current position, in terms of leadership skill development? How so?

Q35 In what leadership skills or qualities (if any) did you feel least prepared when you took the position of academic library director?

Q36 Are there other leadership qualities and/or skills not mentioned on this survey that you perceive as needed for a potential academic library director to be successful for the position?

Note: Instrument was developed as a result of reading the following sources:

“University Library Directors in the Association of Research Libraries: The Next Generation, Part One,” by P. Herson, R. R. Powell, and A. P. Young, 2001, *College and Research Libraries*, 62, 116-145. “University Library Directors in the Association of Research Libraries: The Next Generation, Part Two,” by P. Herson, R. R. Powell, and A. P. Young, 2001, *College and Research Libraries*, 63, 73-90. *The Next Library Leadership: Attributes of Academic and Public Library Directors*, by P. Herson, R. R. Powell, and A. P. Young, 2003. Westport, CT: Libraries Unlimited. “Academic Library Directors: What Do They Do?” by P. Herson, R. R. Powell, and A. P. Young, 2004, *College and Research Libraries*, 65, 538-563. *Evaluation of Skills and Qualities for a Senior Library Director*, by W. A. Garrett, 2009, (Unpublished doctoral dissertation.) Nova Southeastern University, Fort Lauderdale, Florida

Q38 If you would like a copy of the results of this survey, please enter your email address below:

- No, thank you (1)
- Yes, please, and my email address is: (2) \_\_\_\_\_

Q39 Would you like to enter the drawing for the two \$50 Amazon.com gift cards and ten \$15 Starbucks gift cards?

- No, thank you (1)
- Yes, and my email address for contacting me about the results of the drawing is: (2)  
\_\_\_\_\_

APPENDIX C

CODED POSITION TITLES FOR FREE TEXT LIBRARY POSITION RESPONSES

## Appendix C: Coded Position Titles for Free Text Library Department Responses

Free-text responses for library department were collected in questions 9, 13, 17, 21, and 41 of the instrument. Entries which clearly belonged to one of the department choices offered by the survey instrument were categorized as such—the entry for “Instrauction” (sic), for instance, was categorized as Reference & Instruction, as were the entries for “Information Literacy” and “Research”. An entry of “Periodicals” was categorized as “Technical Services (Cataloging, Acquisitions, Serials),” one entry of “Special Collections and Area Studies Collections” was categorized as “Special Collections/Rare Books and Manuscripts/Preservation,” and administrative positions including director, dean, and CIO were categorized as “Administration.”

Because the instrument was intended to identify higher-education academic library departments, any entry clearly indicating the department was one outside of an academic library was coded as Non-Academic Library. These entries included, as examples, school library work (which is done at the K-12 level), departments identified as “non-library,” “children’s services,” “public library,” and others. Entries clearly indicating that the work of the position was responsible for work in multiple departments was coded “Multiple Departments,” and entries noting that a library had no departments due to its small size were categorized as “No Departments.” The final category is “Other.”

Positions indicating directorship of the library were collapsed into the category “Library Director.” This category included such entries as “Library Director,” “Director of Library Services,” “Director of Library and Information Services,” “Director of Library and Informational Resources,” “Administrative Director,” “Dean of Library Services,” “University Librarian,” and similar titles. The designation “Assistant or Associate Director” was assigned to any of the previously mentioned director language that contained “assistant” or “associate” in it,

and clearly denoted authority over the entire library not tied to a particular unit. For instance, “Asst Director” is categorized as “Assistant Library Director,” but “Assistant Director for Access Services” is categorized as “Head, Access Services.” Positions indicated as department or unit chairships, headships, or coordinator positions were collapsed into the category of “Head” for the designated department, and positions clearly indicated as librarian positions were collapsed into the category of “Librarian.”

For those positions of Head or Librarian, all responses positions were reviewed to see if they would correspond with one of the eleven department titles from the survey instrument. Those that did were labeled “Head, Department” or “Librarian – Department.” Those positions spanning multiple departments were labeled “Multiple” and those not corresponding to any department on the instrument were labeled “Other.” Entries of “Head” or “Librarian” with no department indicators are labeled “Other.”

This organization of titles results in multi-part titles for most positions: the position, and the department. For instance, while an entry “director” would be coded “Library Director,” an entry of “Reference librarian” would be coded “Librarian – Reference and Instruction,” an entry of “Reference and IT Librarian” would be coded “Librarian – Multiple.” Entries of “Librarian” with no identifying information were labeled “Librarian – Other.”

The material below is presented as received, with no edits aside from redacting identifying information.



Position Title Free Text Answer	Position Title Coded
Assistant Library Director	Assistant Library Director
Associate Director	Assistant Library Director
Associate University Librarian	Assistant Library Director
Associate Director	Assistant Library Director
Associate University Librarian	Assistant Library Director
Associate Dean	Assistant Library Director
Associate University Librarian	Assistant Library Director
Assoc. Library Director	Assistant Library Director
Assistant Library Director	Assistant Library Director
Associate Director	Assistant Library Director
Associate Dean of Libraries	Assistant Library Director
Associate Dean of Libraries	Assistant Library Director
Associate Dean of Libraries	Assistant Library Director
Assistant Director	Assistant Library Director
Associate Director	Assistant Library Director
Associate Dean of Libraries & Learning Technologies	Assistant Library Director
Associate Library Director	Assistant Library Director
Associate Director	Assistant Library Director
Associate University Librarian	Assistant Library Director
Associate Director	Assistant Library Director
Assistant Director of the Library	Assistant Library Director
Associate University Librarian	Assistant Library Director
AUL Public Services	Assistant Library Director
Associate Univ. Librarian	Assistant Library Director
Associate Dean	Assistant Library Director
Associate Director	Assistant Library Director
Associate Director	Assistant Library Director
Assistant Director/Head of Public Services	Assistant Library Director
AUL	Assistant Library Director
Associate Director of Library Services	Assistant Library Director
Assistant Library Director	Assistant Library Director
Associate Director	Assistant Library Director
Associate Dean of Libraries	Assistant Library Director
Associate Director	Assistant Library Director
Assistant Director & Information Literacy Librarian	Assistant Library Director
Associate Director	Assistant Library Director
Associate Director	Assistant Library Director
Assistant Director	Assistant Library Director

Associate University Librarian for Technical Services and Scholarly Communication	Assistant Library Director
Assistant University Librarian	Assistant Library Director
Associate Librarian	Assistant Library Director
Associate Dean for Technology and Learning Resources	Assistant Library Director
Assistant Director	Assistant Library Director
Interim Assistant Dean	Assistant Library Director
Assistant Director	Assistant Library Director
Associate Dean of Libraries	Assistant Library Director
Managing Assistant Director	Assistant Library Director
Associate Director	Assistant Library Director
Assistant Director	Assistant Library Director
Assistant Director	Assistant Library Director
Assistant Director of the [REDACTED]	Assistant Library Director
Associate University Librarian	Assistant Library Director
Associate Director	Assistant Library Director
Associate Dean, Library Services	Assistant Library Director
Associate Director	Assistant Library Director
Associate Library Director	Assistant Library Director
Associate Dean	Assistant Library Director
Assoc Univ Librarian	Assistant Library Director
Assistant Director	Assistant Library Director
Associate Director of Librries	Assistant Library Director
Associate Director	Assistant Library Director
Assistant Director	Assistant Library Director
Assistant Director	Assistant Library Director
Assistant Director of the Information Resources Center	Assistant Library Director
Asst Director	Assistant Library Director
Assistant Director for Public Services	Assistant Library Director
Assistant Library Director	Assistant Library Director
Assistant Director	Assistant Library Director
Assistant Director of the Law Library	Assistant Library Director
Associate University Librarian	Assistant Library Director
assistant director	Assistant Library Director
Associate Director	Assistant Library Director
Assistant University Librarian	Assistant Library Director
Assistant Library Director	Assistant Library Director
Assistant Director	Assistant Library Director
Head of Access Services	Head, Access Services

Adjunct Professor, Head of Access Services	Head, Access Services
Head of Reserves and Circulation, [REDACTED]	Head, Access Services
Assoc Director/Head of Access Services	Head, Access Services
Assistant Director of Access Services	Head, Access Services
Head of Access Services	Head, Access Services
Access Services Head	Head, Access Services
Chief, Access Services	Head, Access Services
Head of Information Delivery Services	Head, Access Services
Head or Circulation	Head, Access Services
Library Chair, Access Services Librarian	Head, Access Services
Head of Access Services	Head, Access Services
Access Services Coordinator	Head, Access Services
Head, Circulation Department	Head, Access Services
Head, Access Services	Head, Access Services
Head of Access Services	Head, Access Services
Head, Access Services	Head, Access Services
Access Services Coordinator	Head, Access Services
Head of Circulation	Head, Access Services
Head, Circulation and Reserves	Head, Access Services
Head - Access Services [REDACTED]	Head, Access Services
Head, Circulation	Head, Access Services
Head of Access Services	Head, Access Services
Assistant Director of Development	Head, Advancement/Development
Archives coordinator	Head, Archives
Head, Collection Development	Head, Collection Development
librarian, collection development coordinator	Head, Collection Development
Assoc. Director for Collection Management	Head, Collection Development
Head of Collection Development	Head, Collection Development
Collection Management Coordinator	Head, Collection Development
Director of Collection Management	Head, Collection Development
Collection Development Coordinator	Head, Collection Development
Head of Collection Development	Head, Collection Development
Head, Resource Services	Head, Collection Development
head, collection development	Head, Collection Development
Program Coordinator for Collection Development	Head, Collection Development
Collection Development Coordinator	Head, Collection Development
Director of Collection Development	Head, Collection Development

Head of Collection Development	Head, Collection Development
Associate Dean of Digital Futures	Head, Digital Library Services
Associate University Librarian for [REDACTED]	Head, Digital Library Services
Head, Digital Assets	Head, Digital Library Services
Director of the Digital Library Program	Head, Digital Library Services
Head of Web and Digitization Services	Head, Digital Library Services
Head, Metadata and Digital Library Services	Head, Digital Library Services
Coordinator of Systems and Technology	Head, Information Technology
Associate Librarian for Information Services	Head, Information Technology
Head of Library Technology	Head, Information Technology
Manager of Networked Services	Head, Information Technology
Director of Technology	Head, Information Technology
Interim Director University Computing Services	Head, Information Technology
Network Technology and Information Services Manager	Head, Information Technology
Technology Coordinator	Head, Information Technology
AUL Technology	Head, Information Technology
Head (Dept)	Head, Information Technology
Head (Dept)	Head, Information Technology
AD for IT	Head, Information Technology
AUL for Access Services and Library Systems	Head, Multiple
Assistant Director of Libraries for Public Services & Systems	Head, Multiple
Head of Acquisitions and Collection Development	Head, Multiple
Head Librarian/Coordinator of Reference and Public Services	Head, Multiple
1. Assistant Director-Public Services Librarian 2. Interlibrary Loan Department Head - Reference and Instruction Librarian	Head, Multiple
Head of Circulation & Reference	Head, Multiple
Head of Systems and Technical Services	Head, Multiple
Director of Collections and Technical Services	Head, Multiple
Head	Head, Multiple
Director of Library Technology	Head, Multiple
Coordinator of Public Services	Head, Multiple

Associate Director for Public Services, Main Campus Library, 5 years; Department Head, Educational Materials Center, Main Campus Library, 12 years, Support Staff, Educational Materials Center, 3 years; no other positions prior to current deanship	Head, Multiple
Assitant Director for Collection Development and Access Services	Head, Multiple
Head of Access Services & Instruction	Head, Multiple
Associate University Librarian for Systems, Technical and Access Services	Head, Multiple
Associate University Librarian for User Services and Technology	Head, Multiple
Director of Reference and Collection Development	Head, Multiple
Hed of Interlibrary Loan/Reference	Head, Multiple
Associate Dean for Collections, Preservation & Digital Initiatives	Head, Multiple
Assistant Director for Automated Services	Head, Multiple
Head of Access Services and System Administrator	Head, Multiple
head of refrence/system admin	Head, Multiple
Head of Reference/Collection Development	Head, Multiple
Head of Circulation/Outreach	Head, Multiple
Associate Director for Public Services	Head, Other
Public Services Manager	Head, Other
Public Services Manager	Head, Other
Assistant Director for Public Services	Head, Other
Associate Director for User Services	Head, Other
Associate Dean for Public Services	Head, Other
Department Head of Public Services	Head, Other
Library Media Director	Head, Other
Coordinator of Public Services	Head, Other
Head of Hillman Public Services	Head, Other
Head of Public Services	Head, Other
Head of Public Services	Head, Other
Associate Director for Public Services	Head, Other
Head of Public Services	Head, Other
Head of Branch Library	Head, Other
Associate Dean	Head, Other
Director of Library Media Services	Head, Other

Branch Library Manager	Head, Other
Head, Media Services	Head, Other
Director Instr Media	Head, Other
Division Head for Public Services	Head, Other
Branch Librarian	Head, Other
Assitant Director for Public Services	Head, Other
Head of Media & Reserve Services; Film Studies Librarian	Head, Other
Branch team leader (manager)	Head, Other
Department Head, Educational Materials Center which changed name to Library Media Services	Head, Other
Head of one of our college Branch libraries	Head, Other
Associate University Librarian for Public Services	Head, Other
Government Documents/Microforms Department Head	Head, Other
Branch Librarian	Head, Other
Branch Librarian	Head, Other
Head of Electronic Resources	Head, Other
Branch Head	Head, Other
Director of Public Services	Head, Other
Coordinator	Head, Other
Head of User Services	Head, Other
Associate Dean for Management and Public Service	Head, Other
Director, Special Outgoing Services	Head, Other
Head of Public Services	Head, Other
Head of Interlibrary Loan	Head, Other
Director Public Services	Head, Other
Head, Interlibrary Loan	Head, Other
Head of Documents	Head, Other
Assistant Director for Public Services	Head, Other
Science Librarian	Head, Other
Head of Public Services	Head, Other
Head of Library Media Services	Head, Other
Branch Head	Head, Other
Coordinator	Head, Other
Interim chair	Head, Other
Head of Public Services/Business Librarian	Head, Other
Head of Social Work Library	Head, Other

Head, Science and Engineering Library	Head, Other
Assistant Director for Public Services	Head, Other
Branch Manager	Head, Other
Head of Audiovisual Serices	Head, Other
Head of Interlibrary Loan	Head, Other
Interim Head of Public Services	Head, Other
Assistant Director, Publi Services	Head, Other
Head Media Department	Head, Other
Biomedical and Vet Med Sciences Librarian	Head, Other
Head of Microforms	Head, Other
Supervisor, Instructional Materials Center, [REDACTED]	Head, Other
Branch Manager	Head, Other
Science Library Supervisor	Head, Other
Outreach Services Coordinator	Head, Outreach
Assistant director for research services	Head, Reference & Instruction
Associate University Librarian for Research and Instructional Services	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Instruction	Head, Reference & Instruction
Head of Research Services	Head, Reference & Instruction
Coordinator for Information Literacy Program and Reference Services	Head, Reference & Instruction
head of reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Associate Director for Instruction& Reference Services	Head, Reference & Instruction
Head Of Reference	Head, Reference & Instruction
Head of Reference Services	Head, Reference & Instruction
Head of Reference Services	Head, Reference & Instruction
Associate director for research services	Head, Reference & Instruction
Head of reference	Head, Reference & Instruction
Chair, Reference Department	Head, Reference & Instruction
Chair, research & instructional services	Head, Reference & Instruction
Head of Reference and Instruction	Head, Reference & Instruction
Head of Reference Services & Instruction Coordinator	Head, Reference & Instruction

Director of Research & Information Services	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Referene Coordinator	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference Services	Head, Reference & Instruction
Head, General Reference Services, Graduate Library	Head, Reference & Instruction
Head of Information Services	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head, Reference and Instruction	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Senior Research Manager	Head, Reference & Instruction
Head of Reference Services	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Sr. Manager, Research Library Services	Head, Reference & Instruction
Coordinator of Reference Services	Head, Reference & Instruction
Reference Coordinator	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference	Head, Reference & Instruction
Head of Reference Services	Head, Reference & Instruction
Chair, Special and Area Studies Collections, [REDACTED]	Head, Special Collections
Head, Preservation Department	Head, Special Collections
Director of Special Collections	Head, Special Collections
Head of Special Collections	Head, Special Collections
Director, [REDACTED]	Head, Special Collections
curator of special collections	Head, Special Collections
Head, Special Collections, Manuscripts and Archives, [REDACTED]	Head, Special Collections
Head of Technical Services	Head, Technical Services
Head of Technical Services	Head, Technical Services
Coordinator of technical services	Head, Technical Services
Head, Technical Services	Head, Technical Services
Head of Technical Services	Head, Technical Services
Director of Technical Services	Head, Technical Services



Head, Technical Services	Head, Technical Services
Head of Technical Services	Head, Technical Services
Director of Technical Information Services	Head, Technical Services
Head of Acquisitions	Head, Technical Services
Head, Periodicals Services	Head, Technical Services
Head of Technical Services	Head, Technical Services
Head of Technical Services and Systems	Head, Technical Services
Systems librarian/Head of Tech Services	Head, Technical Services
Acting Coordinator of Technical Services	Head, Technical Services
Technical Services Coordinator	Head, Technical Services
Head of Technical Services	Head, Technical Services
Head of serials	Head, Technical Services
Head Technical Services	Head, Technical Services
Head, Bibliographic Control	Head, Technical Services
Head of Bibliographic and Metadata Services	Head, Technical Services
Head Cataloger	Head, Technical Services
Head of Cataloging	Head, Technical Services
Head of Technical Services	Head, Technical Services
Head of Technical Services/Cataloger	Head, Technical Services
Catalog Department Head	Head, Technical Services
Technical Services Administrator	Head, Technical Services
Catalog Department Head	Head, Technical Services
Head of Technical Services and System Administrator	Head, Technical Services
Head of Automation and technical services	Head, Technical Services
Assistant Director for Technical Services	Head, Technical Services
Chief Acquisitions Librarian	Head, Technical Services
Head of Technical Services	Head, Technical Services
Head of Acquisition and Cataloging	Head, Technical Services
Distance Services Librarian	Librarian - Access Services
access services librarian	Librarian - Access Services
Circulation/Access Services Librarian	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Interlibrary Loan Coordinator	Librarian - Access Services
Interlibrary Loan Librarian	Librarian - Access Services
Resource Sharing Coordinator	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Circulation Supervisor	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Circulation Manager	Librarian - Access Services

Circulation Librarian	Librarian - Access Services
Access Services Librarian	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Loan Services Librarian	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Assistant ILL Librarian	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Interim ILL Lending Supervisor	Librarian - Access Services
Circulation Librarian	Librarian - Access Services
Coordinator of Circulation	Librarian - Access Services
Assistant Circulation Librarian	Librarian - Access Services
Circulation Supervisor	Librarian - Access Services
Interlibrary Loan	Librarian - Access Services
Assistant Director for Administrative Services	Librarian - Administration
Administrative Services Librarian	Librarian - Administration
Administrative Services Librarian	Librarian - Administration
Assistant to the University Librarian for Planning and Research	Librarian - Administration
Archivist	Librarian - Archives
University Archivist	Librarian - Archives
archivist	Librarian - Archives
Collection Management Librarian	Librarian - Collection Development
Collection Development Services Librarian	Librarian - Collection Development
Collection Development Librarian	Librarian - Collection Development
Collections Librarian	Librarian - Collection Development
Collection Development Librarian	Librarian - Collection Development
Collection Development Librarian	Librarian - Collection Development
Social Sciences Collections Librarian	Librarian - Collection Development
Collection Development Librarian	Librarian - Collection Development
Medical Sciences Collections	Librarian - Collection Development
Collection Development Librarian	Librarian - Collection Development
Materials Selector	Librarian - Collection Development
Assistant Collection Development Librarian	Librarian - Collection Development
web librarian	Librarian - Digital Library Services
Systems & Electronic Resources Librarian	Librarian - Digital Library Services
Project Manager	Librarian - Digital Library Services
Coordinator, Library Automation	Librarian - Information Technology
Systems Librarian	Librarian - Information Technology
Systems Librarian	Librarian - Information Technology
Information Technolgy Librarian	Librarian - Information Technology

Systems Librarian	Librarian - Information Technology
Systems Librarian	Librarian - Information Technology
Software Specialist	Librarian - Information Technology
Systems Librarian	Librarian - Information Technology
Systems Librarian	Librarian - Information Technology
computer services librarian	Librarian - Information Technology
Circulation/Serials Librarian	Librarian - Multiple
Public Services / Instruction Librarian	Librarian - Multiple
Serials/Interlibrary Loan Librarian	Librarian - Multiple
Library Information Services Manager	Librarian - Multiple
acquisitions library/reference & gov. doc.	Librarian - Multiple
Circulation & Instruction Librarian	Librarian - Multiple
Systems/Reference Librarian	Librarian - Multiple
Librarian Coordinator	Librarian - Multiple
Reference and Systems Librarian	Librarian - Multiple
Manager, Periodicals & ILL	Librarian - Multiple
Reference & Electronic Resources Librarian	Librarian - Multiple
Librarian	Librarian - Multiple
Manager - Collection Services, Technical Services, Library Systems	Librarian - Multiple
Serials/ILL Librarian	Librarian - Multiple
Serials / Reference / Bibliographic Instruction Librarian	Librarian - Multiple
Assistant Librarian	Librarian - Multiple
Assistant Librarian	Librarian - Multiple
Government Documents Librarian and Irish Studies Bibliographer	Librarian - Multiple
Reference/Periodicals Librarian	Librarian - Multiple
Law Librarian	Librarian - Multiple
Reference/Instruction/ILL (part-time)	Librarian - Multiple
Systems/Instruction Librarian	Librarian - Multiple
Reference and Electronic Access Librarian	Librarian - Multiple
Cataloger/reference librarian	Librarian - Multiple
Instructional Resources Librarian	Librarian - Multiple
Reference Librarian/Media Director	Librarian - Multiple
Assistant Librarian	Librarian - Multiple
Library Manager	Librarian - Multiple
Biomedical Librarian	Librarian - Multiple
Social Sciences Librarian	Librarian - Multiple
Librarian	Librarian - Multiple
Information Technologies/Reference Librarian	Librarian - Multiple

systems librarian	Librarian - Multiple
Reference and Interlibrary Loan Librarian	Librarian - Multiple
Government Documents and Earth Sciences Librarian	Librarian - Multiple
Librarian	Librarian - Multiple
Head of Circulation/Reference Librarian	Librarian - Multiple
Library Technologist	Librarian - Multiple
serials/reference librarian	Librarian - Multiple
Librarian for Outreach/Special Collections	Librarian - Multiple
Associate Librarian	Librarian - Other
Public Services Librarian	Librarian - Other
Serials and AV Librarian	Librarian - Other
librarian	Librarian - Other
Manager, Information Services	Librarian - Other
Supervisor, Instructional Support and Development	Librarian - Other
Librarian/ Manager	Librarian - Other
ASSISTANT LLIBRARIAN	Librarian - Other
Electronic Services Librarian	Librarian - Other
Electronic Resources Librarian	Librarian - Other
Media Librarian	Librarian - Other
assistant librarian	Librarian - Other
Electronic Resources Librarian	Librarian - Other
Electronic Resources Librarian	Librarian - Other
librarian	Librarian - Other
Electronic Resources Librarian	Librarian - Other
librarian	Librarian - Other
Librarian, Automation and Cataloging	Librarian - Other
Information Specialist	Librarian - Other
Librarian	Librarian - Other
Electronic Resources Librarian	Librarian - Other
Public Services Librarian	Librarian - Other
Assistant Librarian	Librarian - Other
Assistant Librarian	Librarian - Other
Assistant Librarian	Librarian - Other
library manager	Librarian - Other
Electronic Resources Coordinator	Librarian - Other
Assistant Law Librarian	Librarian - Other
Public Services Librarian	Librarian - Other
Personnel and Staff Development Librarian	Librarian - Other
Librarian	Librarian - Other

Database Coordinator	Librarian - Other
Documents and Maps Librarian	Librarian - Other
Online Services Coordinator	Librarian - Other
Electronic Resources Librarian	Librarian - Other
Evening Services Librarian	Librarian - Other
Electronic Resources Librarian	Librarian - Other
Assistant Librarian for Circulation & Technical Support	Librarian - Other
Evening Supervisor	Librarian - Other
Serials/Electronic Resources Manager	Librarian - Other
Library Webmaster	Librarian - Other
Documents Reference	Librarian - Other
Coordinator Title III	Librarian - Other
Medical Librarian	Librarian - Other
Evening Supervisor	Librarian - Other
Government Documents Librarian	Librarian - Other
Faculty Librarian	Librarian - Other
Public Services Librarian	Librarian - Other
Associate Librarian for Public Services	Librarian - Other
Documents and Legal Resources Librarian	Librarian - Other
Electronic Services Librarian	Librarian - Other
Public Services Librarian	Librarian - Other
Resident Librarian	Librarian - Other
Slide Collection Specialist	Librarian - Other
Pictures Librarian	Librarian - Other
Public Services Librarian	Librarian - Other
Librarian	Librarian - Other
Coordinator	Librarian - Other
Library Evening supervisor	Librarian - Other
Librarian	Librarian - Other
Senior Assistant Librarian	Librarian - Other
Head of AIAMS Project	Librarian - Other
Senior Librarian	Librarian - Other
Outreach Coordinator	Librarian - Outreach
Information Services Librarian	Librarian - Reference & Instruction
Reference and Instruction Librarian	Librarian - Reference & Instruction
Public Services/Reference Librarian	Librarian - Reference & Instruction
Engineering librarian	Librarian - Reference & Instruction
Instruction Librarian	Librarian - Reference & Instruction
Academic Librarian III - Instruction and Assessment Coordinator	Librarian - Reference & Instruction

Library Instruction Coordinator	Librarian - Reference & Instruction
Instruction Coordinator	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Pt time Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Instructional Services Librarian	Librarian - Reference & Instruction
Reference & Instruction	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Coordinator Information Literacy Program	Librarian - Reference & Instruction
Reference/Instructional librarian	Librarian - Reference & Instruction
Reference/Instruction Librarian	Librarian - Reference & Instruction
Instruction Coordinator	Librarian - Reference & Instruction
Reference/instruction librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Coordinator of Instruction	Librarian - Reference & Instruction
Reference librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Academic Librarian III - Reference & Instruction Librarian	Librarian - Reference & Instruction
Information Literacy Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Business Reference	Librarian - Reference & Instruction
Reference & Instruction Librarian	Librarian - Reference & Instruction
Theological Librarian	Librarian - Reference & Instruction
Librarian	Librarian - Reference & Instruction
Information Literacy Coordinator	Librarian - Reference & Instruction
Instruction Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Education Librarian	Librarian - Reference & Instruction
Coordinator for Information Literacy Across the Curriculum Program	Librarian - Reference & Instruction
Science librarian	Librarian - Reference & Instruction
Substitute Reference Librarian	Librarian - Reference & Instruction
Information Literacy Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction

Reference & Instruction Librarian (part-time)	Librarian - Reference & Instruction
Reference and Instruction Librarian	Librarian - Reference & Instruction
Information Literacy Coordinator	Librarian - Reference & Instruction
Evening Services Librarian	Librarian - Reference & Instruction
Clinical Librarian	Librarian - Reference & Instruction
instruction Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Business Librarian	Librarian - Reference & Instruction
Science Reference Librarian	Librarian - Reference & Instruction
Reference and Instruction Librarian	Librarian - Reference & Instruction
Associate Professor/Information Literacy Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Assistant Professor	Librarian - Reference & Instruction
Reference Librarian, [REDACTED]	Librarian - Reference & Instruction
Library Instruction Coordinator	Librarian - Reference & Instruction
Academic Librarian II - Reference & Instruction Librarian	Librarian - Reference & Instruction
Instruction Librarian	Librarian - Reference & Instruction
Reference librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference / Bibliographic Instruction Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Information Literacy Librarians	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference/Instruction Librarian	Librarian - Reference & Instruction
Graduate Instruction Coordinator	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference and Instruction Library	Librarian - Reference & Instruction
Reference and instruction	Librarian - Reference & Instruction
Reference librarian	Librarian - Reference & Instruction
Reference and Instruction Librarian	Librarian - Reference & Instruction
Reference librarian	Librarian - Reference & Instruction
Instruction Coordinator	Librarian - Reference & Instruction
Web Resources/Reference Librarian	Librarian - Reference & Instruction
Reference librarian	Librarian - Reference & Instruction
Reference librarian	Librarian - Reference & Instruction

Reference & Instruction Librarian	Librarian - Reference & Instruction
Instruction & Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Public Services/Reference Librarian and Instructor in Library Science	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference and Instruction Librarian	Librarian - Reference & Instruction
Instruction Coordinator	Librarian - Reference & Instruction
Reference librarian	Librarian - Reference & Instruction
Reference & Instruction Librarian (part-time)	Librarian - Reference & Instruction
Reference Librarian/Search Analyst	Librarian - Reference & Instruction
Assistant Manger of Reference	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Academic Librarian I - Reference and Instruction Librarian	Librarian - Reference & Instruction
Music Librarian	Librarian - Reference & Instruction
Social Sciences Librarian	Librarian - Reference & Instruction
Science Reference Librarian II	Librarian - Reference & Instruction
Reference Librarian and Audiovisual Director	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
reference librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Business librarian	Librarian - Reference & Instruction
Ref & Instruction Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Information Services Librarian	Librarian - Reference & Instruction
Senior Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Music Librarian	Librarian - Reference & Instruction
Curriculum Librarian	Librarian - Reference & Instruction
Work Study Slide Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference/Instruction Librarian	Librarian - Reference & Instruction
Science Reference	Librarian - Reference & Instruction
Outreach Services Coordinator/Reference	Librarian - Reference & Instruction
Assistant Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Bibliography I Instructo	Librarian - Reference & Instruction
Visiting Reference Librarian	Librarian - Reference & Instruction
Reference & Instruction Librarian	Librarian - Reference & Instruction



Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Reference Librarian	Librarian - Reference & Instruction
Science Librarian	Librarian - Reference & Instruction
Computer Science Librarian	Librarian - Reference & Instruction
Science Reference Librarian	Librarian - Reference & Instruction
Science Reference Librarian	Librarian - Reference & Instruction
Education Subject Specialist	Librarian - Reference & Instruction
Rare Book Cataloger	Librarian - Special Collections
Special Collections Librarian	Librarian - Special Collections
Special Collections	Librarian - Special Collections
Preservation Librarian	Librarian - Special Collections
Technical Services Librarian	Librarian - Technical Services
Library Systems Coordinator	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Acquisitions Librarian	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Cataloger	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Serials/Cataloging Librarian	Librarian - Technical Services
Catalog Librarian	Librarian - Technical Services
Original cataloger	Librarian - Technical Services
technical services librarian	Librarian - Technical Services
Periodicals / Gov Docs	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Acquisitions Librarian	Librarian - Technical Services
Acquisitions Librarian	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Cataloger	Librarian - Technical Services
Serials, Acquisitions, and Cataloging Specialist	Librarian - Technical Services
Acquisitions Librarian	Librarian - Technical Services
technical services librarian	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Tech Serv Sabb Repl	Librarian - Technical Services
Systems Librarian	Librarian - Technical Services
Acquisitions Coordinator	Librarian - Technical Services

Technical Services Librarian	Librarian - Technical Services
acquisitions librarian	Librarian - Technical Services
Technical Services Librarian	Librarian - Technical Services
Cataloging Librarian	Librarian - Technical Services
Catalogue Librarian	Librarian - Technical Services
Cataloger	Librarian - Technical Services
Serials Librarian	Librarian - Technical Services
Technical Services and Systems Librarian	Librarian - Technical Services
Cataloger and Reference Desk Fillin	Librarian - Technical Services
Cataloger	Librarian - Technical Services
Cataloger	Librarian - Technical Services
Catalog Librarian	Librarian - Technical Services
Librarian I, Acquistions Dept	Librarian - Technical Services
Bibliographic Services Coordinator	Librarian - Technical Services
Acquisitions Expediter	Librarian - Technical Services
Cataloger	Librarian - Technical Services
Acquisitions Librarian	Librarian - Technical Services
Serials Receiving Librarian	Librarian - Technical Services
cataloger	Librarian - Technical Services
Catalog Librarian	Librarian - Technical Services
Cataloging Specialist	Librarian - Technical Services
Librarian I, Catalog Dept.	Librarian - Technical Services
serials librarian	Librarian - Technical Services
Acquisitions Librarian	Librarian - Technical Services
Cataloger	Librarian - Technical Services
Serials Cataloger	Librarian - Technical Services
Library Media Technical Services	Librarian - Technical Services
Head of Research Center	Library Director
Dean of Libraries	Library Director
Library Director	Library Director
College Librarian	Library Director
Assistant Vice President for Library and IT Services	Library Director
Associate VP for Academic Resources	Library Director
Library Director	Library Director
Library Director	Library Director
Library Director	Library Director
University Librarian	Library Director
Interim Dean of Libraries	Library Director
Director	Library Director
University Librarian	Library Director

Interim Dean, Library Services	Library Director
Director of Library Services	Library Director
Director of Libraries and Learning Resources	Library Director
Director of Library Services	Library Director
Interim Director	Library Director
Director of the Library	Library Director
Acting Library Director	Library Director
Interim Dean	Library Director
Dean of Library Services	Library Director
Director of Health Sciences Library	Library Director
director	Library Director
Associate Provost for Library, Information, and TEchnology Services	Library Director
Director of the Library	Library Director
Library Director	Library Director
Director	Library Director
Director	Library Director
Dean	Library Director
Director of Library Services	Library Director
Head of Atherton Library	Library Director
Manager of Library Operations	Library Director
Library Director	Library Director
Director	Library Director
Director of Library & Information Services	Library Director
Director of the LRC	Library Director
library director	Library Director
Library Director	Library Director
Senior Director for Education and Information Services	Library Director
Library Coordinator	Library Director
Dean of LS	Library Director
Director of Library and Informational Resources	Library Director
Director of Learning Resources	Library Director
Direcotr of Library Services	Library Director
Administrative Director	Library Director
Director	Library Director
Director, University Library	Library Director
Director of Library Services	Library Director
Director of Library Services	Library Director
Dean of Information Resouces and Library	Library Director

Director of Library Services	Library Director
Directors of Libraries and Media	Library Director
Director of the Central, Science,' and Engineering Libraries	Library Director
Director of Learning Resources	Library Director
Director of Libraries	Library Director
Library Director	Library Director
Director	Library Director
Library Director	Library Director
Head of Library services	Library Director
Library Director	Library Director
University Librarian	Library Director
Director of Libraries	Library Director
director	Library Director
Library Director	Library Director
Library Director	Library Director
Director of Libraries	Library Director
Director	Library Director
Acting Dean of Libraries	Library Director
Chairperson	Library Director
Director of Libraries	Library Director
Library Director	Library Director
Director	Library Director
Director, Library	Library Director
Library Director	Library Director
Director of Library Svcs	Library Director
University Librarian	Library Director
Head of Information Services	Library Director
Library Director	Library Director
Director	Library Director
Department Chair	Library Director
Head Librarian	Library Director
Library Director	Library Director
Associate Dean and Director of [REDACTED]	Library Director
Library director	Library Director
Head Librarian	Library Director
Manager, Library & Information Services	Library Director
Acting Director	Library Director
Acting College Librarian	Library Director
Manager of Library Services	Library Director

Director of Medical Library Services	Library Director
Library Director	Library Director
Director of the Library	Library Director
Library Director	Library Director
Library Director	Library Director
Director of Instructional Resources	Library Director
Dean of Instructional Support	Library Director
Director of Health Sciences Library	Library Director
director	Library Director
Dean	Library Director
Library Director	Library Director
University Librarian	Library Director
Head Librarian	Library Director
library director	Library Director
Director of Library Services	Library Director
Dean of LS	Library Director
Library Director	Library Director
Director, Center for Teaching Resources	Library Director
Director of Educational Support Services	Library Director
Director of Library Services	Library Director
Library Director, Assistant Professor	Library Director
Director of Library Services/Distance Education	Library Director
Dean of Libraries, [REDACTED]	Library Director
Library Director	Library Director
Dean and University Librarian	Library Director
Assistant Vice President / Head Librarian	Library Director
Department Chairperson	Library Director
Interim Dean	Library Director
Dean & University Librarian	Library Director
Interim Director of Library	Library Director
Learning Resource Center Director	Library Director
library director	Library Director
Director	Library Director
Director of Library Services	Library Director
Director	Library Director
Library Director	Library Director
Deputy Director	Library Director
Library Director	Library Director
Interim Library Director	Library Director
Dean of the Library	Library Director

Director of Library Services	Library Director
Library Director	Library Director
library director	Library Director
Library Director	Library Director
Campus Director of Educational Support Services	Library Director
Library Director	Library Director
College Librarian	Library Director
Interim Library Director	Library Director
Head of Nursing School Library	Library Director
Library Director	Library Director
Library Director	Library Director
University Librarian	Library Director
Director	Library Director
Program Director	Library Director
Director	Library Director
Director	Library Director
Library Director	Library Director
Director of the Library	Library Director
Director	Library Director
Library Director	Library Director
Circulation Manager	Staff
Assistant to Central Library Director	Staff
Sunday supervisor	Staff
Library Assistant	Staff
Library Technician, Circulation Head	Staff
Reference Assistant	Staff
Archive Assistant	Staff
Student Assistant	Staff
Learning Resource Center Assistant	Staff
Graduate Reference Assistant	Staff
Government Documents Intern	Staff
Serials Assistant/Circ Supervisor	Staff
Support staff, Educational Materials Center	Staff
Technical Services Assistant and Acquisitions	Staff
Library Assistant	Staff
serials assistant	Staff
Serials Assistant	Staff
Technical Services Assistant	Staff
grad student	Staff
Library Assistant	Staff

Teaching & Research Assistant	Staff
Graduate Digital Projects Assistant	Staff
Student Assistant	Staff
Student Assistant - Cataloging Dept	Staff
Reference Assistant	Staff
Library Technician	Staff
Library Assistant	Staff
Part-time Cataloging Assistant	Staff
Student Aide	Staff
intern access services	Staff
Student Worker	Staff
Graduate Assistant	Staff
Library Operations Associate	Staff
Catalog Assistant	Staff
LTA	Staff
library assistant	Staff
Library Assistant	Staff
cataloging assistant	Staff
Library Technician	Staff
Library Student Assistant	Staff
Temporary Access Services Library Assistant/Stacks Supervisor	Staff
Collections Access Clerk	Staff
Principal Library Assitant	Staff
Circulation Assistant	Staff
Assistant to the Director of Libraries for Grants, Research & Planning	Staff
Reference and Instruction Intern	Staff
Library Associate 10	Staff
student assistant	Staff
Student	Staff
Graduate assistantship	Staff
Law Library Associate	Staff
Library Technician 4 - Supervisor of Serials & Binding	Staff
Graduate Reference Intern	Staff
Library Assistant	Staff
Student Assistant	Staff
Library Assistant II	Staff
Assistant to the Chief Librarian	Staff
Library Associate 8	Staff

Reserve Library Supervisor (para-prof)	Staff
Senior Library Assistant	Staff
Clerical Asst.-Cataloging	Staff
Technical Services Assistant	Staff
Serials Assistant	Staff
Library Technician	Staff
Library Assistant	Staff
Cataloging Assistant	Staff
Student Assistant	Staff
Library Technical Assistant	Staff
Catalog Assistant	Staff
Interlibrary Loan Assistant	Staff



APPENDIX D  
COMPOSITE SCORES FOR LEADERSHIP SKILLS  
AND QUALITIES BY POSITION

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Librarian - Other	100	Librarian - Other	100
Library Director	100	Library Director	100
Library Director	98	Library Director	100
Library Director	98	Library Director	100
Library Director	97	Library Director	100
Library Director	96	Assistant Library Director	100
Library Director	94	Assistant Library Director	100
Head, Access Services	93	Assistant Library Director	100
Library Director	92	Library Director	100
Librarian - Other	92	Head, Other	100
Assistant Library Director	91	Assistant Library Director	100
Library Director	91	Library Director	100
Library Director	91	Librarian - Multiple	100
Library Director	90	Library Director	100
Library Director	90	Librarian - Other	100
Head, Multiple	90	Library Director	100
Library Director	89	Librarian - Technical Services	100
Assistant Library Director	89	Library Director	100
Library Director	89	Assistant Library Director	100
Assistant Library Director	88	Assistant Library Director	100
Assistant Library Director	88	Library Director	100
Librarian - Other	88	Librarian - Reference & Instruction	100
Head, Reference & Instruction	87	Head, Reference & Instruction	100
Library Director	86	Library Director	100
Library Director	86	Library Director	100
Head, Access Services	86	Library Director	100
Head, Reference & Instruction	86	Library Director	100
Librarian - Technical Services	86	Assistant Library Director	100
Head, Reference & Instruction	86	Head, Multiple	100
Librarian - Technical Services	85	Librarian - Multiple	100
Library Director	85	Assistant Library Director	100
Head, Other	85	Assistant Library Director	100
Library Director	85	Head, Access Services	100
Assistant Library Director	84	Head, Information Technology	100
Library Director	84	Librarian - Information Technology	100
Head, Technical Services	84	Head, Technical Services	100
Library Director	84	Librarian - Other	100

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Library Director	84	Head, Multiple	100
Head, Other	83	Librarian - Reference & Instruction	100
Assistant Library Director	83	Assistant Library Director	100
Head, Other	83	Library Director	100
Library Director	82	Assistant Library Director	100
Assistant Library Director	82	Library Director	100
Librarian - Multiple	81	Assistant Library Director	100
Library Director	81	Head, Reference & Instruction	100
Head, Other	81	Librarian - Technical Services	100
Library Director	81	Librarian - Reference & Instruction	100
Library Director	81	Head, Technical Services	100
Head, Multiple	80	Librarian - Multiple	100
Library Director	80	Head, Other	100
Librarian - Reference & Instruction	80	Librarian - Technical Services	100
Head, Digital Library Services	80	Head, Reference & Instruction	100
Library Director	80	Librarian - Reference & Instruction	100
Library Director	80	Staff	100
Library Director	80	Head, Other	100
Assistant Library Director	80	Librarian - Information Technology	100
Head, Information Technology	80	Librarian - Information Technology	100
Librarian - Other	79	Librarian - Reference & Instruction	100
Head, Reference & Instruction	79	Assistant Library Director	100
Library Director	79	Librarian - Other	100
Library Director	78	Librarian - Reference & Instruction	100
Assistant Library Director	78	Librarian - Reference & Instruction	100
Library Director	78	Librarian - Other	100
Library Director	77	Librarian - Reference & Instruction	100
Head, Multiple	77	Library Director	99
Head, Multiple	77	Library Director	99
Head, Multiple	77	Library Director	99

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Reference & Instruction	77	Library Director	99
Assistant Library Director	77	Library Director	99
Head, Other	77	Library Director	99
Head, Access Services	77	Assistant Library Director	99
Library Director	77	Head, Reference & Instruction	99
Assistant Library Director	77	Library Director	99
Head, Other	77	Head, Access Services	99
Library Director	76	Librarian - Technical Services	99
Library Director	76	Library Director	99
Library Director	76	Assistant Library Director	99
Library Director	76	Librarian - Other	99
Library Director	76	Assistant Library Director	99
Other	76	Head, Access Services	99
Assistant Library Director	75	Head, Reference & Instruction	99
Head, Multiple	75	Librarian - Digital Library Services	99
Head, Technical Services	75	Library Director	99
Library Director	75	Head, Other	99
Library Director	75	Assistant Library Director	99
Head, Access Services	75	Library Director	99
Library Director	75	Librarian - Reference & Instruction	99
Assistant Library Director	75	Librarian - Reference & Instruction	99
Librarian - Technical Services	74	Head, Multiple	99
Librarian - Other	74	Head, Reference & Instruction	99
Assistant Library Director	74	Head, Collection Development	99
Head, Access Services	74	Library Director	99
Head, Multiple	74	Head, Reference & Instruction	99
Head, Reference & Instruction	74	Staff	99
Head, Access Services	74	Librarian - Reference & Instruction	99
Assistant Library Director	74	Librarian - Reference & Instruction	99
Library Director	74	Librarian - Reference & Instruction	99
Library Director	74	Head, Other	99
Assistant Library Director	74	Librarian - Reference & Instruction	99
Library Director	74	Library Director	99

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Library Director	73	Librarian - Reference & Instruction	99
Assistant Library Director	73	Head, Access Services	98
Assistant Library Director	73	Library Director	98
Library Director	73	Head, Reference & Instruction	98
Head, Other	73	Library Director	98
Assistant Library Director	73	Head, Other	98
Library Director	73	Head, Other	98
Librarian - Technical Services	73	Head, Multiple	98
Library Director	73	Library Director	98
Library Director	72	Head, Reference & Instruction	98
Head, Technical Services	72	Head, Multiple	98
Assistant Library Director	72	Head, Multiple	98
Librarian - Reference & Instruction	72	Library Director	98
Library Director	72	Assistant Library Director	98
Library Director	72	Head, Multiple	98
Library Director	72	Head, Reference & Instruction	98
Librarian - Administration	72	Assistant Library Director	98
Head, Other	72	Library Director	98
Head, Advancement/Development	72	Assistant Library Director	98
Assistant Library Director	71	Library Director	98
Assistant Library Director	71	Head, Other	98
Head, Other	71	Library Director	98
Library Director	71	Library Director	98
Librarian - Reference & Instruction	71	Librarian - Multiple	98
Library Director	71	Head, Access Services	98
Library Director	71	Head, Other	98
Librarian - Access Services	71	Librarian - Multiple	98
Library Director	71	Librarian - Reference & Instruction	98
Library Director	71	Librarian - Reference & Instruction	98
Library Director	71	Library Director	97
Head, Reference & Instruction	71	Library Director	97
Head, Multiple	71	Librarian - Other	97
Librarian - Multiple	71	Head, Other	97
Assistant Library Director	71	Head, Technical Services	97

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Technical Services	71	Librarian - Reference & Instruction	97
Head, Other	71	Library Director	97
Library Director	70	Head, Reference & Instruction	97
Librarian - Reference & Instruction	70	Assistant Library Director	97
Head, Reference & Instruction	70	Head, Access Services	97
Library Director	70	Head, Technical Services	97
Library Director	70	Assistant Library Director	97
Library Director	70	Head, Other	97
Head, Access Services	70	Head, Access Services	97
Librarian - Other	70	Librarian - Access Services	97
Head, Multiple	70	Librarian - Access Services	97
Library Director	70	Staff	97
Library Director	69	Assistant Library Director	97
Library Director	69	Librarian - Other	97
Assistant Library Director	69	Head, Collection Development	97
Head, Multiple	69	Head, Digital Library Services	97
Head, Reference & Instruction	69	Library Director	97
Librarian - Digital Library Services	69	Librarian - Information Technology	97
Library Director	69	Library Director	97
Head, Other	69	Librarian - Other	97
Library Director	69	Librarian - Other	97
Librarian - Reference & Instruction	69	Head, Multiple	96
Head, Technical Services	69	Librarian - Technical Services	96
Library Director	69	Head, Multiple	96
Library Director	69	Librarian - Reference & Instruction	96
Head, Reference & Instruction	69	Library Director	96
Librarian - Multiple	68	Librarian - Multiple	96
Assistant Library Director	68	Library Director	96
Assistant Library Director	68	Head, Reference & Instruction	96
Head, Access Services	68	Librarian - Technical Services	96
Librarian - Access Services	68	Librarian - Technical Services	96
Head, Other	68	Librarian - Digital Library Services	96
Head, Other	68	Librarian - Reference & Instruction	96

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Assistant Library Director	68	Librarian - Reference & Instruction	96
Assistant Library Director	68	Head, Other	96
Head, Information Technology	68	Head, Other	96
Librarian - Reference & Instruction	68	Librarian - Technical Services	96
Head, Other	68	Librarian - Reference & Instruction	96
Librarian - Technical Services	68	Librarian - Other	96
Head, Other	68	Librarian - Reference & Instruction	96
Head, Information Technology	67	Head, Reference & Instruction	95
Librarian - Information Technology	67	Library Director	95
Head, Technical Services	67	Head, Digital Library Services	95
Assistant Library Director	67	Assistant Library Director	95
Librarian - Multiple	67	Head, Technical Services	95
Library Director	67	Library Director	95
Head, Other	67	Library Director	95
Head, Digital Library Services	67	Library Director	95
Library Director	67	Librarian - Reference & Instruction	95
Head, Reference & Instruction	67	Library Director	95
Librarian - Technical Services	67	Head, Reference & Instruction	95
Librarian - Reference & Instruction	67	Librarian - Reference & Instruction	95
Librarian - Other	66	Librarian - Other	95
Head, Other	66	Head, Multiple	95
Head, Reference & Instruction	66	Head, Multiple	95
Head, Reference & Instruction	66	Head, Multiple	95
Head, Other	66	Librarian - Technical Services	95
Librarian - Reference & Instruction	66	Librarian - Reference & Instruction	95
Library Director	66	Head, Technical Services	95
Library Director	66	Head, Technical Services	95
Librarian - Access Services	66	Staff	95
Assistant Library Director	66	Staff	95
Head, Multiple	65	Library Director	94
Librarian - Technical Services	65	Assistant Library Director	94
Librarian - Access Services	65	Library Director	94

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Librarian - Other	65	Head, Other	94
Librarian - Reference & Instruction	65	Library Director	94
Library Director	65	Head, Other	94
Librarian - Reference & Instruction	64	Head, Other	94
Assistant Library Director	64	Librarian - Reference & Instruction	94
Library Director	64	Librarian - Technical Services	94
Library Director	64	Librarian - Reference & Instruction	94
Librarian - Access Services	64	Library Director	94
Librarian - Technical Services	64	Head, Technical Services	94
Librarian - Technical Services	64	Librarian - Administration	94
Librarian - Reference & Instruction	64	Librarian - Administration	94
Head, Information Technology	64	Librarian - Collection Development	94
Head, Reference & Instruction	64	Head, Technical Services	94
Assistant Library Director	64	Head, Access Services	94
Head, Technical Services	64	Librarian - Reference & Instruction	94
Assistant Library Director	64	Librarian - Collection Development	94
Assistant Library Director	64	Library Director	93
Library Director	64	Library Director	93
Library Director	64	Library Director	93
Library Director	64	Head, Access Services	93
Librarian - Access Services	64	Library Director	93
Head, Digital Library Services	64	Library Director	93
Library Director	63	Librarian - Other	93
Assistant Library Director	63	Head, Other	93
Library Director	63	Library Director	93
Librarian - Reference & Instruction	63	Head, Other	93
Librarian - Reference & Instruction	63	Head, Digital Library Services	93
Staff	63	Librarian - Access Services	93
Library Director	63	Head, Information Technology	93
Librarian - Multiple	63	Librarian - Multiple	93



Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Multiple	63	Librarian - Multiple	93
Head, Information Technology	63	Library Director	93
Librarian - Reference & Instruction	63	Staff	93
Head, Other	63	Head, Collection Development	93
Library Director	63	Librarian - Reference & Instruction	93
Library Director	63	Head, Collection Development	93
Library Director	63	Librarian - Outreach	93
Library Director	63	Library Director	92
Library Director	63	Library Director	92
Librarian - Collection Development	63	Librarian - Access Services	92
Head, Other	63	Head, Multiple	92
Assistant Library Director	63	Librarian - Reference & Instruction	92
Head, Digital Library Services	63	Librarian - Administration	92
Librarian - Reference & Instruction	63	Librarian - Technical Services	92
Head, Multiple	62	Library Director	92
Assistant Library Director	62	Staff	92
Librarian - Reference & Instruction	62	Librarian - Reference & Instruction	92
Librarian - Reference & Instruction	62	Librarian - Reference & Instruction	92
Head, Technical Services	62	Librarian - Reference & Instruction	92
Librarian - Technical Services	62	Head, Access Services	91
Head, Other	62	Library Director	91
Library Director	62	Head, Other	91
Librarian - Technical Services	62	Assistant Library Director	91
Library Director	62	Library Director	91
Library Director	61	Librarian - Reference & Instruction	91
Assistant Library Director	61	Assistant Library Director	91
Head, Reference & Instruction	61	Librarian - Access Services	91
Head, Collection Development	61	Librarian - Other	91
Library Director	61	Head, Reference & Instruction	91
Librarian - Multiple	61	Head, Information Technology	91
Librarian - Other	61	Librarian - Other	91

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Collection Development	61	Head, Other	91
Librarian - Other	61	Librarian - Collection Development	91
Librarian - Administration	61	Librarian - Other	91
Head, Other	61	Librarian - Reference & Instruction	91
Librarian - Technical Services	61	Library Director	90
Head, Collection Development	61	Library Director	90
Assistant Library Director	61	Library Director	90
Library Director	61	Assistant Library Director	90
Assistant Library Director	61	Library Director	90
Head, Reference & Instruction	60	Head, Multiple	90
Head, Multiple	60	Assistant Library Director	90
Librarian - Information Technology	60	Assistant Library Director	90
Head, Information Technology	60	Librarian - Reference & Instruction	90
Assistant Library Director	60	Librarian - Reference & Instruction	90
Head, Reference & Instruction	59	Head, Other	90
Librarian - Digital Library Services	59	Librarian - Multiple	90
Head, Multiple	59	Librarian - Other	90
Head, Multiple	59	Librarian - Technical Services	90
Head, Technical Services	59	Assistant Library Director	90
Librarian - Multiple	59	Head, Technical Services	90
Head, Technical Services	59	Librarian - Multiple	90
Assistant Library Director	59	Librarian - Access Services	90
Assistant Library Director	59	Staff	90
Library Director	59	Librarian - Multiple	90
Head, Reference & Instruction	59	Library Director	89
Librarian - Reference & Instruction	59	Library Director	89
Library Director	59	Librarian - Technical Services	89
Library Director	59	Library Director	89
Librarian - Reference & Instruction	59	Head, Technical Services	89
Head, Digital Library Services	58	Head, Information Technology	89
Librarian - Multiple	58	Librarian - Reference & Instruction	89

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Librarian - Technical Services	58	Library Director	89
Head, Access Services	58	Librarian - Reference & Instruction	89
Librarian - Other	58	Head, Other	89
Head, Other	58	Library Director	89
Librarian - Access Services	58	Head, Technical Services	89
Assistant Library Director	58	Librarian - Other	89
Head, Other	58	Librarian - Information Technology	89
Library Director	58	Head, Other	89
Librarian - Technical Services	57	Assistant Library Director	89
Head, Access Services	57	Head, Technical Services	89
Library Director	57	Assistant Library Director	88
Librarian - Technical Services	57	Librarian - Administration	88
Library Director	57	Head, Other	88
Staff	57	Library Director	88
Librarian - Other	57	Head, Reference & Instruction	88
Head, Multiple	57	Head, Multiple	88
Head, Reference & Instruction	57	Library Director	88
Head, Special Collections	57	Librarian - Technical Services	88
Librarian - Reference & Instruction	57	Librarian - Information Technology	88
Librarian - Access Services	57	Assistant Library Director	88
Librarian - Other	57	Assistant Library Director	88
Library Director	57	Library Director	88
Assistant Library Director	57	Assistant Library Director	88
Head, Access Services	57	Library Director	88
Head, Other	57	Librarian - Multiple	88
Librarian - Reference & Instruction	56	Librarian - Technical Services	88
Staff	56	Librarian - Reference & Instruction	88
Librarian - Reference & Instruction	56	Assistant Library Director	88
Librarian - Reference & Instruction	56	Librarian - Multiple	88
Head, Other	56	Librarian - Technical Services	88
Head, Collection Development	56	Librarian - Reference & Instruction	88
Librarian - Other	56	Library Director	87

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Librarian - Technical Services	56	Assistant Library Director	87
Librarian - Other	56	Librarian - Multiple	87
Library Director	56	Assistant Library Director	87
Assistant Library Director	56	Head, Other	87
Librarian - Reference & Instruction	56	Head, Other	87
Head, Technical Services	56	Assistant Library Director	87
Librarian - Technical Services	56	Librarian - Reference & Instruction	87
Head, Technical Services	55	Head, Reference & Instruction	87
Librarian - Administration	55	Head, Other	87
Librarian - Administration	55	Library Director	86
Librarian - Reference & Instruction	55	Assistant Library Director	86
Assistant Library Director	55	Head, Technical Services	86
Head, Other	55	Library Director	86
Head, Collection Development	55	Head, Multiple	86
Librarian - Access Services	55	Head, Technical Services	86
Librarian - Multiple	55	Librarian - Reference & Instruction	86
Librarian - Multiple	54	Librarian - Reference & Instruction	86
Head, Other	54	Librarian - Reference & Instruction	86
Librarian - Reference & Instruction	54	Librarian - Collection Development	86
Head, Other	54	Library Director	85
Librarian - Reference & Instruction	54	Library Director	85
Library Director	54	Head, Reference & Instruction	85
Librarian - Information Technology	54	Library Director	85
Library Director	54	Head, Multiple	85
Librarian - Multiple	54	Librarian - Multiple	85
Librarian - Multiple	54	Head, Other	85
Librarian - Other	54	Librarian - Other	85
Library Director	54	Library Director	85
Head, Multiple	54	Library Director	85
Librarian - Technical Services	53	Librarian - Reference & Instruction	85

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Reference & Instruction	53	Librarian - Technical Services	85
Librarian - Reference & Instruction	53	Staff	85
Staff	53	Head, Other	85
Librarian - Reference & Instruction	53	Library Director	84
Head, Technical Services	53	Library Director	84
Librarian - Multiple	53	Librarian - Reference & Instruction	84
Librarian - Access Services	53	Head, Access Services	84
Assistant Library Director	53	Head, Reference & Instruction	84
Head, Multiple	53	Head, Collection Development	84
Head, Other	53	Librarian - Access Services	84
Head, Other	53	Librarian - Other	84
Assistant Library Director	53	Librarian - Reference & Instruction	84
Librarian - Reference & Instruction	53	Head, Collection Development	84
Library Director	53	Head, Collection Development	84
Library Director	53	Librarian - Reference & Instruction	84
Librarian - Multiple	53	Library Director	84
Library Director	53	Librarian - Other	84
Librarian - Other	53	Librarian - Reference & Instruction	84
Librarian - Collection Development	52	Staff	84
Staff	52	Librarian - Access Services	84
Head, Other	52	Library Director	84
Assistant Library Director	52	Librarian - Other	83
Librarian - Technical Services	52	Other	83
Head, Technical Services	52	Head, Information Technology	83
Head, Other	52	Librarian - Reference & Instruction	83
Librarian - Collection Development	52	Library Director	83
Head, Reference & Instruction	52	Head, Other	83
Librarian - Technical Services	52	Head, Other	83
Assistant Library Director	52	Assistant Library Director	83
Library Director	52	Librarian - Multiple	83

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Access Services	52	Librarian - Collection Development	83
Head, Technical Services	51	Head, Collection Development	83
Head, Access Services	51	Assistant Library Director	83
Librarian - Reference & Instruction	51	Assistant Library Director	83
Head, Collection Development	51	Head, Collection Development	83
Head, Collection Development	51	Librarian - Reference & Instruction	83
Librarian - Technical Services	51	Librarian - Reference & Instruction	83
Library Director	51	Librarian - Multiple	83
Librarian - Technical Services	51	Head, Other	82
Head, Technical Services	51	Assistant Library Director	82
Librarian - Reference & Instruction	50	Library Director	82
Head, Other	50	Head, Special Collections	82
Librarian - Reference & Instruction	50	Librarian - Reference & Instruction	82
Librarian - Reference & Instruction	50	Librarian - Access Services	82
Librarian - Reference & Instruction	50	Head, Technical Services	82
Librarian - Other	50	Head, Multiple	82
Librarian - Reference & Instruction	50	Librarian - Other	82
Library Director	50	Librarian - Other	82
Librarian - Other	50	Librarian - Other	82
Librarian - Reference & Instruction	50	Library Director	82
Head, Reference & Instruction	50	Library Director	81
Librarian - Reference & Instruction	50	Library Director	81
Librarian - Technical Services	49	Librarian - Technical Services	81
Librarian - Reference & Instruction	49	Librarian - Reference & Instruction	81
Head, Multiple	49	Assistant Library Director	81
Assistant Library Director	49	Head, Technical Services	81
Head, Multiple	49	Head, Collection Development	81
Head, Reference & Instruction	49	Librarian - Other	81
Librarian - Access Services	49	Librarian - Multiple	81

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Technical Services	49	Staff	81
Librarian - Reference & Instruction	48	Librarian - Technical Services	81
Librarian - Reference & Instruction	48	Librarian - Other	81
Librarian - Information Technology	48	Librarian - Multiple	81
Library Director	48	Staff	81
Staff	48	Assistant Library Director	80
Librarian - Technical Services	48	Librarian - Technical Services	80
Librarian - Reference & Instruction	48	Library Director	80
Staff	47	Librarian - Other	80
Head, Other	47	Library Director	80
Librarian - Reference & Instruction	47	Librarian - Technical Services	80
Librarian - Other	47	Librarian - Reference & Instruction	80
Head, Access Services	47	Library Director	79
Librarian - Information Technology	46	Assistant Library Director	79
Librarian - Information Technology	46	Librarian - Technical Services	79
Librarian - Reference & Instruction	46	Head, Other	79
Head, Other	46	Head, Reference & Instruction	79
Librarian - Multiple	46	Library Director	79
Head, Reference & Instruction	46	Librarian - Reference & Instruction	79
Head, Collection Development	46	Head, Collection Development	79
Assistant Library Director	46	Librarian - Reference & Instruction	79
Head, Reference & Instruction	46	Head, Reference & Instruction	79
Librarian - Other	46	Librarian - Other	79
Head, Other	46	Librarian - Technical Services	79
Librarian - Other	46	Librarian - Multiple	79
Assistant Library Director	45	Librarian - Technical Services	79
Librarian - Other	45	Head, Information Technology	78
Librarian - Multiple	45	Library Director	78
Assistant Library Director	45	Library Director	78

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Librarian - Other	45	Assistant Library Director	78
Librarian - Reference & Instruction	44	Library Director	78
Librarian - Reference & Instruction	44	Head, Multiple	78
Librarian - Collection Development	44	Assistant Library Director	78
Library Director	44	Head, Reference & Instruction	78
Library Director	44	Librarian - Information Technology	78
Head, Collection Development	44	Librarian - Reference & Instruction	78
Head, Access Services	44	Library Director	77
Librarian - Reference & Instruction	44	Head, Technical Services	77
Head, Information Technology	44	Library Director	77
Librarian - Other	43	Library Director	77
Librarian - Reference & Instruction	43	Library Director	77
Head, Other	43	Librarian - Technical Services	77
Library Director	43	Head, Multiple	77
Head, Technical Services	43	Librarian - Other	77
Assistant Library Director	43	Head, Access Services	77
Librarian - Reference & Instruction	43	Librarian - Reference & Instruction	77
Head, Reference & Instruction	43	Head, Other	77
Librarian - Information Technology	43	Librarian - Other	77
Assistant Library Director	43	Head, Reference & Instruction	76
Librarian - Information Technology	43	Library Director	76
Librarian - Other	43	Library Director	76
Librarian - Reference & Instruction	42	Assistant Library Director	76
Head, Technical Services	42	Librarian - Technical Services	76
Head, Other	42	Librarian - Reference & Instruction	76
Librarian - Reference & Instruction	42	Head, Other	75
Head, Other	42	Head, Other	75



Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Collection Development	41	Library Director	75
Librarian - Reference & Instruction	41	Librarian - Access Services	75
Librarian - Technical Services	41	Librarian - Collection Development	75
Librarian - Other	41	Head, Other	75
Librarian - Reference & Instruction	41	Assistant Library Director	75
Librarian - Other	40	Head, Other	75
Librarian - Reference & Instruction	40	Librarian - Access Services	75
Librarian - Reference & Instruction	40	Head, Access Services	75
Librarian - Multiple	39	Library Director	75
Library Director	39	Head, Reference & Instruction	75
Librarian - Multiple	39	Staff	75
Librarian - Reference & Instruction	39	Head, Other	75
Librarian - Other	39	Librarian - Information Technology	75
Librarian - Reference & Instruction	39	Librarian - Technical Services	75
Librarian - Other	39	Head, Other	75
Librarian - Information Technology	39	Staff	75
Librarian - Reference & Instruction	38	Head, Advancement/Development	74
Librarian - Technical Services	38	Head, Digital Library Services	74
Staff	38	Librarian - Technical Services	74
Librarian - Other	38	Assistant Library Director	74
Staff	38	Librarian - Reference & Instruction	74
Librarian - Reference & Instruction	37	Library Director	74
Librarian - Technical Services	37	Librarian - Technical Services	74
Librarian - Reference & Instruction	37	Librarian - Other	74
Librarian - Multiple	37	Librarian - Multiple	74
Librarian - Other	37	Librarian - Other	74
Librarian - Multiple	37	Librarian - Reference & Instruction	74

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Librarian - Multiple	37	Librarian - Reference & Instruction	74
Librarian - Reference & Instruction	37	Library Director	74
Library Director	36	Library Director	73
Head, Other	36	Head, Other	73
Librarian - Technical Services	36	Head, Other	73
Head, Other	36	Librarian - Reference & Instruction	73
Librarian - Reference & Instruction	36	Staff	73
Librarian - Reference & Instruction	35	Librarian - Reference & Instruction	72
Librarian - Reference & Instruction	35	Assistant Library Director	72
Librarian - Other	35	Librarian - Multiple	72
Librarian - Multiple	35	Library Director	72
Librarian - Information Technology	35	Librarian - Technical Services	72
Librarian - Reference & Instruction	34	Assistant Library Director	72
Librarian - Reference & Instruction	34	Librarian - Reference & Instruction	72
Staff	34	Librarian - Multiple	72
Librarian - Reference & Instruction	34	Head, Reference & Instruction	72
Librarian - Reference & Instruction	34	Librarian - Access Services	72
Librarian - Multiple	34	Librarian - Reference & Instruction	72
Head, Other	34	Librarian - Reference & Instruction	72
Librarian - Other	33	Librarian - Reference & Instruction	72
Head, Collection Development	33	Library Director	71
Librarian - Reference & Instruction	33	Librarian - Reference & Instruction	71
Librarian - Reference & Instruction	33	Librarian - Reference & Instruction	71
Librarian - Reference & Instruction	32	Staff	71
Librarian - Other	32	Head, Digital Library Services	70

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Librarian - Access Services	32	Librarian - Technical Services	70
Librarian - Technical Services	31	Head, Technical Services	70
Librarian - Reference & Instruction	31	Librarian - Reference & Instruction	70
Librarian - Reference & Instruction	31	Librarian - Multiple	70
Librarian - Technical Services	30	Librarian - Multiple	70
Library Director	30	Head, Technical Services	70
Staff	30	Librarian - Reference & Instruction	70
Librarian - Other	29	Library Director	69
Staff	29	Head, Technical Services	69
Head, Other	29	Head, Information Technology	69
Librarian - Reference & Instruction	29	Assistant Library Director	68
Head, Technical Services	29	Librarian - Reference & Instruction	68
Librarian - Reference & Instruction	27	Librarian - Other	68
Librarian - Other	27	Head, Access Services	67
Librarian - Reference & Instruction	27	Head, Reference & Instruction	67
Librarian - Other	25	Head, Access Services	65
Librarian - Reference & Instruction	26	Librarian - Other	67
Staff	26	Librarian - Information Technology	66
Librarian - Other	24	Head, Information Technology	65
Librarian - Reference & Instruction	23	Librarian - Reference & Instruction	65
Librarian - Reference & Instruction	22	Librarian - Other	64
Librarian - Collection Development	21	Librarian - Other	64
Staff	21	Head, Other	63
Staff	21	Librarian - Other	63
Staff	20	Librarian - Reference & Instruction	62
Librarian - Outreach	20	Librarian - Reference & Instruction	62
Librarian - Multiple	20	Staff	61

Coded Library Position Title	Skill Composite Score	Coded Library Position Title	Quality Composite Score
Head, Information Technology	20	Librarian - Reference & Instruction	60
Librarian - Collection Development	19	Staff	60
Librarian - Multiple	18	Staff	59
Librarian - Technical Services	18	Library Director	54
Staff	18	Head, Other	51
Librarian - Technical Services	18	Library Director	50
Library Director	16	Librarian - Reference & Instruction	50
Librarian - Reference & Instruction	13	Librarian - Information Technology	50
Staff	12	Staff	43
Staff	12	Librarian - Multiple	42
Librarian - Reference & Instruction	9	Librarian - Technical Services	41
Staff	9	Staff	40
Librarian - Reference & Instruction	8	Librarian - Reference & Instruction	37
Librarian - Multiple	7	Assistant Library Director	0
Staff	4	Librarian - Other	0

APPENDIX E  
MANN-WHITNEY  $U$  STATISTIC AND SIGNIFICANCE FOR DEPARTMENTS PAIRWISE  
BY LEADERSHIP SKILL

## Appendix E

### Mann-Whitney $U$ Statistic and Significance for Departments Pairwise by Leadership Skill

Where a statistically significant relationship exists for a department pair, the stronger department is listed in the table. All comparisons were initially run at an  $\alpha$  of .05. Because the Holm-Bonferroni method of stepwise comparison generates a new  $\alpha$  level for each comparison, that new  $\alpha$  is indicated with an asterisk for all statistically significant pairwise comparisons.

Mann-Whitney *U* Statistic and Significance for Department Pair Allocating Resources Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	2225.000 .00000/ .00238* Admin.	183.000 .00006/ .00277* Coll. Dev.	155.000 .06205	390.000 .97511	3169.000 .60111	1273.5 .03554
Admin. (N=213)		1937.500 .73771	785.000 .12823	781.000 .00011/ .00312* Admin.	5084.000 .00000/ .0025* Admin.	4954.500 .00006/ .00294* Admin.
Collection Dev. (N=19)			70.000 .19620	63.500 .00223/ .00357* Collection Dev.	386.000 .00000/ .00263* Collection Dev.	440.000 .03504
Dig. Lib. Services (N=10)				51.000 .11594	383.000 .01761	301.000 .59769
IT (N=16)					1050.000 .81387	421.000 .19401
Ref. & Instruction (N=136)						3317.000 .00124/ .00333* Tech. Services

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Budget Management Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	1515.500 .00000/ .00238* Admin.	167.500 .00003/ .00294* Coll. Dev.	138.500 .02624	334.500 .36594	3334.500 .88203	1012.500 .00033/ .003571* Tech. Svcs.
Admin. (N=213)		2019.000 .98633	675.000 .03696	746.500 .00007/ .00312* Admin.	3805.000 .00000/ .0025* Admin.	4959.000 .00008/ .00333* Admin.
Collection Dev. (N=19)			63.500 .13029	76.000 .0952	440.000 .00000/ .00263* Coll. Dev.	464.500 .06586
Dig. Lib. Services (N=10)				57.500 .22542	369.000 .01092	332.000 .96287
IT (N=16)					911.000 .23544	414.500 .15175
Ref. & Instruction (N=136)						2758.5 .00000/ .00277* Tech. Svc

\*Significance as determined by the Holm-Bonferroni step-down method



Mann-Whitney *U* Statistic and Significance for Department Pair Building Community Partnerships Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	3354.500 .00005 .00263* Admin.	459.000 .92722	198.000 .32813	298.000 .14142	2783.000 .069	1481.000 .35480
Admin. (N=213)		1297.000 .00702	823.000 .20527	639.000 .00001/ .0025* Admin.	11787.000 .00167/ .00294* Admin.	3638.000 .00000/ .00238* Admin.
Collection Dev. (N=19)			77.500 .40625	110.500 .15555	1091.500 .24211	566.000 .44802
Dig. Lib. Services (N=10)				41.000 .03100	681.000 .97469	225.500 .08588
IT (N=16)					629.000 .00422	439.500 .24834
Ref. & Instruction (N=136)						3303.000 .00085 .00277* Ref. & Instr.

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Building Teamwork Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	4352.000 .04970	306.500 .02387	144.000 .02927	188.500 .00125/ .00312* Access Services	2838.500 .07175	1488.000 .36571
Admin. (N=213)		1019.000 .00011/ .00277* Admin.	792.000 .13334	520.000 .00000/ .00238* Admin.	9867.000 .00000/ .0025* Admin.	5221.500 .00037/ .00294* Admin.
Collection Dev. (N=19)			30.500 .00206/ .00357* Digital Lib. Services	138.500 .64074	1050.000 .13385	450.500 .04345
Dig. Lib. Services (N=10)				7.500 .00008 .00263* Dig. Lib. Services	303.500 .00202/ .00333* Digital Lib. Services	159.000 .00477
IT (N=16)					726.000 .01844	286.500 .00251/ .00384* Tech. Services
Ref. & Instruction (N=136)						4240.500 .27953

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Business Ethics Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instr.	Tech. Services
Access Services (N=49)	5092.500 .78463	449.500 .82039	215.000 .53087	273.000 .06179	2387.000 .00217/ .0025* Access Services	1391.500 .23468
Admin. (N=213)		1898.000 .64201	904.500 .40320	1111.000 .01611	9562.5 .00000/ .00238* Admin.	5879.500 .05660
Collection Dev. (N=19)			85.500 .65015	105.500 .10966	908.500 .02917	555.000 .48829
Dig. Lib. Services (N=10)				64.500 .39856	544.500 .26778	324.500 .99355
IT (N=16)					1057.000 .81150	417.000 .20546
Ref. & Instr (N=136)						3524.000 .01410

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Community Relations Skill Score

	Access Services	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)		4278.000 .04197	396.000 .32975	210.500 .47359	282.000 .08559	3226.500 .57487	1214.500 .01337
Admin. (N=213)			1293.000 .00698	700.500 .05817	859.500 .00063/ .00263* Admin.	12783.000 .02539	3720.500 .00000/ .00238* Admin.
Collection Dev. (N=19)				93.000 .92426	125.500 .36558	1044.000 .12906	576.500 .51252
Dig. Lib. Services (N=10)					559.500 .29112	66.000 .44733	295.500 .52856
IT (N=16)						715.000 .01655	497.000 .63862
Ref. & Instruction (N=136)							3167.500 .00013/ .0025* Ref. & Instr.

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Communicating Expectations Skill Score

	Admin.	Collectn. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	4769.500 .36248	330.000 .04797	216.500 .53391	219.000 .00546	2356.500 .00130/ .00263* Access Services	1400.500 .14710
Admin. (N=213)		1272.000 .00453	1017.500 .83723	825.000 .00026/ .0025* Admin.	9119.500 .00000/ .00238* Admin.	5475.500 .00279
Collection Dev. (N=19)			56.500 .05834	135.000 .55791	1279.500 .90172	533.500 .24824
Dig. Lib. Services (N=10)				35.000 .01348	397.000 .02165	244.000 .13519
IT (N=16)					921.000 .28076	365.000 .03561
Ref. & Instruction (N=136)						3824.500 .04368

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Compliance Issues Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Technical Services
Access Services (N=49)	5002.000 .84883	233.500 .00148/ .00294* Access Services	226.500 .77375	331.500 .39917	2061.000 .00012/ .0025* Access Services	1202.500 .01832
Admin. (N=213)		1022.500 .00022/ .00263* Admin.	1025.500 .85593	1488.500 .39420	9032.000 .00000/ .00238* Admin.	5310.000 .00127/ .00277* Admin.
Collection Dev. (N=19)			52.500 .04281	89.500 .03247	1068.000 .22277	474.000 .08175
Dig. Lib. Services (N=10)				73.000 .69907	458.500 .08102	269.500 .30787
IT (N=16)					789.500 .06954	457.000 .34804
Ref. & Instruction (N=136)						4099.000 .26400

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Computer Technology Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	4211.500 .02736	377.500 .20996	87.500 .00071/ .00294* Dig. Lib. Services	129.500 .00002/ .00238* IT	3185.500 .52867	1078.000 .00094/ .00312* Tech. Services
Admin. (N=213)		1343.500 .01000	592.500 .01052	898.500 .00062/ .00277* IT	12903.500 .04669	5949.500 .04457
Collection Dev. (N=19)			34.500 .00267/ .00357* Dig. Lib. Services	52.500 .00019/ .00263* IT	1022.500 .10398	375.000 .00279 .00384* Tech. Services
Dig. Lib. Services (N=10)				77.000 .73211	332.000 .00373*/ .00416 Digital Lib. Services	247.000 .11570
IT (N=16)					503.000 .00015/ .0025* IT	379.000 .02740
Ref. & Instruction (N=136)						3450.000 .00259/ .00333* Tech. Services

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Conflict Resolution Skill Score

	Access Services	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)		4447.000 .15572	347.000 .11637	194.000 .32531	240.000 .02104	2523.000 .01078	1545.000 .71069
Admin. (N=213)			1269.500 .00542	1002.000 .76002	830.500 .00040/ .0025* Admin.	9164.500 .00000/ .00238* Admin.	5890.000 .02809
Collection Dev. (N=19)				52.000 .03876	132.000 .49018	1300.500 .95306	498.500 .13525
Dig. Lib. Services (N=10)					31.000 .00730	371.000 .01117	257.000 .21526
IT (N=16)						942.500 .31897	348.500 .02451
Ref. & Instruction (N=136)							3640.500 .01054

\*Significant as determined by the Holm-Bonferroni step-down method



Mann-Whitney *U* Statistic and Significance for Department Pair Cultural Diversity Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	4915.000 .92250	270.500 .01009	127.000 .01887	175.500 .00118/ .00263* Access Services	2620.500 .05061	1120.500 .01008
Admin. (N=213)		1199.000 .00270 .00294* Admin.	565.500 .01024	737.500 .00011/ .00238* Admin.	11738.000 .00225/ .00277* Admin.	4950.500 .00026/ .0025* Admin.
Collection Dev. (N=19)			93.000 .92291	123.000 .31881	1036.500 .13953	559.000 .45961
Dig. Lib. Services (N=10)				58.500 .23066	526.000 .20757	295.500 .58340
IT (N=16)					689.500 .01278	387.500 .08862
Ref. & Instruction (N=136)						4078.500 .24650

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Decision-making Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Technical Services
Access Services (N=49)	3626.000 .00013/ .0025* Admin.	415.500 .54052	165.000 .08786	342.000 .47975	2778.000 .08121	1419.000 .23750
Admin. (N=213)		1549.000 .03382	1014.000 .78223	1300.000 .04700	7883.000 .00000/ .00238* Admin.	5691.500 .00268/ .00277* Admin.
Collection Dev. (N=19)			70.500 .19281	148.500 .89766	954.500 .04426	611.000 .76636
Dig. Lib. Services (N=10)				59.000 .19776	358.000 .00786	258.500 .18647
IT (N=16)					763.000 .03424	522.500 .86110
Ref. & Instruction (N=136)						3225.000 .00020/ .00263* Tech. Services

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Enforcing Policies and Procedures Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	4976.000 .79555	278.500 .01882	192.500 .29238	204.000 .00316	2141.000 .00011 .0025* Access Services	1275.500 .06000
Admin. (N=213)		1232.500 .00693	857.500 .26667	902.000 .00074/ .00263* Admin.	9489.500 .00000/ .00238* Admin.	5723.500 .01597
Collection Dev. (N=19)			73.000 .39199	122.000 .43144	1246.000 .97708	494.000 .25227
Dig. Lib. Services (N=10)				53.000 .13989	559.500 .28331	328.000 .97412
IT (N=16)					943.500 .30225	370.000 .05325
Ref. & Instruction (N=136)						3805.500 .03985

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Faculty and Staff Development Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Technical Services
Access Services (N=49)	3249.500 .00001/ .00263* Admin.	353.000 .10965	149.500 .04516	370.500 .73334	3151.000 .46606	1511.500 .53792
Admin. (N=213)		846.000 .00001/ .00277* Admin	1020.000 .82904	989.500 .00294	10445.500 .00000/ .00238* Admin.	4081.500 .00000/ .0025* Admin.
Collection Dev. (N=19)			39.000 .00759	119.500 .26125	915.000 .02825	511.500 .20951
Dig. Lib. Services (N=10)				44.500 .04699	479.000 .09679	187.500 .02423
IT (N=16)					957.500 .37117	528.000 1.00000
Ref. & Instruction (N=136)						3966.000 .12502

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Facilities Planning Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	2961.500 .00000/ .00238* Admin.	204.500 .00022/ .00294* Access Services	219.500 .59444	361.000 .62525	2540.500 .00749	1348.000 .08959
Admin. (N=213)		227.000 .00000/ .0025* Admin.	453.500 .00144/ .00357* Admin.	880.500 .00083/ .00312* Admin.	5229.000 .00000/ .00263* Admin.	2773.000 .00000/ .00277* Admin.
Collection Dev. (N=19)			33.000 .00230/ .00384* Dig. Lib. Services	85.500 .01907	844.000 .00839	337.500 .00115/ .00333* Technical Services
Dig. Lib. Services (N=10)				76.500 .84857	526.500 .19137	300.500 .58399
IT (N=16)					958.000 .36788	501.000 .67529
Ref. & Instruction (N=136)						4141.000 .20724

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Fundraising/Donor Relations Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	2406.000 .00000/ .00238* Admin.	389.000 .22757	143.500 .01939	321.000 .21185	3378.000 .99126	1511.000 .39913
Admin. (N=213)		1269.000 .00547	865.000 .30636	1070.000 .01045	7098.000 .00000/ .0025* Admin.	3981.000 .00000/ .00263* Admin.
Collection Dev. (N=19)			74.000 .30075	150.500 .95661	1108.500 .20019	587.000 .56055
Dig. Lib. Services (N=10)				62.500 .32324	420.500 .01614	233.500 .08598
IT (N=16)					916.000 .19067	487.500 .52763
Ref. & Instruction (N=136)						4279.500 .31225

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Legal Issues Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	3968.500 .00713	365.500 .15085	176.000 .14230	346.000 .46512	2619.000 .01236	1537.000 .53911
Admin. (N=213)		1125.000 .00086/ .00263* Admin.	1048.000 .94937	1518.000 .46306	7740.000 .00000/ .00238* Admin.	4954.000 .00010/ .0025* Admin.
Collection Dev. (N=19)			48.000 .02257	103.000 .08878	1300.500 .95134	537.500 .27633
Dig. Lib. Services (N=10)				70.000 .58077	336.000 .00365	219.000 .06368
IT (N=16)					721.000 .01509	438.000 .23593
Ref. & Instruction (N=136)						3883.000 .04691

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Managing Change Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	3759.500 .00140/ .00263* Admin.	454.500 .87448	95.000 .00145/ .00277* Dig. Lib. Services	350.500 .50538	2908.000 .14729	1441.000 .23868
Admin. (N=213)		1413.500 .02199	697.500 .05008	1382.000 .18778	8768.500 .00000/ .00238* Admin.	6016.500 .04496
Collection Dev. (N=19)			35.000 .00362	131.500 .47355	1143.000 .36894	543.000 .30683
Dig. Lib. Services (N=10)				36.500 .01370	200.500 .00010/ .0025* Dig. Lib. Services	170.500 .00834
IT (N=16)					826.500 .09306	522.500 .86940
Ref. & Instruction (N=136)						3458.500 .00290/ .00294* Technical Services

\*Significant as determined by the Holm-Bonferroni step-down method



Mann-Whitney *U* Statistic and Significance for Department Pair Problem Solving Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Technical Services
Access Services (N=49)	4039.500 .01221	379.500 .24481	167.000 .10036	252.000 .02356	3181.500 .60558	1441.000 .29820
Admin. (N=213)		1959.000 .84802	951.000 .53654	1444.000 .25615	10784.000 .00000/ .00238* Admin.	6447.000 .20970
Collection Dev. (N=19)			84.000 .54761	128.000 .32998	1024.500 .08632	596.000 .63415
Dig. Lib. Services (N=10)				76.000 .78393	434.000 .03123	274.000 .29500
IT (N=16)					648.000 .00296	416.000 .11252
Ref. & Instruction (N=136)						3914.000 .04467

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Program Evaluation Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Technical Services
Access Services (N=49)	3984.500 .01046	434.500 .66119	192.500 .26784	362.000 .63657	2990.500 .24198	1302.000 .08607
Admin. (N=213)		1708.500 .28097	1036.000 .94071	1174.500 .03679	12841.500 .07944	3990.500 .00000/ .00238* Admin.
Collection Dev. (N=19)			86.500 .68259	134.000 .53981	1255.500 .79695	490.500 .16194
Dig. Lib. Services (N=10)				57.500 .21719	630.500 .66413	191.000 .03088
IT (N=16)					905.000 .24005	472.000 .55630
Ref. & Instruction (N=136)						3225.000 .00114/ .0025* Reference & Instr.

\*Significant at the  $\alpha \leq .002$  level

Mann-Whitney *U* Statistic and Significance for Department Pair School Safety Issues Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	4706.500 .44640	224.000 .00048/ .00294* Access Services	143.500 .03146	201.500 .00227/ .00333* Access Services	2348.500 .00068/ .00312* Access Services	1110.000 .00347/ .00357* Access Services
Admin. (N=213)		776.000 .00001/ .00263* Admin.	523.000 .00642	708.500 .00008/ .00277* Admin.	8735.500 .00000/ .00238* Admin.	4128.000 .00000/ .0025* Admin.
Collection Dev. (N=19)			88.000 .68208	144.500 .75321	983.000 .05055	433.000 .02883
Dig. Lib. Services (N=10)				77.500 .87121	583.500 .37105	264.000 .29818
IT (N=16)					878.000 .13966	389.500 .08779
Ref. & Instruction (N=136)						4339.000 .68291

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Strategic Planning Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	2912.000 .00000/ .00238* Admin	428.500 .59830	76.000 .00041/ .00333* Dig. Lib. Services	375.000 .78816	3305.000 .80960	1573.000 .79682
Admin. (N=213)		930.000 .00004/ .00277* Admin.	756.000 .10440	976.000 .00284/ .00416* Admin.	8200.000 .00000 .0025* Admin.	4194.000 .00000/ .00263* Admin.
Collection Dev. (N=19)			18.000 .00022/ .00294* Dig. Lib. Services	134.000 .53030	1243.000 .70536	563.000 .48318
Dig. Lib. Services (N=10)				25.500 .00269/ .00384* Dig. Lib. Services	229.000 .00029/ .00312* Dig. Lib. Services	119.500 .00086/ .00357* Dig. Lib. Services
IT (N=16)					1027.000 .63807	519.500 .91796
Ref. & Instruction (N=136)						4330.000 .55805

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Student-Focused Learning Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Technical Services
Access Services (N=49)	3734.000 .00309/ .00384* Admin.	353.000 .14231	230.500 .84118	211.500 .00605	1840.000 .00000/ .00238* Ref. & Instruction	1283.500 .09960
Admin. (N=213)		969.500 .00012/ .00333* Admin.	731.000 .08756	435.000 .00000/ .0025* Admin.	11264.000 .00024/ .00357* Ref. & Instruction	3628.500 .00000/ .00263* Admin.
Collection Dev. (N=19)			74.500 .33022	112.500 .16946	462.000 .00000/ .00277* Ref. & Instruction	588.000 .74446
Dig. Lib. Services (N=10)				43.500 .04398	344.000 .00558	270.000 .37726
IT (N=16)					209.000 .00000/ .00294* Ref. & Instruction	359.500 .04795
Ref. & Instruction (N=136)						1766.000 .00000/ .00312* Ref. & Instruction

\*Significant as determined by the Holm-Bonferroni step-down method

Mann-Whitney *U* Statistic and Significance for Department Pair Vision Articulation Skill Score

	Admin.	Coll. Dev.	Digital Library Services	IT	Ref. & Instruction	Tech. Services
Access Services (N=49)	3342.500 .00008/ .00263* Admin.	388.500 .44171	122.000 .01043	387.500 .94365	3105.500 .46952	1549.500 .69345
Admin. (N=213)		949.000 .00027/ .00277* Admin.	865.000 .33522	1054.000 .01003	10188.000 .00000/ .00238* Admin.	4091.000 .00000/ .0025* Admin.
Collection Dev. (N=19)			31.500 .00313	127.500 .55231	1022.000 .24224	554.000 .64948
Dig. Lib. Services (N=10)				36.500 .01795	376.000 .01552	143.000 .00296
IT (N=16)					1020.500 .67706	502.500 .75757
Ref. & Instruction (N=136)						4023.500 .21996

\*Significant as determined by the Holm-Bonferroni step-down method

## VITA

Colleen Susan Harris-Keith was born in Bay Shore, New York. After graduating from Brentwood High School, she attended Centre College where she completed Bachelor degrees in International Relations and Economics. From 2011 through 2003, she studied Political Science at Emory University on a full fellowship. In 2006, she completed the Master's degree in Library and Information Science at the University of Kentucky, and in 2009 she completed the Master of Fine Arts in Writing degree at Spalding University, with a focus in poetry. In May 2015, Colleen completed her Ed.D. in Learning and Leadership at the University of Tennessee at Chattanooga. She has worked in academic libraries for 10 years, specializing in academic library management, information literacy instruction, women poets, and mythology. Her work has appeared as book chapters published by Neal-Schuman and ALA Editions, and in such refereed journals as *The Bottom Line: Managing Library Finances*, *Journal of Access Services*, *Library Journal*, and *Library Review*, among others. She has served in Access Services and Reference and Instruction departments at the University of Kentucky, North Carolina State University, and University of Tennessee at Chattanooga. Since July 2014, Colleen has been employed on the library faculty as Information Literacy Coordinator at California State University Channel Islands. Colleen recently began study for the Ph.D. in Mythological Studies at the Pacifica Graduate Institute in Carpinteria, California.