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The Academic Library and High-Impact Practices for Student Retention: Perspectives of Library Deans

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THE ACADEMIC LIBRARY AND HIGH-IMPACT PRACTICES FOR STUDENT
RETENTION: PERSPECTIVES OF LIBRARY DEANS

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By
Adam L. Murray

May 2014

THE ACADEMIC LIBRARY AND HIGH-IMPACT PRACTICES FOR STUDENT
RETENTION: PERSPECTIVES OF LIBRARY DEANS

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Dean, Graduate Studies and Research   Date

I dedicate this dissertation to my wife Lilia, whose love and support carried me through this long process. I also dedicate this dissertation to my parents, for their gift of both roots and wings. And to Tristan, who was born when I first started this path – you inspire everything that I do.

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In the dedication, I thanked my parents for the gift of roots and wings. The full quote from which that dedication was drawn is "there are only two lasting bequests we can hope to give our children. One is roots; the other, wings," attributed to Hodding Carter, Jr. This quote has adorned my parents' refrigerator for more years than I can count, and it still holds true. Thank you Phill and Charlette Murray for these gifts.

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RETENTION: PERSPECTIVES OF LIBRARY DEANS

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Dramatic declines in state appropriations for postsecondary education, the rise of performance-based funding models, and limitations on tuition increases have resulted in a focus on student retention as a matter of importance to institutions of higher education. Concomitantly, academic libraries face changes in service models brought about by technology and the rising costs of providing access to an ever-expanding field of literature required by academic programs and faculty. The value proposition of the academic library is reduced in the face of budget interests that impact recruitment and retention. Many researchers and university leaders have called on academic libraries to develop new methods of demonstrating value that do not rely on traditional measures of library use. Because this represents a departure from long-standing methods of documenting the success of the academic library's mission, a gap exists in the literature on how best to go about this shift in assessment.

Numerous studies on retention have highlighted the role of student engagement in influencing students' withdrawal decisions. Data gathered through the National Survey of Student Engagement have validated 10 practices that have a "high impact" on student engagement and student retention. This study seeks to address the gap in the literature on the role played by academic libraries in affecting student retention by examining the perception of academic library deans/directors on the alignment between library services and resources with the 10 high-impact practices (HIPs). This exploratory study used a

survey distributed to the academic library deans/directors of the public master's level universities in the United States.

A positive correlation was found between library instruction, library facilities, and library collections with each of the HIPs and consistent library support practices for each HIP. This study also found a reliance on information literacy assessment and user satisfaction to document library impact on retention. However, a large number of responding libraries reported no methods used for either the documentation or communication of library impact on retention. This study concluded that academic libraries demonstrated a high level of perceived alignment with the HIPs, yet an overall lack of methods to directly document library impact on retention.

CHAPTER I: INTRODUCTION

While enrollment in institutions of higher education has risen steadily over the last decade, a significant number of students do not complete a baccalaureate degree (Whalen, 2013). The Consortium for Student Retention Data Exchange (CSRDE) reported a national first-year departure average of 18.9% over a 10-year range, with the majority of first-year students withdrawing during or following the spring semester. In addition, the 2013 report from CSRDE indicated that an additional 17% of undergraduate students depart without graduating during the second year and beyond. For institutions categorized at the public master's level in the Carnegie classification, the departure rate for first-year freshmen is higher than the national average at 23.6% (Whalen, 2013).

Considerable cost is associated with these dropout rates financially, socially, and emotionally (McGivney, 2004). Student dropout represents a loss of revenue for institutions of higher education, as well as for the businesses that support students enrolled in an institution. Students themselves still have to pay back student loans, regardless of their lack of completion; students who withdraw also may feel a sense of failure, which may hamper their return to postsecondary education (McGivney, 2004). Many benefits are associated with degree completion, both for the individual and society. Students without a degree are not likely to earn as much over a lifetime as those who complete a degree (McLeod & Young, 2005; Seidman, 2005). Social benefits include an increased likelihood of civic engagement and higher levels of health by degree completers, along with a decreased likelihood of prison sentences (McLeod & Young, 2005).

Institutions of higher education are increasingly judged based on a number of

performance indicators, high among them retention rates. Between the lost potential

revenue resulting from student dropout and performance-based funding that may provide

large retention-related incentives to postsecondary institutions, as well as scrutiny of

student persistence by accrediting agencies and governing bodies, student retention has

become an issue of increasing criticality for institutions of higher education (Bailey,

2006; Barefoot, 2004). Attempts to understand the causes of student withdrawal have

resulted in a large field of studies dominated by two paradigmatic models of student

retention. Student engagement has been established as a concept with associated high-

impact practices, which colleges and universities can implement to, not only improve

student retention rates, but also overall student intellectual development (Kuh, 2008a;

Kuh, O'Donnell, & Reed, 2013). These high-impact practices (HIPs) require significant

time and energy of students, which often takes place outside of the formal classroom

environment. Academic libraries, with a shifting focus on providing an atmosphere

accommodating different academic needs, can provide an informal academic

environment, which may foster student engagement in HIPs (Bean, 2003; Kuh &

Gonyea, 2003).

Just as institutions of higher education are being held increasingly accountable for

various indicators of student success, academic libraries are under pressure to restructure

their assessment methods in order to demonstrate more clearly the value they provide to

institutions of higher education (Oakleaf, 2010). Traditional measures of library quality,

such as the number of books held, the number of journals subscribed to, and the amount

of use of library resources, are declining as value propositions to university

administrators (Lynch et al., 2007; Weiner, 2005). Academic librarians find that they

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seek methods of demonstrating the value of academic libraries in meeting institutional priorities in such areas as enrollment and retention, but are without an extant body of literature or well-established methodologies for conducting such research. This study contributes to this growing field of research by examining the perspectives of academic library deans/directors on the alignment of academic libraries with high-impact practices, which can positively impact student retention.

Statement of the Problem

The reasons for student withdrawal are complex, making it unlikely that any single support unit will be solely responsible for a student's decision to remain or withdraw from a college program (Hagel, Horn, Owen, & Currie, 2012). However, this makes collaboration across academic and social support services that much more critical in order to develop a seamlessness of support. Blackburn (2010) drew attention to the overall lack of scholarly discourse on the topic of student retention within academic libraries. This absence in the record of research – and the increased need for academic libraries to demonstrate impact on university priorities such as retention – can leave academic librarians and directors floundering when attempting to convey impact or value to university administrators. Likewise, the lack of practical applications to be garnered through general retention research can leave academic librarians and directors struggling to find effective and meaningful venues for retention-related efforts (Tinto & Pusser, 2006). This study addresses the perceptions of academic library deans/directors on the role their units can serve in student retention through social and academic engagement fostered through Kuh's (2008a) high-impact practices. It also lays the groundwork for future study into best practices for communicating the potential impact of academic

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libraries on student retention to university administrators, such as chief academic officers and presidents.

Purpose of the Study

Presidents and provosts have joined Oakleaf (2010), Emmons and Wilkinson (2011), and others in noting that traditional measures of academic library success are outdated (Lynch et al., 2007). These university administrators also have indicated that anecdotal and qualitative input from faculty and students is as important as, or more important than, quantitative assessments, particularly quantitative comparisons to libraries at other institutions. Despite their expectation that academic library directors relate funding requests to impacting student enrollment, retention, or learning, no clear direction seems to be present for doing so that university administrators find acceptable (Lynch et al., 2007). Various stakeholders in higher education expect different measures of value from university administrators; aligning library metrics with these measures of value will resonate with university administrators (Oakleaf, 2010).

Librarians working in transformed academic libraries are eager to engage in initiatives supporting university priorities, even those that do not directly involve the library (Simmons-Welburn, Donovan, & Bender, 2008). "This represents a significant turn from the time-honored practice of measuring success against peer libraries, in favor of judging ourselves by how libraries help their institutions succeed" (Simmons-Welburn et al., 2008, p. 132). Academic library directors and librarians seeking methods of impact on student retention will find little help in the body of scholarly study. While many of the high-impact practices outlined by Kuh (2008a) traditionally fall to Academic Affairs for implementation, as do academic libraries, retention initiatives are generally under the

perview of Student Affairs units within universities. This organizational division may cause difficulty for academic librarians seeking either to provide traditional and non-traditional library services designed to assist in retention initiatives, or to engage in partnership opportunties for developing new high-impact library services.

The purpose of this exploratory study is to better understand the perspective of academic library deans/directors on the role of academic libraries in student retention. Given that university administrators are expected to demonstrate the effectiveness of higher education to a variety of stakeholders, the guiding research question for this study is: How do academic library deans/directors view their modern academic library in light of high-impact practices affecting student retention?

Research Questions

This exploratory study asks three questions:

1. To what extent do academic library deans/directors perceive their academic library's current services and resources as aligning with high-impact practices affecting student retention?

2. How do academic library deans/directors document and communicate the impact of library services and resources on student retention?

3. Is there a correlation between retention data and academic library deans/directors' perception of their library's involvement with high-impact practices?

Significance of the Study

Lynch et al. (2007) noted a lack of clear direction from university administrators on how academic libraries could best communicate their impact on university initiatives such as retention efforts. While Oakleaf's (2010) report provided areas of study in the field of library value and suggested measures, and while there have been a limited number of studies conducted on the impact of academic libraries on student retention, a clear understanding does not exist of how academic librarians and library dean/directors can communicate such findings internally to university administrators responsible for funding decisions. While the HIPs are accepted practices for improving student engagement (and thereby student retention) (Kuh, 2008a), the deliberate alignment of library services with high-impact practices has not been specifically addressed in the literature.

This study seeks to identify how academic library deans/directors purposefully consider high-impact practices in the delivery of library resources and services, and how library involvement with, or impact on, retention initiatives are reported to university administrators, such as chief academic officers. An understanding of how academic library deans/directors document and communicate the impact of library services on student retention sets the stage for future study on how different university administrators would prefer academic library deans/directors gather and communicate such data as well as the impact such data collection and sharing may have on funding and personnel decisions. Ultimately, an increased awareness by both academic library deans/directors and university administrators on the actions colleges and universities can implement to improve, not simply student retention, but also intellectual development can be realized

through this study and follow-up studies.

Definition of Terms

At-risk refers to students who, because of their particular characteristics, are much more likely to drop out of higher education.

Attrition refers to "students who fail to reenroll at an institution in consecutive semesters" (Berger & Lyon, 2005, p. 7).

Dismissal refers to a "student who is not permitted by the institution to continue enrollment" (Berger & Lyon, 2005, p. 7).

Dropout refers to a "student whose initial educational goal was to complete at least a bachelor's degree but who did not complete it" (Berger & Lyon, 2005, p. 7).

First-generation student refers to a college or university student from a family in which no parent or guardian has earned a bachelor's degree (Pike & Kuh, 2005).

High-impact practices refers to a "set of ten educationally effective practices that research suggests increase rates of student retention and student engagement" (Kuh, 2008a, p. 9).

Mortality refers to the "failure of students to remain in college until graduation" (Berger & Lyon, 2005, p. 7).

Non-traditional student refers to a "student who: is older than 24, or does not live in a campus residence (e.g. is a commuter), or is a part-time student, or some combination of these factors; is not greatly influenced by the social environment of the institution; and is chiefly concerned with the institution's academic offerings (especially courses, certifications, and degrees)" (Bean & Metzner, 1985, p. 489).

Persistence refers to "the desire and action of a student to stay within the system

of higher education from beginning year through degree completion" (Berger & Lyon, 2005, p. 7).

Retention refers to the "ability of an institution to retain a student from admission to the university through graduation" (Berger & Lyon, 2005, p. 7). According to Ashby (2004), retention is defined as "a measure of the percentage of students who gained a course credit or an award based on the number who registered for a course or an award" (p. 66).

Second-generation college student refers to students whose parents or guardians earned at least one baccalaureate degree (Pike & Kuh, 2005).

Stopout refers to a "student who temporarily withdraws from an institution or system" (Berger & Lyon, 2005, p. 7).

Student engagement refers to a "level of investment in higher education in which students spend significant time and energy on educationally purposeful activities" (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008, p. 542). Numerous studies demonstrate an empirical correlation between student engagement and student retention.

Withdrawal refers to the "departure of a student from a college or university campus" (Berger & Lyon, 2005, p. 7).

Scope of the Study

The population under study is academic library deans/directors at the 271 public comprehensive universities in the United States with a Carnegie classification of master's level as of January 2013.

Conceptual Framework

The majority of studies on student retention reaffirm that the factors influencing a

student's decision to depart from a course of study are complex, despite whether any given study on student retention is grounded in Tinto's (1975) model of student integration or Bean's (1980) model of student motivation. Many, if not most, of these factors are outside of the control of higher education institutions; however, studies emphasizing practical action by higher education institutions advocate maximizing the social and academic environment of institutions to nurture student persistence (Tinto & Pusser, 2006). One concept related to this practical focus is student engagement, which is defined as the level of investment in higher education in which students spend significant time and energy on educationally purposeful activities (Kuh et al., 2008, p. 542). High levels of engagement have been linked in study after study with positive impacts on student retention (Hughes, 2007; Kuh, 2008a; Pascarella & Blaich, 2013). As an action-oriented concept, institutions of higher education can foster specific educational practices in order to improve student engagement, with a reasonable expectation of a concomitant improvement in student retention. These specific educational practices have consistently yielded anticipated and desired student learning outcomes over decades of study, and have been validated nationally by the National Survey of Student Engagement (NSSE) (Brownell & Swaner, 2010; Kuh, 2008a; Kuh et al., 2013). Data from the NSSE provide evidence of the effectiveness of ten high-impact practices at increasing student engagement; these HIPs likewise have a demonstrated positive impact on persistence. The 10 HIPs have been adopted by the American Association of Colleges and Universities' (AAC&U) *Liberal Education and America's Promise* (LEAP) program and serve as the conceptual framework of this study on academic libraries and the roles they play in student retention.

The 10 HIPs are as follows: first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity and global learning, service learning and community-based learning, internships, and capstone courses and projects (Kuh, 2008a). A brief description of each HIP is provided below.

First-year seminars and experiences. These experiences are organized around the concept of bringing small numbers of freshmen together with faculty and staff on a regular and structured basis. According to Kuh (2008a), the "highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies" (p. 9).

Common intellectual experiences. Built upon the traditional concept of a core curriculum, curricular and co-curricular activities, which are shared between students (such as a common reading experience), increase their academic and social engagement with faculty, their fellow students, and the institution (Kuh, 2008a).

Learning communities. Much like common intellectual experiences, learning communities seek to link curricular efforts across multiple courses, usually centered on a theme. This HIP also may extend to the residential areas of an institution, furthering students' engagement with one another through linkages between the curriculum and housing (Kuh, 2008a).

Writing-intensive courses. Beyond simply requiring written assignments in courses, writing-intensive courses emphasize multiple drafts and frequent feedback from instructors and are implemented "across the curriculum" regardless of discipline (Kuh,

2008a).

Collaborative assignments and projects. Kuh (2008a) described the goals of collaborative assignments as "learning to work and solve problems in the company of others, and sharpening one's own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences" (p. 10).

Undergraduate research. Undergraduate research sought to involve students in empirically testing "actively contested questions;" engaging them further with faculty and fellow undergraduate researchers; and allowing students the opportunity to work with technology, present their findings, and potentially publish (Kuh, 2008a).

Diversity and global learning. Engaging students with worldviews and perspectives different from their own can increase their awareness of the diversity that exists within U.S. society as well as world cultures. According to Kuh (2008a), such experiences address such issues as "racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power" (p. 10).

Service learning and community-based learning. These field-based experiences provide students an opportunity to apply the knowledge or skills they have learned in the classroom to relevant, real-world situations in their community. Application is not enough, however; these experiences also seek to engage students in reflection following the activity in order to more fully comprehend the translation of learning to a real-world situation, and to extrapolate from an activity conducted on a local level to the larger context of a global society (Kuh, 2008a).

Internships.   Internships are another example of experiential learning, in that they provide students the opportunity to engage in the application of knowledge and

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skills in a work environment, with the benefit of a professional in the field providing supervision and coaching (Kuh, 2008a).

Capstone courses and projects. A "culminating experience" requires students to integrate and apply what they have learned over years of study in a final project, portfolio, exhibit, thesis, or some other product (Kuh, 2008a).

These 10 HIPs are particularly effective in increasing student engagement, thereby improving learning outcomes and positively impacting student retention. Kuh (2008b) attributed the effectiveness of these practices to several factors. Each requires students to deliberately spend more time working on them and involve more interaction (often daily) with faculty. Students engaged through the HIPs tend to come into more contact with diversity and receive more formal and informal feedback. Kuh (2008b) also stated that these experiences tend to be life changing. In 2013, Kuh et al. added two additional factors influencing the effectiveness of the HIPs: appropriately high-performance expectations and opportunities for students to display publicly their knowledge and skills.

The 10 HIPs are relevant as a conceptual framework for study of academic libraries' efforts related to student retention. The majority of the time spent by students completing an activity associated with the HIPs takes place in informal academic environments (Kuh, 2008a). The actions required for students to successfully complete activities associated with the HIPs include: integrating ideas or information from various sources, including diverse perspectives in class discussion or writing, discussing ideas with faculty members outside of class, discussing ideas with others outside of class, and making judgments about the value of information (Kuh, 2008b; Nelson-Laird, Shoup,

Kuh, & Schwarz, 2008). The modern academic library, having changed from a mission focused on warehousing books, is more oriented to providing an informal academic environment, which directly or indirectly supports these activities (Kuh & Gonyea, 2003).

Research Design

This exploratory study examines the perceptions of academic library deans/directors on high-impact practices affecting retention. The study was conducted through the dissemination of a survey instrument to academic library deans/directors at the 271 public comprehensive universities in the United States with a Carnegie classification of master's level as of January 2013 (see Appendix A). A pilot sample population used for testing the reliability of the survey instrument consisted of 259 academic library deans/directors at institutions with a Carnegie classification of community college or research institution. Analysis of the survey data included the calculation of descriptive statistics, correlations with nationally gathered data, and the identification of themes observed in qualitative responses.

Summary

Student retention is an increasingly critical issue for institutions of higher education, with far-reaching effects on many other areas of life, including the well being of students and society. Institutions of higher education face greater calls for accountability regarding different performance metrics, among them student retention and completion of degree programs. Just as the indicators of quality and success used by postsecondary institutions are evolving, so too are the metrics used to indicate the impact and value of units within higher education institutions, including academic libraries.

Academic libraries, seeking to demonstrate their relevance in a performance-funding

environment, will find little guidance on how to appropriately gather data or

communicate impact to university administrators. The high-impact practices, identified

over decades of study and validated nationally by the National Survey of Student

Engagement, have a positive impact on student intellectual development and student

retention. This study provides further clarification on the role of academic libraries on

impact of student retention by examining academic library deans'/directors' perceptions

of the alignment of academic library services and resources with the high-impact

practices, and how library involvement with, or impact on, retention initiatives are

currently documented and reported to university administrators.

CHAPTER II: LITERATURE REVIEW

This chapter reviews literature related to postsecondary institutional focus on student retention, models of retention, the changing nature of academic libraries, evolving library assessment methodologies, and the role of the academic library in student retention.

Overview of the Study

This study examines the perceptions of academic library deans/directors of the role their units can serve in retention through student engagement fostered by Kuh's (2008a) high-impact practices (HIPs). The guiding question for this study is: How do academic library deans/directors view their modern academic library in light of high-impact practices affecting student retention? The specific research questions for this exploratory study are as follows:

1. To what extent do academic library deans/directors perceive their academic library's current services and resources as aligning with high-impact practices affecting student retention?

2. How do academic library deans/directors document and communicate the impact of library services and resources on student retention?

3. Is there a correlation between retention data and academic library deans/directors' perception of their library's involvement with high-impact practices?

Kuh's (2008a) 10 high-impact practices serve as the conceptual framework for this study. These practices have emerged from the field of study into factors that impact student retention as steps that institutions of higher education can implement to foster

student engagement. The relevance of these practices in a study on academic libraries and retention is best seen through a review of the background of retention and engagement studies.

Background

Gallup's Economic Confidence Index continues to indicate that a majority of Americans hold a negative view of the economy, particularly following the government shutdown in October 2013 (McCarthy, 2014). This public view of the economy is evidence of the financial "new normal" faced by higher education, and it will be the reality higher education has to accept for the foreseeable future (Saad, 2012). A scan of presidential "state of the university" addresses reveals frequent mentions of this "new normal" (Holland, 2012; Owens, 2012; Shirley, 2011; Weisenstein, 2011). Within higher education, the "new normal" refers to the current state of funding and the pressures created for the academic, social, support, and physical plant enterprises of modern institutions of postsecondary education. In short, state funding allocations are down and continue to decrease, to the point – in some states – that public funding no longer represents the majority of institutional revenue. The downturn in markets also means revenue from endowments has been severely reduced. This "new normal" underlies many administrative changes on campuses.

In the midst of these financial circumstances, institutions of higher education find themselves the objects of increasing scrutiny by legislators, governing bodies, and accrediting agencies, as well as by parents and students (Kuh, 2001). These populations view, with concern, both the accessibility/affordability of higher education as well as the quality of the education provided to students (Hayek & Kuh, 2004). McLeod and Young

(2005) summarized the stakes of academic development as "inseparable from personal and social development" (p. 75). Yet, evidence shows that the development of critical thinking, writing, and analytical reasoning skills is not taking place, while student retention rates have remained consistent at 45% (for two-year institutions) and around 25% (for four-year institutions) (Arum & Roksa, 2011; Braxton, Hirschy, & McClendon, 2004; Hu, Katherine, & Kuh, 2011).

According to Hayek and Kuh (2004), an interrelationship exists between indicators of student academic development and activities that universities can stimulate, which tends to have a positive influence on students' decisions to persist in college. Certain educational practices and student behaviors have been subjected to decades of study with consistent findings of their effectiveness, leading to students who are more engaged with their education, with faculty, and with fellow students at an institution (Kuh et al., 2008; Pascerella & Terenzini, 2005). Student engagement, the practices that foster different types of student engagement, and barriers to engagement run throughout this literature review as a common theme and is a university initiative in which academic libraries can actively participate (Bell, 2008; McLeod & Young, 2005; Oakleaf, 2010).

Institutional Focus on Student Retention

The many demands upon higher education include serving as a resource for government officials seeking an educated and involved populace, the producer of a commodity (credentialed students) by future employers, a generator and creator of new knowledge by faculty, a gatekeeper to employment and earning potential by students and parents, and an idealized social experience by students (Oakleaf, 2010). Institutions of higher education are being pressured to keep costs contained, while serving more

students who lack the skills necessary to succeed in college. In addition, state legislatures are increasingly connecting state funding with graduation rates (Bailey, 2006; Barefoot, 2004). These factors are leading to an increased focus on enrollment and retention, with critical and complex implications for college readiness, remediation, online/hybrid/augmented course delivery, new degree programs to appeal to a broader population of non-traditional students, work force development, etc. (Altbach, 2011; Bastedo, 2011; Dunderstadt, 2009).

Frequent limitations to increases in tuition as a means of offsetting lost state appropriations lead to both enrollment and retention as high stakes endeavors, not just for university administrators, but also for students and society (McLaughlin, Brozovsky, & McLaughlin, 1998; Yorke, 2004). Seidman (2005) provided a clear summary of the wide-ranging impact of student dropout:

> Attrition results in a severe loss of resources by society, by students, and by colleges that spend to provide programs and services to help retain and graduate students. When a student leaves college prematurely, any debt incurred must be repaid, despite the failure to graduate, and the college loses future funding in the form of tuition and fees and auxiliary services (bookstore, food service, and so forth) generated over time. The surrounding college community that supports the college, restaurants, movie theaters, and so on, also suffers an adverse economic impact when students leave. In addition, students may be turned off to the educational system in general, never returning to benefit from educational opportunities that may have helped with job attainment, enhancement, or advancement. College graduates also earn more money over a lifetime, incur

fewer health problems, suffer less penal involvement, and live longer than non-

college graduates. (p. 8)

Tinto (1999) argued that improving retention could be more easily accomplished

by tightening admission standards, which is difficult in the face of enrollment drives and

mandates for higher college attendance. Institutional drives for retention coupled with

state mandates for increased accountability have resulted in a wealth of studies into the

factors affecting these areas of priority (Jaeger & Eagan, 2010). While a range of models

conceptualize retention, a literature-wide lament occurs over the lack of research

applicable to institutional practice. Tinto and Pusser (2006) noted that much of the

available research concludes with theories that are too abstract to be of practical value,

and that the research tends to focus on characteristics of the student or on factors outside

the control of postsecondary institutions. Haddow (2013) also highlighted this problem,

indicating that the factors affecting students' decisions to withdraw are complex, limiting

research to close examinations of single institutions (prohibiting generalization) or to

limited factors across multiple institutions (thereby excluding critical factors from the

study).

In this vacuum of research with practical applicability, many institutions adopt

what Tinto (1999) called the "add a course" strategy – adding freshmen seminars instead

of studying the entire concept of the first year. Institutional rhetoric regarding retention

highlights a mimetic tendency among institutions of higher education to duplicate

processes at similar organizations that have the appearance of legitimacy or effectiveness,

regardless of evidence (Woodley, 2004). Ad hoc student retention programs and

institutional focus on student retention have been criticized as treating students as a

means to an end, particularly in a formula-funding environment that rewards higher retention and graduation rates with increased funding (Raab & Adam, 2005; Yorke, 2004). This approach downplays the personal, social, and financial costs of student dropout (Ryan, 2004); or as Raab and Adam (2005) stated, "the mission becomes blunted by the means devised to fulfill it" (p. 89).

The criticality of student retention to institutions, accrediting agencies, governing boards, parents, and students has spawned a massive field of study into the factors that impact a student's decision to withdraw from higher education. This field has produced a number of models that can be used to understand retention, spanning disciplines ranging from finance to sociology.

Models of Student Retention

Nearly every study into retention acknowledges that the factors influencing an individual to depart from college are incredibly complex, and that no single model of retention is able to adequately explain student dropout. Indeed, there is no clear definition of "non-completion" with, as noted by McGivney (2004), each instituion or coordinating agency defining dropouts by different parameters. Student retention often is viewed from an institutional perspective, in which course and degree completion rates are the goals, regardless of whether these goals align with student needs. Students, particularly non-traditional students, may receive the education they require without necessarily fulfilling the institutional goal of degree completion (Ashby, 2004). As a result, a range of retention studies exist, which examine traditional students, non-traditional students, online or distance education students, and many other populations. The theoretical frameworks used in these studies tend to fall along a spectrum between

sociology and psychology, with Tinto's (1975) model of student integration serving as the major sociological theory and Bean's (1980) model of student motivation serving as the major psychological theory (Yorke, 2004). Each major model has associated strengths, weaknesses, and evidence supporting or disconfirming the validity of the model.

Tinto's Model of Student Integration

Perhaps the cornerstone of retention studies is Tinto's (1975) model of student integration. At the time Tinto published his integrative model, retention studies did not tend to distinguish different types of dropouts, leading to contradictory research findings. Tinto (1975) proposed to explain the "process of interaction between the individual and the institution that leads different individuals to drop out from institutions of higher education, and that also distinguishes between those processes that result in definably different forms of dropout behavior" (p. 90). The model is grounded in Durkheim's theory of suicide and on cost-benefit analysis models in economics. Tinto's grounding of his integrative model of student retention in suicide theory is based on the presumption that similar social conditions may lead an individual to contemplate college dropout in the same manner as reflecting on suicide, namely insufficient interactions with others and insufficient congruency with prevailing value patterns of the collective (Tinto, 1975). Cost-benefit analysis is used by individuals to weigh their goal commitment (dedication to completing a college degree or course of study) and their institutional commitment (predisposition toward one institution over another) with their integration in the academic and social systems of the institution (Tinto, 1975). Tinto (1975) described this analysis as follows:

The process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experiences in those systems (as measured by his normative and structural integration) continually modify his goal and institutional commitments in ways that lead to persistence and/or to varying forms of dropout. (p. 94)

This longitudinal series of interactions is illustrated in Figure 1. Integration in the academic system most directly affects goal commitment, while social integration most directly affects institutional commitment. Incongruence is described as the lack of fit between the individual and the institution, whether academically or socially, formally or informally. Incongruence in one area of integration may be overridden by adjustment in another (Tinto, 1987). For example, a high goal commitment may allow a socially maladjusted individual to persist in college. However, academic standards should prevent the reverse from being true; a socially adjusted individual lacking academic fit with the institution is likely to be dismissed from the institution. Formal academic incongruence may exist because of academic challenges, with students finding the curriculum either too hard or too easy. Academic incongruence also manifests as a lack of utilization of the academic resources available to students (including the library's services). Social incongruence more often tends to manifest itself in informal environments, such as day-to-day encounters in hallways, and at the library (Tinto, 1987).

Pre-entry
Attributes

Goals &
Commitments (T1)

Institutional
Experiences

Personal/Normative
Integration

Goals &
Commitments (T2)

Outcome

Family
Background

Formal

Academic
Performance

Academic
Integration

Intentions

Intentions

Departure
Decision

Faculty/Staff
Interactions

Skills &
Abilities

Informal

Goal &
Institutional
Commitments

Goal &
Institutional
Commitments

Social
Integration

Prior
Schooling

Formal

Extracurricular
Activities

External
Commitments

Time (T)

Peer-group
Interactions

Informal

Figure 1. Tinto's (1987) Model of Student Integration

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Support and Criticism of Tinto's Model

Tinto's model has achieved status as a paradigm in the field of retention studies, with well over 700 subsequent studies citing the model (Braxton et al., 2004). The model has been subjected to numerous empirical tests, resulting in contradictory findings supporting or disaffirming the various components of the model. Cabrera, Castaneda, Nora, and Hengstler (1992) noted that the mixed results of empirical testing of Tinto's constructs can be attributed to the model's lack of control for external variables, a weakness that is further expounded upon by proponents of psychological models of student retention.

Among those who have tested Tinto's model empirically are Pascerella and Terenzini (2005), Berger and Lyon (2005) and Braxton et al. (2004). Braxton et al. parsed Tinto's model into 13 testable propositions. These propositions are as follows:

1. Student entry characteristics affect the level of initial commitment to the institution.

2. Student entry characteristics affect the level of initial commitment to the goal of graduation from college.

3. Student entry characteristics directly affect the student's likelihood of persistence in college.

4. Initial commitment to the goal of graduation from college affects the level of academic integration.

5. Initial commitment to the goal of graduation from college affects the level of social integration.

6. Initial commitment to the institution affects the level of social integration.

7. Initial commitment to the institution affects the level of academic integration.

8. The greater the degree of academic integration, the greater the level of subsequent commitment to the goal of graduation from college.

9. The greater the degree of social integration, the greater the level of subsequent commitment to the institution.

10. The initial level of institutional commitment affects the subsequent level of institutional commitment.

11. The initial level of commitment to the goal of graduation from college affects the subsequent level of commitment to the goal of college graduation.

12. The greater the level of subsequent commitment to the goal of graduation from college, the greater the likelihood of student persistence in college.

13. The greater the level of subsequent commitment to the institution, the greater the likelihood of student persistence in college (Braxton et al., 2004, pp. 9-10).

These 13 propositions were tested in a previous study by Braxton, Sullivan, and Johnson (1997), which used multi-institutional datasets that were analyzed using path analysis, multiple linear regression, and logistic regression. These tests yielded support for propositions 1, 9, 10, 11, and 13. Braxton et al. (2004) arranged these supported propositions narratively:

Students enter college with various characteristics that influence their initial level of commitment to the college or university that they choose to attend (proposition 1). This initial level of institutional commitment also affects their subsequent commitment to the institution (proposition 10). Social integration also affects

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subsequent institutional commitment. The greater a student's degree of social

integration, the greater his or her subsequent commitment to the institution

(proposition 9). The greater the degree of a student's subsequent commitment to

the institution, the greater his or her likelihood of persisting in college

(proposition 13). (pp.13-14)

It is noticeable that this narrative and the empirically supported propositions do

not lend support to academic integration elements, nor to the goal commitment construct.

Seidman (2005) and many others (Kuh & Love, 2000; McGivney, 2004) have

noted that Tinto's model was constructed assuming the life and social circumstances of

white, full-time traditional students. This assumption has opened up the model to much

criticism and paved the way for the development of Bean's (1980) and Bean and Eaton's

(2000) revised model of student motivation, which is grounded in psychology and upon

the life and social conditions of non-traditional students. This and related alternative

models focus on the impact of forces external to the institution upon a student's decision

to withdraw. Tinto acknowledged that an individual may withdraw from college for

reasons that have little to do with the college; however, Tinto suggested these external

impacts are best observed through changes in a student's goal commitment and

institutional commitment (Tinto, 1975).

Bean's Model of Student Motivation

As noted, the two major models of student retention exist at opposite ends of a

spectrum between sociology (Tinto's model) and psychology (Bean's model). According

to Bean and Eaton (2000), departure from college is a behavior, and behavior is

psychologically motivated. Bean's (1980) model and Bean and Eaton's (2000) revised

model were grounded in the impact of external forces and the motivation of students. It was constructed using three psychological theories: Bandura's, who postulated that actions precede outcomes; Fishbein and Ajzen's, who found that cognitive processes precede behavior (expectations, desires); and approach/avoidance behavioral theory, which states that psychological processes result in attitudes about one's self (Bean & Eaton, 2000). Cabrera et al. (1992) narratively described how this model functions: "behavioral intentions are shaped by a process whereby beliefs shape attitudes and attitudes, in turn, shape behavioral intents" (p. 145).

Because Bean's (1980) model is grounded in psychology and uses the impact of external forces on student motivation as its central construct, the model is more applicable to non-traditional students (Cabrera et al., 1992). External forces such as choice of degree, financial considerations, employment prospects, personality, life circumstances, and cognitive ability apply to all students but may have a stronger impact on non-traditional students (Hughes, 2007). Bean and Metzner (1985) proposed a model of student attrition, which focused on the impact of the environment external to institutions of higher education. Bean and Metzner's study focused on non-traditional students and student attrition. They noted the difficulty in defining non-traditional students and isolating actual dropouts (as opposed to stopouts). According to Bean and Metzner, non-traditional students may or may not be defined by a wide range of demographic factors, such as geographic point of origin, age, socioeconomic status, race, gender, full-time or part-time status, employed or unemployed, part-time working, with or without dependents, marital status, or even motivating factors for enrollment in higher education (lifelong learning vs. vocational advancement). Non-traditional students tend

not to live on campus, be older, and/or attend college part time (Bean & Metzner, 1985).

As a result, non-traditional students have limited social integration with the institution, fellow students, or faculty, and do not use institutional support services such as the library with the frequency of their traditional counterparts (Bean, 2003; Bean & Metzner, 1985). Bean and Metzner phrased this limited interaction by stating that, for non-traditional students, faculty and fellow students are not "primary agents of socialization" (p. 488).

Bean and Metzner's (1985) conceptual model, illustrated in Figure 2, is based on four sets of variables: academic performance (with past academic performance as a significant predictor of current performance); intent to leave, influenced primarily by psychological outcomes but also by academic variables; background variables such as high school performance and educational goals, mediated by other elements in the model; and environmental variables – with substantial and direct effects on dropout decisions. "Nonacademic factors compensate for low levels of academic success, while high levels of academic achievement only result in continued attendance when accompanied by positive psychological outcomes from school" (Bean & Metzner, 1985, p. 492).

This model is not without critics, among them Tinto, who argued that ignoring sociological factors of dropout behavior runs the risk of portraying withdrawal as a personal failure with pathological overtones (Tinto, 1987).
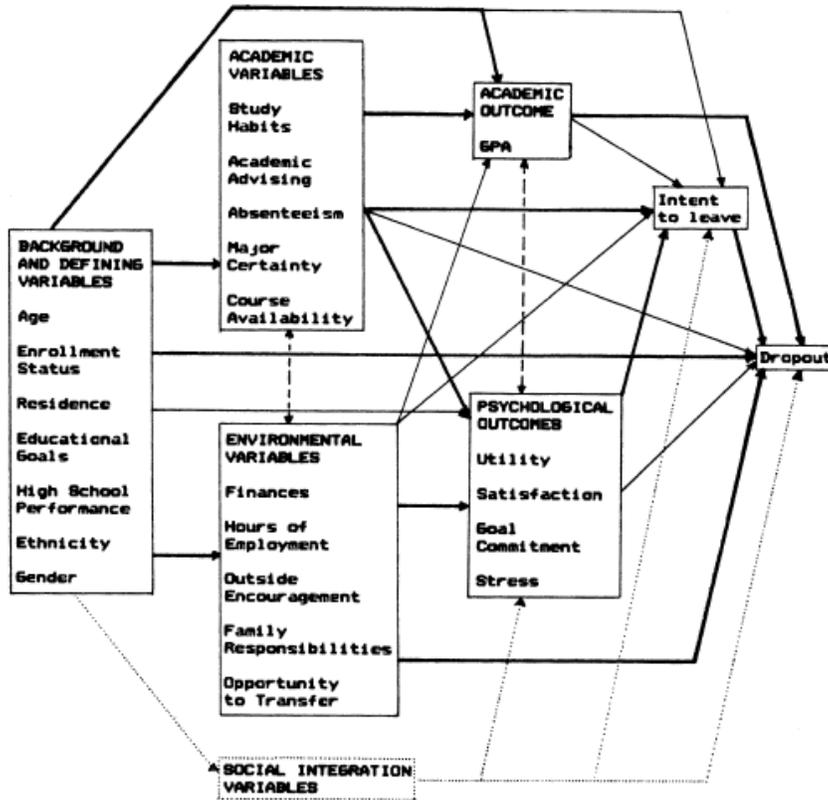
FIGURE 1. A Conceptual Model of Nontraditional Student Attrition.
Key: → Direct effects
→ Direct effects presumed most important
←→ Compensatory interaction effects
←··→ Possible effects

Figure 2. Bean and Metzner's (1985) Model of Non-Traditional Student Attrition

Convergence of the Integrative and Motivational Models

Given the widespread credence attributed to both Tinto's (1975) model of student

integration and Bean's model of student motivation, Cabrera et al. (1992) conducted a

convergence analysis to examine the convergence and discriminate validity between the

two models.

In comparing the two models, Cabrera et al. (1992) noted many commonalities.

Both models regard persistence as a complex interplay of many factors over time and that

precollege characteristics affect student adjustment to institutional life. Both accept the

impact of "match" between institution and individual. The key difference between the

models is the treatment of academic performance. Tinto's model views academic performance as an indicator that a student is successfully integrating academically. Bean's model views academic performance as an outcome resulting from a positive alignment of external forces supporting a student's psychological motivation to be enrolled (Cabrera et al., 1992).

Cabrera et al. (1992) used a three-stage strategy to test convergent validity. The first stage examined factor loadings and unique variances in the measurement models for each persistence model. The second stage assessed the predictive validity of each model independently. Last, the convergence between each construct across theories was evaluated using a modification of Widaman's strategy (based on specification and testing of a series of hierarchically nested models). The sample consisted of 2,453 full-time, first-year freshmen who were U.S. citizens, under 24 years of age, and not married. The constructs under evaluation were the central elements of each model, namely: intent to persist, family approval, institutional fit, courses, encouragement of friends, opportunity to transfer, academic integration, social integration, institutional commitment, goal commitment (Cabrera et al., 1992).

Cabrera et al. (1992) found that the assumption of complexity used in both models is correct, along with the impact of interactions between institutional and individual factors and the appropriateness of institutional/individual match. Seventy percent of the hypotheses in Tinto's (1975) model of student integration were confirmed, compared with 40% in Bean's (1980) model receiving confirmation. However, Bean's model of student motivation accounts for more variance between the construct "intent to persist" and persistence, supporting the assumption in Bean and Eaton's model that external

factors play a much more significant role in dropout decisions than suggested by Tinto's model of student integration. This convergence analysis provided empirical evidence that the two theories are not mutually exclusive and complement each other. Further, Cabrera et al. found that the "intent to persist" construct acted as the gateway for all other constructs, whether external or institutional/goal commitment, which indirectly impact a withdrawal decision.

The Field of Retention Studies

Ashby (2004) stated, "student retention is often viewed simply as a measure of the percentage of students who gain a course credit or an award based on the number who registered for a course or an award. This is a rather narrow definition of the concept" (p. 66). Between Tinto's (1975) and Bean's (1980) complimentary models lie a wide range of retention studies examining different student populations (such as non-traditional students, first-generation students, and underrepresented populations) and proposing or testing modifications or alternatives to the existing paradigmatic models. This section provides a limited overview of the massive field of retention studies.

Student populations. Studies into the retention of non-traditional students led to the development of alternatives to Tinto's seminal model. Adult students, first-generation students, and underrepresented minority students have different sets of motivating factors associated with enrollment in higher education, and different forces impacting their persistence.

McGivney (2004) defined adult or mature students as those over the age of 21, a definition that varies from study to study and among institutions. McGivney also went on to highlight the problems inherent in this definition, as a student in his or her early 20s

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may have more in common with traditional students than with other non-traditional students in their 30s, 40s, or beyond. Traditional students tend to follow a linear path through undergraduate education. By contrast, McGivney suggested that adult higher education students traverse different paths, such as: upwards, to gain additional skills or qualifications; downwards, learning at a lower level in a new area of interest or to gain new skillsets; or sideways, at the same level to deepen existing knowledge or skills. These types of intermittent educational pathways may conflict with institutional goals of enrollment and completion. As Ashby (2004) indicated, course completion rates are institutional goals, and may not actually meet the needs of adult students. Ashby went on to emphasize the importance of distinguishing courses or programs with low retention rates and low satisfaction rates from those with low retention rates and high satisfaction rates.

As indicated earlier, the major criticism of Tinto's model of student integration is the degree to which it de-emphasizes the impact of external forces in a student's life on stay or go decisions. McGivney (2004) outlined those factors for adult students, and sought to determine whether the reasons adult students gave for not completing courses or programs were similar or dissimilar to those given by traditional students. Among the external forces influencing adult students, McGivney (2004) noted geographic constraints (taking courses at nearby institutions, regardless of academic "fit"); the necessity for many adult students to work full or part time while enrolled; and the amount of support the adult student receives from friends and family. Men tend to receive more spousal support for pursuing and completing a degree than women; as a result, adult female students tend to cite family issues as the reason for withdrawal, while men cite financial

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reasons (McGivney, 2004). The lack of academic fit because of geographic constraints may lead to dissatisfaction with course content, or enrollment in programs that do not provide the flexibility needed by adult students in order to adequately complete coursework. McGivney (2004) also noted the probability that adult students provide reasons for departure they consider socially acceptable, particularly if the adult students lack confidence in their ability to engage in higher education. This likelihood would conceal the scope of all forces impacting a withdrawal decision, presenting the "last straw" force as the sole deciding factor (McGivney, 2004).

Underserved populations are at higher risk for dropping out of institutions of higher education. The 2012-13 CSRDE Retention Report (Whalen, 2013) detailed six-year graduation rates for Black, Hispanic, Native American, Asian, and White students for the cohorts between 2002 and 2006. White students and Asian students completed at a rate of 62.8% and 66.8%, respectively, while underrepresented minorities consistently completed at much lower rates, with Black students completing at a rate of 45.6%, Hispanic students at 49.9%, and Native American students at 44.0%. Similarly, first-year retention rates for underrepresented minority students were consistently below the average for White and Asian students (81.5% and 87.7%, respectively) at 75.8% for Black students, 78.1% for Hispanic students, and 73.1% for Native American students (Whalen, 2013).

Minority students tend to be from low-income families and are frequently first-generation students, coming from an academic background that ill prepared them for college (Love, 2009; Merisotis & McCarthy, 2005). Minority students also tend to resist borrowing money for tuition, leading to a higher percentage of minority students working

– often full time – while enrolled at an institution of higher education. Full-time employment introduces an additional external factor, which may lead to a dropout decision. These students also may experience conflicting expectations from family members, pushes to attend in order to improve their quality of life concomitant with expectations of the student to contribute financially to the family.

The risk of dropping out is exacerbated for minorities attending majority-serving institutions. Merisotis and McCarthy (2005) noted that African-American, Hispanic, and Native American students have suffered from "cultural erosion" and find mainstream higher education institutions inattentive to cultural differences, seeking instead to assimilate minority students into a "monocultural, Eurocentric" framework. In contrast, minority students attending minority-serving institutions have a higher likelihood of engaging in educationally effective behaviors and persisting (Bridges, Cambridge, Kuh, & Leegwater, 2005). Minority-serving institutions (MSIs) consist of historically Black colleges and universities (HBCUs), Hispanic-serving institutions (HSIs), and tribal colleges and universities (TCUs). Institutions formally recognized by the U.S. federal government as MSIs serve approximately one-third of all African American, Hispanic, and Native American students (Bridges et al., 2005; Merisotis & McCarthy, 2005). Merisotis and McCarthy (2005) attributed the higher retention rates at MSIs to more affordable tuition (in spite of severe institutional underfunding and endowments, which are 91% smaller than mainstream institutions); a deliberate institutional focus on mentoring and academic support; and a social environment that does not seek to further erode students' culture.

Countless studies have examined first-generation college students in relation to

their academic performance and retention rates. Pike and Kuh (2005) summarized the factors associated with first-generation student populations, which tend to have a negative impact on their retention. Among these factors is the tendency of first-generation students to come from low-income families and have a lower level of academic engagement in high school. Engagement with fellow students once enrolled in a postsecondary institution is hampered by the fact that first-generation students are less likely to live on campus and more likely to work more hours off campus. Likewise, engagement with faculty is less likely to occur; first-generation students are less likely to develop relationships with faculty members, seek out their assistance for mentoring, or perceive faculty as being concerned with their development (Pike & Kuh, 2005).

Many other studies exist into the factors impacting retention for these and other student populations, ranging from surveys to determine the degree that the factors summarized above apply or do not apply locally to the outcomes of retention interventions targeting different student populations. These generally add support to the constructs developed in the two paradigmatic retention theories.

Alternative models. A wide array of proposed models of retention exists; many have slight modifications of the two paradigmatic models. Braxton et al. (2004) summarized these alternative models as being oriented according to four disciplines: economics, organization studies, psychology, and sociology.

Tinto's (1975) model of student integration is primarily sociological in nature and focused within institutions of higher education (Ashby, 2004). Bean and Eaton's (2000) model of student motivation is primarily psychological in nature, yet focuses heavily on the impact of external forces (Ashby, 2004). Baird (2000) proposed the development of a

psychological model focused within institutions. Baird argued that the psychological

climate of an institution is more malleable than the sociological culture, yet can impact

the constructs in Tinto's model: goal commitment and institutional commitment. Berger

(2000) provided a similar revision to Tinto's model, while remaining grounded in the

field of sociology and organizational studies. Berger proposed a view of retention studies

examining individual social patterns and organizational social patterns within the set of

institutional sub-environments to predict retention outcomes.

St. John, Cabrera, Nora, and Asker (2000) proposed the inclusion of deeper

financial information in retention studies and models of predicting student retention.

Student perceptions of their ability to pay, along with early commitments to an

institution based on perception of academic programs and social opportunities, may

diverge following the first year of enrollment, leading to a withdrawal or transfer to

another institution. Their study urged the incorporation of financial information such as

actual family resources, tuition rates, and financial aid data into future studies on

retention in order to better determine the possible impact of finances on student

persistence decisions (St. John et al., 2000).

Braxton et al. (2004), following empirical testing of the 13 propositions emerging

from Tinto's model, proposed two revised models in order to accommodate the

weaknesses of the model for student populations with needs differing from those of

traditional students. One model addressed the retention of students enrolled in residential

colleges (Figure 3), while the other focused on student retention in commuter colleges

and universities (Figure 4). The results of Braxton et al.'s 1997 study of the 13 testable

propositions contained in Tinto's (1975) model did not yield evidence of academic

integration as an empirically supported construct. Given these results, Braxton et al.'s

(2004) revision of Tinto's model to accommodate differences in residential and

commuter colleges and universities is highly focused on the construct of institutional

commitment and the impact of factors similar to those identified in Bean's (1980) and

subsequent psychologically-oriented models of retention.
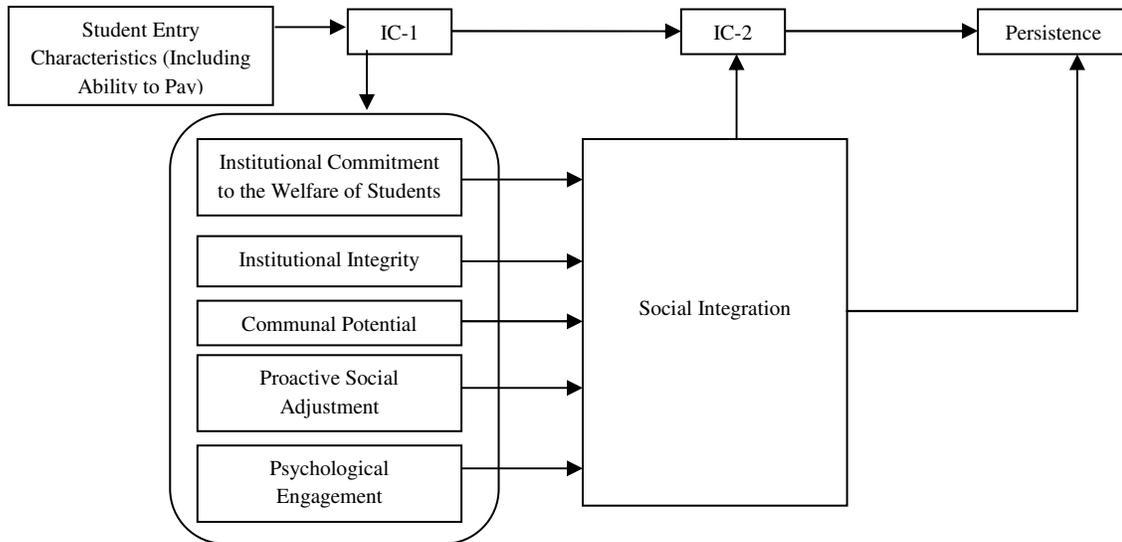
Note. IC = institutional commitment

Figure 3. Tinto's Theory Revised for Student Departure in Residential Colleges and

Universities (Braxton et al., 2004, p. 30)

Student Entry Characteristics

Motivation
Control Issues
Self-efficacy
Empathy
Affiliation Needs
Parental Education
Anticipatory Socialization

Initial
Institutional
Commitment (IC-1)

Subsequent
Institutional
Commitment (IC-2)

Persistence

External Environment

Finances
Support
Work
Family
Community

Internal Campus Environment

Academic Communities
Learning Communities
Active Learning

Institutional Environment
Cost
Institutional Integrity
Institutional Commitment to
        Student Welfare

Figure 4. Braxton et al.'s (2004) Theory of Student Departure from Commuter Colleges

and Universities (p. 43).

Studies into student retention, and the models supported therein, at times suggest

practical applications in order to make a positive difference in retention rates (Astin &

Oseguera, 2005). These practical applications have predictive and control elements,

providing institutions of higher education the opportunity to predict which students will

be at risk of dropping out, and implementing targeted interventions to help them succeed.

Efforts to assist students range as far as each of the four discipline areas addressed by

various retention models: economic, organizational, sociological, and psychological.

Organizational efforts to improve student retention focus heavily on the academic

portions of a university. Actions that can be taken within the academic realm of

institutions of higher education to improve retention rates consistently draw upon the

concept of student engagement and the practices that an institution can implement in

order to foster student engagement (Kuh et al., 2008; Ryan, 2004; Schneider, 2008; Tinto & Pusser, 2006).

Student Engagement

In numerous publications, Tinto (1999; Tinto & Pusser, 2006) has argued that institutions of higher education should focus retention efforts on those areas under practical control by the institution, while other authors have counseled for addressing retention issues by improving the social and academic environment of colleges and universities. Repeatedly, the factors under institutional control relate to the provision of activities and experiences that engage students both academically and socially. The concept of student engagement, while not always explicitly connected to retention studies, arises in part from these models of retention (Ryan, 2004). In Kuh's (2008a) report for AAC&U's LEAP Initiative, Kuh draws upon the findings of the NSSE to demonstrate a positive correlation between students who engage in educationally effective practices and student persistence, replicating on a national scale the findings of many other studies (Hughes, 2007; Pike, Schroeder, & Berry, 1997). Not only do these high-impact practices (HIPs) engage students and result in an increased likelihood of student persistence, they also demonstrate a compensatory effect for populations of underrepresented minority students, helping students traditionally at risk of dropping out gain ground academically (Kuh, 2008a).

A wealth of studies exists in student engagement with implications for retention. This section provides a limited overview of this broad and deep field of study. Student engagement studies generally tend to examine either student typologies/characteristics or institutional policies/practices that impact student participation in educationally effective

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behaviors and associated learning outcomes. Throughout the literature in this overview

runs an expectation of practical application founded on a view that – as referenced by

McLaughlin et al. (1998) – institutional characteristics, culture, and policies have direct

and indirect effects on student propensity to become involved in academic and

nonacademic activities, thus impacting the outcomes related to learning and persistence.

Student Typologies and Characteristics

Understanding student engagement through the lens of conceptualizing student

typologies and characteristics makes up one large area of student engagement studies.

Hu et al. (2011) argued that understanding retention and engagement rates is reliant on

understanding typologies of students and what motivates them. Clark and Trow's (1966)

foundational model of student typologies posited two primary dimensions of students

(identification with college; involvement with ideas) yielding four dominant student

groups: academic, collegiate, vocational, and nonconformist. Students in the academic

and collegiate student groups are on opposite sides of the academic/social spectrum but

share loyalty to the institution (what Tinto would label as institutional commitment).

 Students in the vocational group view college as a steppingstone to a career, while

nonconformists are more aligned with the construct of "involvement with ideas" and

possess a lower identification with colleges. A more recent study by Kuh, Hu, and

Vesper (2000) examined over 51,000 undergraduate students through responses on the

College Student Experiences Questionnaire (CSEQ). This study used factor and cluster

analysis to identify 10 major student groups: disengaged, recreator, socializer, collegiate,

scientist, individualist, artist, grind, intellectual, and conventional. In 2010, Bahr

developed an accompanying model for community college students outlining six student

groups: transfer, vocational, drop-in, noncredit, experimental, and exploratory. The impact of these studies is on understanding how students spend their time, and how their peers and social circles impact their behavior. Tinto (1987) noted that peripheral subcultures, while possessing little impact on the overall ethos or dominant culture of the institution, might encourage a commitment to the marginalized group that overrides institutional commitment. In this way, contact with peers may compensate for limited contact with faculty, but may do so at the cost of academic development.

Student characteristics (as opposed to student typologies) also form a major area of study in the field of research on student engagement. Pike and Kuh (2005) studied the level of engagement and intellectual development of first-generation and second-generation college students. Specific research questions probed background characteristics of the two populations and whether differences between first-generation and second-generation students in engagement in intellectual development were directly related to first-generation status or the indirect result of associations between first-generation status and "antecedent characteristics or experiences" (p. 278). Pike and Kuh found that first-generation college students are not as engaged, do not perceive a supportive environment, and reported less intellectual progress. Students with highest engagement were females, minority students, those who planned to pursue an advanced degree, and those living on campus. Among Pike and Kuh's factors for measuring academic engagement were library experiences.

Zhao, Kuh, and Carini (2005) studied the characteristics of international students in relation to engagement in educationally effective behaviors. The researchers postulated that international students may be more prone to feelings of isolation than

domestic students, and may channel more of their efforts toward academics as a method of compensating for isolation. This study examined the extent to which international students are engaged in effective educational practices compared with American students, and whether the ethnic background of international students shapes student engagement, satisfaction, and intellectual gains. The study also examined the impact of relative density of international students on how international and American students spend their time, the extent to which they are satisfied with their educational experiences, and progress toward desired learning outcomes. Data were gathered using the College Student Report, in which students estimate their development in educational, personal, and social areas across several educationally effective practices such as involvement in different types of in-class and out-of-class activities, amount of reading and writing, and perceptions of the campus environment, including the quality of students' relationships with peers, faculty members, and administrators (Zhao et al., 2005).

Twelve measures were used to represent academic challenge: active and collaborative learning, student-faculty interaction, supportive campus environment, diversity experiences, community service, computer technology use, time spent socializing and relaxing, student-reported gains in general education, student-reported gains in personal and social development, student-reported gains in job-related skills, and student-reported gains in student satisfaction (Zhao et al., 2005). The study controlled for sex, race/ethnicity, major, residential status, enrollment status, age, parent's education, Carnegie classification of the institution, total undergraduate enrollment, Barron's selectivity rating, and sector (public vs. private). Zhao et al. (2005) found that international students were more engaged in academic challenges and student-faculty

interaction, and demonstrated greater gains in personal and social development and general education. International students also used technology more frequently in course learning activities.

Several studies found that the differences between institutions of higher education in the area of student engagement were actually much less than the different levels of student engagement within institutions (Kuh, 2003; Nelson et al., 2008). Nelson et al. (2008) found that the many sub-environments within an institution had a more immediate and powerful impact on individual students than aggregate institutional characteristics. While individual behaviors are obviously not a factor institutions can control, institutions can predict which students are likely to act in ways similar to behaviors associated with major typologies. By knowing this, advisors and student success workers can help students better focus their time and energies (Bahr, 2010).

Expenditure Correlation Studies

A further realm of research into student engagement, which indirectly examines institutional practices, is the analysis of university expenditures as they relate to the outcomes of retention and engagement initiatives. Pike's legacy of research is foremost in this arena, which has an overall tendency for contradictory findings. Pike, Smart, Kuh, and Hayek (2006) hypothesized that the lack of consistent results is a function of the fact that the effects of expenditures on outcomes are mediated by student engagement, and contingent on characteristics of the student and the institution. Astin (1993) further explained contradictory findings related to expenditure studies due to different institutional methods of classifying expenditures. For example, some institutions will report the entirety of faculty salary under instructional costs, despite the research

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expectation held for faculty, while others will separate faculty salaries into percentages representing instruction and research.

Pike, Kuh, McCormick, Ethington, and Smart's (2011) examination of the impact of institutional expenditures on student engagement and student learning is a recent expenditure correlation study. This study used data from the NSSE and the Integrated Postsecondary Education Data System (IPEDS) and found a statistically significant correlation existed between expenditures and "adjusted institutional means for first-year students' self-reported cognitive outcomes" (Pike et al., 2011, p. 99). Pike et al. (2011) noted that this is to be expected, given the degree to which first-year students are targeted with support and transition programs, due to the first year's position as the critical predictor of retention. This is consistent with findings from Pascarella and Terenzini (1977; 2005), who found indirect relationships between undergraduate education expenditures and learning outcomes. These studies suggest that, rather than spending money to directly influence student retention and graduation rates, institutional leaders should put their resources into high-impact practices with a positive bearing on learning and success. Pascarella and Terenzini (1977; 2005) further asserted that student-faculty interactions both within and outside the class serve as a crucial component in forming a connection between students and the institution.

The history of contradictory findings in this particular field of research is exemplified by the study conducted by a single researcher. Ryan (2004) investigated the impact of institutional expenditures on student persistence, examining six-year cohort graduation rates using a sample of 363 Baccalaureate I and II institutions. Ryan's findings suggested instructional and academic support expenditures (including library

expenditures) have a positive, significant effect on graduation rates. Ryan also found that

expenditures for student services had neither a significant nor positive impact on degree

attainment. Ryan (2005) also examined the impact of institutional expenditures

specifically on student engagement. This study yielded results somewhat contradictory to

the 2004 study, finding a negative (though insignificant) relationship between student

engagement and expenditures for academic support and student services. Ryan (2005)

found that only instructional expenditures had a positive relationship with student

engagement. A deeper examination of the data revealed a complex relationship between

institutional expenditures and student engagement, which is impacted by the student's

year in school, institutional control (public or private), and the type of engagement.

Overall, doctoral and research institutions do not tend to engage students at a high level,

while public institutions serving lower income students tend to have a higher level of

engagement (Ryan, 2005). Ryan concluded the 2004 study with the observation that

postsecondary institutions may be "spending more financial resources to recruit more

students in order to replace the ones they do not retain. Such a process might increase

institutional support expenditures and divert more resources from other areas" (p. 110).

Resource allocations as predictors of student graduation rates (serving as an

outcome of student persistence) was the focus of Hamrick, Schuh, and Shelley's (2004)

study. This study built a statistical model from institutional characteristics such as

Carnegie classification and resource allocations in order to predict graduation rates for a

sample of over 400 public four-year institutions. Data were collected from IPEDS for the

variables: Carnegie classification; geographic region; degree of urbanization; presence of

a medical, dental, veterinary, or related program; selectivity; and institutional financial

aid. Institutional resource allocations that were examined included: student affairs funding, instructional expenditures, library expenditures, physical plant, institutional support, academic expenditures minus the library, and total education and general (E&G) expenditures. Multiple regression analyses yielded empirical evidence supporting a significant correlation between instructional, library, and academic support and graduation rates. These three expenditure categories accounted for 21% to 34% of the variance in graduation rates as sole predictors.

Increasingly, institutions are spending funds to hire part-time or contingent faculty, rather than full-time, tenure-track faculty (Bok, 2006). This represents a specific area of institutional expenditures, which is on the rise. Jaeger and Eagan (2010) studied the relationship of exposure to contingent faculty on retention when controlling for background characteristics, prior achievement, financial aid measures, and enrollment traits within a state's higher education system. This study is built on previous findings that, on the whole, part-time faculty spend less time preparing for class, interacting with students, and using effective teaching methods. Jaeger and Eagan found a significant negative relationship between exposure to contingent faculty and retention at doctoral-extensive, master, and baccalaureate institutions.

Emergence of Kuh's High-impact Practices

Decades of study in educational practices have resulted in a list of practices that yield expected educational outcomes (Hu & Kuh, 2002). Ewell and Wellman (2007) listed what seems to be a consensus of common recommendations that may be postivily related to student persistence: high expectations of the student for success, curricular and behavioral integration, pedagogies involving active learning and collaboration, frequent

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feedback, time on task, respect and engagement with diversity, frequent contact with faculty, connections between academic and non-academic experiences, and emphasis on the first year of study. Student engagement in certain educationally purposeful activities has been noted repeatedly as impacting students' satisfaction level with an institution, thus impacting departure decisions (Hu & Kuh, 2002; Nelson et al., 2008). Yet, a surprisingly high percentage of students are not engaged with their education in meaningful ways (Arum & Roksa, 2011; Bok, 2006). Kuh (2008a) indicated higher education institutions could take immediate steps toward improving engagement and retention by intentionally targeting different student populations with interventions bearing historical evidence of effectiveness.

Nelson et al. (2008) differentiated educational practice as conducive to either deep learning or shallow learning. According to Nelson et al., deep learning approaches to educational practice involve collaborative learning, active learning, and student-faculty interaction; these result in students "both acquiring information and understanding the underlying meaning of the information" (Kuh, 2008a, p. 14). Nelson et al. examined the correlation between institutional selectivity and the use of seven highly effective educational practices (student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, respect for diverse students and diverse ways of knowing). In their conclusion, Nelson et al. (2008) stated, "attending a selective institution in no way guarantees that one will encounter educationally purposeful academic and out-of-class experiences that are linked to a developmentally influential undergraduate experience" (p. 279). The seven practices referenced by Nelson et al. (2008) formed the basis of the National Survey of Student Engagement

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(NSSE), which operationalized these concepts as a way of measuring educational gains by assessing student engagement rather than traditional institutional characteristics (Kuh, 2003). These practices have been cautiously labeled as "effective" through many years of study; however, Carol Geary Schneider, President of the Association of American Colleges and Universities (AAC&U), stated that certain educationally effective practices could be re-categorized as *high-impact* because of the "substantial educational benefits they provide to students" (p. 1). Schneider stated that these HIPs are particularly effective at fostering student persistence, making the substantial effort required to implement HIPs in manners accessible to all students worth undertaking. In keeping with numerous calls to refrain from treating retention as an issue isolated from matters of learning and educational quality, the HIPs demonstrate evidence that they produce significantly more educational benefits for underserved students who are traditionally further behind academically than majority students.

AAC&U (Kuh, 2008a) has adopted 10 practices that emerged from the data collected through the NSSE instrument as "high-impact." These practices should have a positive effect on persistence and are as follows: first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity/global learning, service learning/community-based learning, internships, and capstone courses and projects.

First-year seminars and experiences are organized around the concept of bringing small numbers of freshmen together with faculty and staff on a regular and structured basis. Common intellectual experiences build upon the concept that a core curriculum

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fosters the sharing of curricular and co-curricular activities between students. Learning communities link curricular efforts across multiple courses, usually centered on a theme, and may extend to the residential areas of an institution. Writing-intensive courses require students to prepare multiple drafts of writing assignments, and include frequent feedback from instructors. Collaborative assignments and projects encourage students to learn to work together, particularly with those from different backgrounds. Undergraduate research engages students in research with faculty and fellow students, allowing them to test current issues in disciplines and providing opportunities for students to present and publish. Diversity and global learning experiences draw undergraduate students into contact with individuals and perspectives different from their own. Service learning and community-based learning are field-based experiences that provide students the opportunity to apply the knowledge and skills they have learned in the classroom to relevant, real-world situations in their community. Internships expand upon this by allowing students to engage in experiential learning in a work environment under the supervision of a professional in the field. Capstone courses and projects serve as "culminating experiences" and require students to integrate and apply what they have learned over years of study into a final comprehensive product.

Kuh (2008a; 2008b) attributed the effectiveness of these 10 practices to a number of factors. For example, Kuh stated that the HIPs require more daily time spent on the activities, as well as more frequent contact with faculty (Kuh, 2008b). Students engaged through the HIPs tend to come into more contact with diversity and receive more formal and informal feedback. Kuh also stated that these experiences tend to be life changing and provide opportunities for students to display publicly their competence, knowledge,

or skills (Kuh, 2008b; Kuh et al., 2013). Each of these attributes takes place only when the high-impact practices are done well and have appropriately high expectations of student performance (Kuh, 2008b; Kuh et al., 2013). When they are done well, Kuh stated, the HIPs "require daily decisions that deepen students' investment in the activity as well as their commitment to their academic program and the college" (Kuh, 2008a, p. 15; 2008b). A deeper commitment to an academic program and to the college aligns with the main constructs of Tinto's (1975) model of student integration: goal attainment (commitment to completing a course or degree) and institutional commitment.

Following the adoption of the HIPs by AAC&U, several follow-up studies have further investigated their impact on student engagement and other outcomes, including retention. Pascarella and Blaich (2013) outlined findings from the Wabash Study of Liberal Arts Education, a multi-institution, multi-year longitudinal study. This study sampled 3,100 first-year, full-time undergraduate students from 19 institutions and used five instruments, ranging from a nationally normed assessment (the Critical Thinking Test of the Collegiate Assessment of Academic Proficiency, or CAAP) to socially responsible leadership scales. Among other hypotheses, Pascarella and Blaich surmised that exposure to HIPs would positively impact student persistence. Analysis of the data collected in the Wabash Study supported this finding, with the authors stating that "instructional clarity and organization substantially enhanced student perceptions of satisfaction with college – which directly helped determine re-enrollment for the second year at the same institution" (p. 4). Brownell and Swaner (2010) presented preliminary NSSE data from institutions that combined 5 of the 10 HIPs in unique implementations. The five HIPs interlinked in various configurations were: first-year seminars, learning

communities, service learning, undergraduate research, and capstone experiences. For example, an institution may have a first-year seminar linked with a learning community curriculum, which also contains service learning requirements. Because implementation of these HIPs varies tremendously among institutions, and are far from consistent in their availability to most students (particularly underserved student populations), the evidence, while positive, was not of significant weight to allow firm conclusions. Kuh et al. (2013) presented case studies of institutions that have taken an integrated approach to several high-impact practices, while scaling them for broader implementation across the institution.

High-impact practices are not limited to the formal classroom environment; indeed, the majority of the time spent completing an activity associated with the high-impact practices takes place in informal academic environments (Kuh, 2008a). Pascarella et al. (2006) also emphasized the importance of informal interactions on academic development and engagement of students, stating "interactions with other students constitute a major dimension of the educational impact of an institution on any one student" (p. 252). Among the actions required for students to successfully complete activities associated with the high-impact practices are: integrating ideas or information from various sources, including diverse perspectives in class discussions or writing, discussing ideas with faculty members outside of class, discussing ideas with others outside of class, and making judgments about the value of information (Kuh, 2008b; Nelson et al., 2008).

The modern academic library, having changed from a mission focused on warehousing books, is more oriented to providing collections and an informal academic

environment that directly or indirectly support these activities (Kuh & Gonyea, 2003).
Simpson (2004) noted that students who initiate contact with support services such as the
library might be pre-disposed toward motivating factors leading to degree completion.
Institutions can, therefore, develop interventions targeting students who are not likely to
make contact with support services on their own. According to Simpson, the design of
these interventions should take into account factors relevant to the institution and the
particular needs of its student populations. Bean (2003) identified the academic library as
a place containing specially designed areas for socializing and informal academic
interactions as a physical trait that encouraged student persistence. The new
environment, which academic libraries strive to provide, may serve as a medium by
which academic libraries can help foster educationally effective behaviors and, thus,
impact retention.

Changing Nature of Academic Libraries

Within the context of the new normal for higher education, academic libraries are
facing their own challenges and opportunities. Technology has brought about a
"multiplicity of roles" previously not related to the academic library's traditional mission
(Miller, 2012). The University Leadership Council's *Redefining the Academic Library*
report (2011) outlined some of these diverse and competing roles. These include:
providing students collaborative and solo study and socializing locations, providing
browsable print collections, facilitating access to online journals and databases,
preserving collections of community and regional impact or importance, satisfying
accreditors with unclear expectations, and responding to legislative calls for equitable
access. Allen and Dickie (2007) stated that the realities facing academic libraries include

the inflation of serials costs, new technology, growth in academic degree programs, and changing usage patterns.

While escalating serials pricing and burgeoning academic disciplines (each with its own scholarly publications covering increasingly narrow fields of study) have been the case since the 1980s and 1990s (Walters, 2008); according to Lowry (2011), the economic crisis has accelerated these and other trends, which may have emerged more slowly. Evolutions in technology, and how people use technology to access information, adds an additional layer of evolution to the "new normal" of library collections and services. While the demand for access to deep and broad research and teaching collections remains, the means of access has changed, requiring libraries to maintain, not only their print collections, but also to keep pace with rapidly changing technology and business models for electronic content (Lynch et al., 2007). McKendrick (2012), author of a recent benchmark study on library spending plans, stated, "the shift to the digital library has accelerated noticeably since the last survey just a year ago" (p. 3). This significant shift is further highlighting questions on academic libraries' mission for instruction and the provision of facilities. Kuh and Gonyea (2003) stated that three major trends demand a response from academic libraries: "unfettered asynchronous access to an exponentially expanding information base; a shift in the focus of colleges and universities from teaching to learning; and the expectation that all university functions and programs demonstrate their effectiveness" (p. 256).

Historically, American academic libraries have served a utilitarian duty as a place to store books, and librarians have filled the role of gatekeeper (Freeman, 2005). As information formats changed over the years, the role of librarians and the library facility

changed, stressing the provision of technical assistance and access to technology in order to use web-based resources. Indeed, Freeman (2005) stated that "the integration of new information technology has actually become the catalyst that transforms the library into a more vital and critical intellectual center of life at colleges and universities today" (p. 2). Freeman then described the library as a laboratory or extension of the classroom, in which students should find the group study spaces they need to work collaboratively, while preserving the "dedicated, contemplative spaces" that are required for individual study. Such an environment, combined with evolving digital collections and blended academic support services, can serve as a comprehensive unit that supports the high-impact practices for student engagement, thus potentially having a positive impact on student retention. As Lynch et al. (2007) stated, the facility remains, but its importance as a book warehouse has diminished; rather, the physical library can serve as a study environment and a site for co-located academic support services. However, because academic librarians have traditionally taken a passive role on campus, academic libraries may be viewed by many university administrators as expensive (and underused) storehouses (Oakleaf, 2010, p. 28). An Online Computer Library Center (OCLC) study (Michalko, Malpas, & Arcolio, 2010) into risks faced by academic libraries at research institutions identified 26 risk items, 10 of which are high risk. These ten high-risk items, compiled from interviews with Association of Research Library directors, are as follows:

1. availability of online and other resources may weaken the visibility and necessity of the library

2. user base erodes because library value proposition is not effectively communicated

3. recruitment and retention of resources is difficult due to competitive

   environment and reduction in pool of qualified candidates

4. difficulty identifying candidates for evolving library management roles

5. human resources are not allocated appropriately within the library or

   university to provide the training, development, cross-training and re-training

   required to manage change in the current environment

6. current human resources lack skillset for future needs

7. conservative nature of library inhibits timely adaptation to changed

   circumstances

8. library cannot adjust fast enough to keep up with rapidly changing technology

   and user needs

9. increased inefficiencies and expenses due to lack of functionality of legacy

   systems and IT support

10. due diligence and sustainability assessment of local or third party services and

    initiatives is not completed, tracked, or analyzed. (pp. 9-11)

The weakened value proposition can be summarized as a self-fulfilling prophecy, due to a

perpetual misalignment of success metrics (Michalko et al., 2010).

Evolving Library Assessment Methodologies

OCLC's risk assessment for academic libraries (Michalko et al., 2010) concluded

that:

most institutions continue to direct resources in traditional ways towards

operations that are marginal to institutional and national research priorities,

towards processes and services that are ignored or undervalued by their clients

and towards staff activities that are driven more by legacy professional concerns than user needs. (p. 19)

In light of these threats and considered in conjunction with the increased accountability placed on institutions of higher education, many researchers call for an evolution of library research methodologies to include more sophisticated assessment techniques (Matthews, 2012; Oakleaf, 2010; Weiner 2005; Wong & Webb, 2011). Traditional indicators of library quality have been operational expenditures, number of volumes, number of staff, and number of journal subscriptions (Weiner, 2005). The literature review conducted by Wong and Webb (2011) revealed a pattern of library assessment methods, none of which measure the impact of the library on learning outcomes. These assessment methods include surveys/questionnaires/focus groups, usability studies, usage studies/transaction logs analysis, process analysis/improvement studies, and space/facility studies.

These traditional measures and assessment methodologies were adequate when the academic library's primary purpose was collecting books and journals, and when the number of books and journals in the library also served as measures of institutional quality and excellence (Whitmire, 2002). These no longer reflect the spectrum of purposes fulfilled by academic libraries (Weiner, 2005); institutions of higher education are judged by different standards. Academic libraries must align themselves with these standards in order to stay relevant in a changing world (Whitmire, 2002).

The changing nature of academic library facilities, collections, and instruction in the context of the shifting landscape of higher education has led to a general questioning of the continued viability and continuation of the traditional role academic libraries have

held as the "heart of the university" (Grimes, 1993). Gratch-Lindauer (1998) noted that academic libraries do not structure their collected usage data in ways that are meaningful for university administrators, nor do they strategically position their services in alignment with university priorities. A resistance to the collection of data related to student use of academic library resources and services in order to protect user privacy has prevented many academic libraries from conducting rigorous studies into their impact on student success.

In order to determine whether the academic libraries' traditional role as the "heart of the university" (centrality) remained powerful enough in the current economic environment to secure funding for the library, Lynch et al. (2007) replicated a previous study by Grimes (1993) to interview university presidents and provosts. They found provosts and presidents generally agreed that the library contributes fundamentally to the research and teaching missions of the university, but that "library funding requests don't carry the same weight as proposals from other deans unless a clear connection between university enrollment and student learning outcomes is made" (p. 221). This quote highlights the increasing need for academic libraries to demonstrate "value" via impact on such university priorities as enrollment, retention, and student learning.

In her report for the Association of College and Research Libraries, Oakleaf (2010) prepared what is perhaps the most thorough review of the state of academic libraries as a "value" within institutions of higher education. Oakleaf (2010) reiterated Lynch et al.'s (2007) findings regarding the metaphor of the academic library as the "heart of the university" and its lack of ability to compete in the face of many complex and often contradictory expectations of higher education. In such an environment,

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Oakleaf (2010) argued that academic libraries must actively demonstrate their value, rather than rely on stakeholders to assume the library remains important and engaged in the initiatives of the university. Furthermore, Oakleaf affirmed that the demonstration of academic library value cannot necessarily rely on traditional data elements acquired by simply counting uses; usage data must be connected with items of larger institutional importance in order to resonate with university administrators. Matthews (2012) further called for academic libraries to more actively collect student use data, organized to protect privacy while enabling rigorous studies into impact.

Oakleaf (2010) concluded her review with a series of questions designed to serve as a research agenda for future studies on the impact of academic libraries on institutional missions and priorities. In short, these questions ask how the academic library contributes to student enrollment; student retention and graduation rates; student success (internship and job placements, acceptance in graduate schools); student achievement (GPA and professional/educational test scores); student learning; student experience (first-year experiences, learning communities, service/diversity/global learning, etc.); faculty research productivity; faculty grant proposals and funding; faculty teaching; and overall institutional reputation or prestige.

Role of Academic Libraries in Student Retention

Numerous studies into the categories suggested by Oakleaf (2010) have been completed, as researchers have found methods of collecting student use data that is categorical or continual, thereby preserving user privacy. Haddow and Joseph (2010) cited three major areas of study into which library involvement in student engagement and retention may be clustered: utilization of library physical space or collections,

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correlation studies into library expenditures and student retention, and impact of the provision of library instruction/information literacy instruction. These areas are in keeping with the three areas of the evolving academic library (facilities, collections, instruction). Soria, Fransen, and Nackerud (2013) noted that the majority of research on library impact has focused on information literacy and critical thinking skills. Haddow (2013) confirmed this trend, stating that academic library research focus tends to be on library use and academic performance, measured through grades. For example, Whitmire (2002) analyzed the relationship among an institution's academic library resources, services, and undergraduate academic library use and self-reported gains in critical thinking (which was used as a proxy for information literacy). The study found that students who were more engaged (measured through faculty interactions, writing, and active learning activities) tended to use the library more. A similar finding by Goodall and Pattern (2011) indicated that higher use of the library correlated with higher academic achievement; the reverse also was true, highlighting the difficulty in determining causation.

While the demand for research into the value of academic libraries to institutional priorities is relatively recent, studies into the impact of academic libraries on retention date much further back. Of particular note is Kramer and Kramer's (1968) study, which is one of the earliest scholarly studies of the connection between academic libraries and retention. This early study was conducted using a convenience sample of entering freshmen at California State Polytechnic College, Pomona. Book checkout numbers were used as indicators of library use, appropriate for the time period. Kramer and Kramer found that 43% of library non-users dropped out after their first year while only

26% of library users dropped out. Kramer and Kramer demonstrated that library users had a higher rate of retention (73.7%) than the overall institutional rate of 63%.

Haddow and Joseph (2010) explored an association between library use and student retention, with particular emphasis on socio-economic status and age at entry to higher education. The authors noted that student engagement is critical to student retention. Haddow and Joseph's study made use of library usage data for each student (number of items borrowed, number of logins to a PC physically housed in the library, and number of online logins to library systems such as databases, ILL, etc.). Numeric values for these uses were categorized into high use, medium use, low use, and no use fields, and analyzed using the non-parametric (Mann-Whitney) test to determine associations between library use and retention. The results showed a high proportion of withdrawn students had no or low use of library resources, particularly if those withdrawn students made no use of library resources early in the semester. The authors suggested academic librarians should focus efforts on library instruction and entry into the facility early in the semester in an effort to maximize their impact on retention.

Haddow (2013) followed this study with further examinations. The follow-up study compiled demographic and retention data at three points in the first year: at the end of semester one, re-enrolled in semester two, retained at the end of semester two. Library login data were also collected at three points in the first year. Haddow (2013) found that students who remained enrolled logged into library resources in much higher proportions than those who withdrew. The correlation between library use and retention is even more pronounced in the second year, with 60% of withdrawn students not logging into library resources at all. While these data show a positive correlation between library use and

retention, Haddow (2013) also found that 17% of second-year retained students also had not logged into library resources. Twenty percent of retained students did not log in during their first semester. Of the demographic populations, "mature-aged" students (defined by the institution as 21 years or older, data that Haddow could not disaggregate for more granular analysis) logged into library resources at a much higher rate than younger students. Given the higher withdrawal rate of mature-aged students, Haddow (2013) suggested targeted library services to impact their progress.

Similar to Haddow (2013), Soria et al. (2013) focused their study on library use early in an undergraduate program – in this case, the first semester of the first year. Their study looked at library use correlated with first-year, first-semester academic achievement and retention, examining specific library services and controlling for demographic characteristics, pre-college academic characteristics, and students' other experiences on campus. Their list of indicators of library use included logins at library computer terminals, logins to licensed library resources, circulation data, and interlibrary loan usage. Specific controls for this study included: gender, race/ethnicity, international status, Pell grant award status, status as a first-generation college student, military veterans, and pre-college academic characteristics (ACT composite score and Advanced Placement credits). Soria et al. found that first-year students who used the library at least once in the fall semester had higher grade point averages, when compared to their peers who did not use the library at all. Library users also had higher retention rates from fall to spring semesters. These findings held when controlling for the variables noted above. Analysis of the data indicated four specific types of library services were particularly related to academic achievement: physical presence in the building (indicated by

computer logins), accessing online databases, accessing electronic journals, and checking out books. Two activities stood out in relation to retention: enrollment in Introduction to Library Research workshops, and use of online databases.

These findings were further supported in a follow-up study by Soria, Fransen, and Nackerud (2014), in which the researchers used the 10 library use data elements and two statistical analyses (ordinary least square regressions and logistic regression) to predict first-year students' cumulative grade point averages and first-year to second-year retention. Use, even once, of library databases, print collections, electronic journals, and computer workstations were positively correlated with GPA and retention. For every additional time that students engaged in these behaviors, students demonstrated an associated increase in GPA and retention.

Hubbard and Loos (2013) conducted a study to determine the extent to which academic libraries participate in enrollment and retention initiatives. They developed a 31-question survey organized in four sections: demographic data about the respondent's institution, questions about library participation in university recruitment initiatives, questions about library participation in university retention initiatives, and contact information. The survey was distributed to a random sample of 321 academic library deans/directors and contained 13 questions specifically targeting student retention initiatives. These questions asked respondents to indicate if their library: had been encouraged to participate in retention initiatives, if librarians participated in institution-wide retention initiatives, if the library had a librarian or staff member whose position description requires retention efforts, if the library hosted or sponsored activities

specifically intended to retain students, and how the library assessed its impact on student retention.

Hubbard and Loos (2013) reported that 62% of the respondents indicated that the library had been encouraged to participate in retention initiatives, with about a third of the encouragement coming from library administration, and the remaining 62% coming from administrators external to the library. This percentage is lower than the percentage expressed regarding encouragement of the library to participate in institution-wide recruitment initiatives, e.g., a higher percentage of respondents indicated they have been encouraged to participate in institution-wide recruitment initiatives than in institution-wide retention initiatives. However, library participation in retention initiatives happens more frequently than library participation in recruitment initiatives. Hubbard and Loos went on to report that 40.1% of respondents indicated that the library hosts or sponsors events specifically intended to retain students. The coding descriptions of these library-hosted events included (in decreasing order of frequency) campus engagement/student programming, instruction, student support services, study space/facilities, open houses/orientations/tours, liaison programs, student employment, and library services. Most of the respondents "pointed to standard academic library services and facilities as being important to retention efforts" (p. 177). As noted by Haddow and Joseph (2010), many of the comments in Hubbard and Loos's (2013) study regarding the connection between the library and retention is predicated on assessing student learning outcomes in the area of information literacy. Other comments indicate the desire to develop effective mechanisms for conducting a robust study of the library's impact on retention.

The question, "What impact does the academic library have on student success?" guided Emmons and Wilkinson's (2011) study. The authors once again noted that traditional measures of library value are reliant upon input/output measures and do not convey impact of the library on student success. Specific questions of their study focused on the impact of the academic library on student retention and graduation rates. Because librarians tend to rely on traditional usage measures, Emmons and Wilkinson noted that most existing studies indirectly attempt to measure this, but do not make direct assessments. Their study examined data from the 2005-06 Annual Survey of ARL Statistics compiled by Association of Research Libraries (ARL) and from IPEDS. ARL data included number of staff, collections figures, expenditures information, and collection use. IPEDS was used for retention and graduation data, along with race/ethnicity, gender, and socio-economic status (percentage of students receiving need-based financial aid was used as a proxy). Emmons and Wilkinson (2011) found a 10% increase in the ratio of professional library staff predicts a 1.55% increase in retention. The positive relationship also was found for graduation rates, and for the elimination of professional staffing (both relationships are curvilinear); the ratio of professional library staff to full-time students has a larger impact on six-year graduation rates than on fall-to-fall retention. According to Emmons and Wilkinson, this confirms that the impact of professional library staff on student success would have an incremental positive increase over time. It can be surmised that this positive impact can be partly attributed to student engagement with a unit whose mission is to support student learning.

Mezick (2007) focused on the impact of academic library collections through a study on the return on investment resulting from library expenditures and student

retention. Library expenditures and the number of professional library staff were used as indicators of resources essential to providing library services. As with Emmons and Wilkinson (2011), Mezick analyzed data provided from ACRL and IPEDS and found the strongest relationships with fall-to-fall retention are among total library expenditures, total library materials expenditures, and serial expenditures at baccalaureate colleges. In the area of professional library staffing, Mezick found the strongest relationship at doctoral-granting institutions. Bell (2008) built off Mezick's study by looking more closely at the impact of personalized and individualized assistance on university priorities such as retention. He pointed out that strategies for student retention focus on getting students more engaged in their studies or in extracurricular activities at their institution, nurturing the relationships between educators and students. Bell advised academic library directors to emphasize the role of the library in fostering these relationships.

Love's (2009) study provided an example of a narrowed research focus by investigating academic library impact on minority student retention. Love's case study of minority student outreach by the academic library at the University of Illinois was built on the findings of Mallinckrodt and Selackek (1987), who found that the library facility is the only facility connected with African American undergraduate student retention. The study concluded with a call for greater effort on the part of academic libraries for simple outreach initiatives to minority populations with the potential for positive outcomes (Love, 2009).

Similar to others (Grimes, 1993; Lynch, 2011; Oakleaf, 2010), Blackburn (2010) pondered whether academic libraries' traditional, assumed role within higher education as the "heart of the university" has obstructed the need for libraries to demonstrate their

role in student retention efforts. Grimes (1993) found that the metaphor of the library as the heart of the university should be replaced with a new metaphor of the library as a crossroads community. Blackburn outlined four critical areas or initiatives in which academic libraries can participate in order to play a role in student retention: getting to students early, getting to students often, getting them in the door, and keeping them coming back. Cultivating personal relationships fosters student engagement; getting to students often can help with the formation of relationships between students and librarians.

Summary

The reasons for student withdrawal are complex, making it unlikely that any single support unit will be solely responsible for a student's decision to remain or withdraw from a college program (Hagel et al., 2012). However, this makes collaboration across academic and social support services that much more critical in order to develop a seamlessness of support. Blackburn (2010) drew attention to the overall lack of scholarly discourse on the topic of student retention within academic libraries. This absence in the record of research – and the increased need for academic libraries to demonstrate impact on university priorities such as retention – can leave academic librarians and directors floundering when attempting to convey impact or value to university administrators. Likewise, the lack of practical applications to be garnered through general retention research can leave academic librarians and directors struggling to find effective and meaningful venues for retention-related efforts. This study fills a gap in the record of research by examining the perceptions of academic library deans/directors on the alignment of library resources and services with the 10 high-

impact practices. It also examines how library impact on student retention is currently

documented and communicated by academic library deans/directors, and the degree to

which the perception of academic library deans/directors on their library's involvement

with high-impact practices correlates with institutional retention rates.

CHAPTER III: METHODOLOGY

This chapter describes the methodology used within this study, including the overall design of the study, target populations, data collection procedures, and data analysis.

Conceptual Framework

The conceptual framework for this study is the 10 high-impact practices (HIPs) adopted by the American Association of Colleges and Universities' *Liberal Education and America's Promise* (LEAP) program. The 10 HIPS are: first year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity and global learning, service learning and community-based learning, internships, and capstone courses and projects (Kuh, 2008a). These specific educational practices have consistently yielded anticipated and desired student learning outcomes over decades of study, and have been nationally validated by the National Survey of Student Engagement (NSSE) (Brownell & Swaner, 2010; Kuh, 2008a; Kuh et al., 2013). Data from the NSSE provide evidence of the effectiveness of these 10 HIPs at increasing student engagement and having a positive impact on student retention.

Review of the Problem

Various stakeholders in higher education expect different measures of value from university administrators, and traditional academic library indicators of quality (such as the number of volumes held or journals subscribed to) are outdated (Emmons & Wilkinson, 2011; Lynch et al., 2007; Oakleaf, 2010). One metric increasingly used by legislators and governing bodies to determine institutional funding is retention. As this

metric gains importance, it is used to determine or justify the allocation of funding and resources within institutions of higher education. However, despite expectations that academic library directors relate funding requests to the impact on student enrollment, retention, or learning, no clear direction is noted for doing so that university administrators find acceptable (Lynch et al., 2007). Academic library directors seeking methods of determining impact on student retention will find little help in the body of scholarly study.

Consistently, research in the field of retention notes that the factors affecting a student's decision to withdraw from college are diverse, complex, and vary from person to person. Many of them are outside the control of institutions of higher education. However, research suggests that facilitating student engagement can have a positive impact on retention (Kuh et al., 2008; Pascerella & Terenzini, 2005). The HIPs used as the conceptual framework for this study are nationally validated best practices for student engagement and retention. Kuh and Gonyea (2008) noted that many, if not most, of these HIPs take place outside of the formal classroom environment. The academic library, with its mission no longer focused predominantly on warehousing books, serves as an informal academic environment that can support student engagement and retention (Kuh & Gonyea, 2003).

The purpose of this exploratory study is to better understand the perspective of academic library deans/directors on the role of academic libraries in student retention, using Kuh's (2008a) 10 HIPs as a conceptual framework.

Research Questions

Given that university administrators are expected to demonstrate the effectiveness of higher education to a variety of stakeholders, the central research question for this study is: How do academic library deans/directors view their modern academic library in light of high-impact practices affecting student retention?

This exploratory study asks three questions:

1. To what extent do academic library deans/directors perceive their academic library's current services and resources as aligning with high-impact practices affecting student retention?

2. How do academic library deans/directors document and communicate the impact of library services and resources on student retention?

3. Is there a correlation between retention data and academic library deans/directors' perception of their library's involvement with high-impact practices?

Research Design

This study was conducted as an exploratory examination using a survey of academic library deans/directors. The survey was followed by the calculation of descriptive statistics and correlations with nationally gathered data.

Population

The population under study was academic library deans/directors at the 271 public comprehensive universities in the United States with a Carnegie classification of master's level as of January 2013 (see Appendix A). Reliability testing of the survey instrument used a pilot population of 259 academic library deans/directors at institutions

with a Carnegie classification of community college or research institution. Following

reliability testing of the survey instrument, the instrument was distributed to the full

population of library deans/directors at public master's universities. The sample derived

from this population consisted of 68 respondents. Data obtained about the sample

population included years of service as a library dean/director at the current institution,

total years of service as a library dean/director, current institution's undergraduate

enrollment, and rank held by librarians.

Instrumentation

The survey utilized in this study (see Appendix B) was developed based on the

high-impact practices validated by Kuh (2008a) as having an impact on student

engagement and retention. It consisted of a matrix of 10 Likert-scale questions probing

the level of alignment academic library deans/directors perceived their libraries to have

with the 10 AAC&U-adopted high-impact practices, and two open-ended questions

soliciting information on the current documentation and communication of academic

library impact on student retention. Four demographic questions were also included in

order to determine the years of experience of the survey respondent as a library

dean/director at their current institution and in total, sample institutions' undergraduate

enrollment, and whether librarians at the sample institutions hold faculty rank. The

survey directly addressed Research Questions 1 and 2 and resulted in a scale of perceived

academic library involvement with high-impact practices. Research Question 3 was

examined by correlating the scale of perceived involvement that emerged from the survey

results with retention data from NCES. The Qualtrics system was used to construct the

survey.

Validity and Reliability

This study's conceptual framework, consisting of the 10 high-impact practices validated nationally through the NSSE, was used to design the survey, giving the instrument face validity. The instrument was pilot tested with 259 academic library deans/directors at community college and research institution libraries. The pilot test was administered to the pilot sample twice in order to calculate test/retest reliability. The pilot test contained five anonymous identifying questions that facilitated matching initial test results with retest results. A total of 42 responses were gathered. Of those, three were immediately identifiable instances of test/retest completion. Another four sets of responses were probable test/retest completions based on similarities in IP range identifiers. This provided seven total datasets for reliability data analysis.

For the seven completed test/retest datasets, weighted Kappa coefficients were calculated on each variable within the matrix of HIPs and library collections, services, facilities, and other library services. This approach yielded 40 variables with test and retest data. The weighted Kappa coefficients were scaled according to categories in Table 1.

Table 1

Weighted Kappa Coefficient Range

Weighted Kappa Coefficient Range	Descriptor
0.01 – 0.2	Slight agreement
0.21 – 0.4	Fair agreement
0.41 – 0.6	Moderate agreement
0.61 – 0.8	Substantial agreement
0.81 – 0.99	Near perfect agreement

This analysis of test/retest data revealed fair agreement for 6 variables, moderate agreement for 13, substantial agreement for 15, and near perfect agreement for 1 variable. Five variables yielded slight agreement.

In addition, 100% agreement means were calculated for each of the 40 variables. These means indicated the percent of identical responses between test and retest applications for the seven completed datasets. Examination of the 100% agreement means yielded trends matching those found by examining weighted Kappa coefficients. The variables with slight agreement in the weighted Kappa coefficient scale also had low percent means of 100% agreement; variables with moderate and substantial agreement in the weighted Kappa coefficient scale also had moderate and high percent means of 100% agreement.

This analysis examined the reliability of each variable in the HIP matrix independently. Because the study called for the calculation of correlations between institutions' overall HIP scale and their retention rates, weighted Kappa coefficients were calculated for each HIP using the mean of ratings for library collections, instruction, facilities, and other services. The weighted Kappa coefficients for each HIP are shown in Table 2.

Based on these findings, and feedback from members of the pilot sample population, the category "other library services" was deemed an unnecessary and vague duplication of items that would be noted under the collections, facilities, or instruction categories. As a result, this category was removed from the survey instrument for distribution to the target population.

Table 2

Pilot Test Weighted Kappa Coefficients for each HIP

HIP	Weighted Kappa Coefficient	Descriptor
1: First-year seminars	0.6889	Substantial agreement
2: Common intellectual experiences	0.5562	Moderate agreement
3: Learning communities	1.0000	Near perfect agreement
4: Writing-intensive courses	0.5910	Moderate agreement
5: Collaborative assignments and projects	0.4057	Moderate agreement
6: Undergraduate research	0.7407	Substantial agreement
7: Diversity and global learning	0.4815	Moderate agreement
8: Service learning and community-based learning	0.4576	Moderate agreement
9: Internships	0.0494	Slight agreement
10: Capstone courses and projects	0.2749	Fair agreement

Data Collection

The survey was distributed by email to 271 academic library deans/directors on

January 22, 2014. The email served as a cover letter (see Appendix C), and all

Institutional Review Board (IRB) approval and consent documents (see Appendix D)

were included. The targeted participants were contacted one week prior to the

distribution of the survey via email, alerting them to the forthcoming survey. Reminder

emails were sent to participants who did not respond on January 28, January 31, and

February 4, 2014. A final email notifying participants of the survey's closing was sent on

February 7, 2014. A response rate of 20% (N = 54) was established as a minimum for the

closing of the survey. Ultimately, a response rate of 25% (N = 68) was achieved. Data

on institutional retention rates was obtained through NCES.

Data Analysis

Data were downloaded from the online Qualtrics survey system in an Excel file

format. The data was then loaded in Statistical Analysis Software (SAS) for tabulation.

Demographic Data

Data obtained from the four demographic questions on the survey were analyzed

using descriptive statistics, Pearson correlation coefficients, and frequency distributions.

 Demographic variables were further analyzed in conjunction with Research Question 1.

Research Question 1

The matrix of Likert-style questions asked library deans/directors to indicate their

perception of the degree of alignment between library collections, library instruction, and

library facilities with each of the 10 HIPs. Each HIP was assigned a scale number (HIP 1

was identified as scale 1, etc.) resulting in 10 HIP scales. Each of the library services or

resources was assigned to a library scale (identified as LC for library collections, LI for

library instruction, and LF for library facilities), resulting in three library scales. Each

Likert scale for each variable contained selection options of N/A (with a value of 0);

Very Little (with a value of 1); Little (with a value of 2); Some (with a value of 3);

Moderate (with a value of 4); and Very High (with a value of 5). Responses of N/A were recoded and scale values reduced by one to create a scale with a range of 1-5.

The value of each of the 10 HIP scales was calculated by summing the ratings assigned by respondents to library collections (LC), library instruction (LI), and library facilities (LF). This summation resulted in a range for each HIP scale of 1 to 15 with 1 representing the lowest rating and 15 representing the highest rating.

The value of each of the three library scales (LC, LI, and LF) was calculated by summing the ratings assigned by respondents to each of the high-impact practice variables. This summation resulted in a range for each library scale of 1 to 50 with 1 representing the lowest rating and 50 representing the highest rating.

Because Research Question 1 asked "To what extent do academic library deans/directors perceive their academic library's current services and resources as aligning with high-impact practices affecting student retention?"; Pearson correlation coefficients were calculated for each scale interaction (i.e. the correlation of scale 1 with LC; the correlation of scale 2 with LC; etc.). The matrix style of data collection resulted in an overlap of data within each correlation, meaning certain variables would be correlated with themselves if not removed. For example, the rating for library collections in association with HIP 1 would be included in data sets for the correlation between first-year seminars (scale 1) and library collections (LC). To prevent this from skewing the analysis, the overlapped variable was removed from the correlation calculations for each of the 30 scale interactions.

The matrix also had open-ended prompts for a "brief description of support practices" for each HIP. These qualitative data were sorted into high, moderate, and low

alignment categories based on the sum of each institution's responses to the HIP

variables. The high, moderate, and low designations were determined for HIPs 1-10, as

well as for the LC, LI, and LF scales by identifying breaks in the frequency distribution

of response sums. These breaks roughly fell along highest and lowest third percentiles.

Subsequent to classification of high, moderate, or low for each institution's responses on

both the HIP and library scales, a SAS impact report provided an overall designation for

each institution. Qualitative responses were then sorted according to institutions' overall

high, moderate, or low designation. Once sorted into these designations, the open-ended

responses were imported into NVIVO for coding.   Responses were then coded according

to a three-tiered coding structure, identifying responses from high, moderate, or low

alignment institutions, categorized by HIP, and finally sorted into prevalent themes

within the three library scales (library collections, library instruction, and library

facilities).

Following the calculation of descriptive statistics for the demographic variables,

further analysis was conducted using institutional alignment designation. A Pearson

correlation coefficient was calculated between alignment designations and two of the

demographic variables: years of service as the library dean/director at the current

institution, and total years of service as a library dean/director. Frequency distribution

reports were calculated for institutional undergraduate enrollment and librarians as

faculty or professional staff using the alignment designations as categories of analysis.

Research Question 2

Research Question 2 asked "How do academic library deans/directors document

and communicate the impact of library services and resources on student retention?"

Data for this question was obtained from two questions on the survey, which asked

respondents to describe current methods used, if any, to document and communicate their

library's impact on retention. Responses to these questions were sorted according to the

high, moderate, or low alignment designation described above, then placed within a

qualitative coding structure in NVIVO for the identification of themes.

Research Question 3

This study's third research question examined the correlation between the

academic library's alignment with the 10 HIPs and institutional retention rates. The sum

for each HIP and the three library scales (LC, LI, and LF) were correlated with

institutional full-time and part-time retention rates, as reported to NCES.

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Ethical Considerations

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Anonymization of the survey responses ensured the confidentiality of the data.

The confidentiality of the respondents was further protected by reporting data in

aggregate.

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Delimitations

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This study focuses on the perceptions of academic library deans/directors at

public master's universities in the United States. The 271 institutions included in this

population face similar circumstances in funding, staffing, and their mission. Because of

these similarities, the expectations and challenges of the academic library supporting the

institutions are similar. While retention is a concern for all institutions of higher

education, this study is restricted to public master's universities, as this population will

have a distinct set of challenges when compared with land grant, public research, two-

year, private, or for-profit institutions of higher education.

Retention initiatives at public master's universities differ significantly from those at larger and smaller institutions, as do academic library resources and services. However, it also must be noted that retention initiatives within the subset of public master's universities also differ, with each institution undertaking unique endeavors to improve student retention. This study is restricted to the 10 high-impact practices that have been quantifiably shown on a national scale to impact student engagement, which in turn affects student retention.

Limitations

As the population under study is restricted to public master's universities in the United States, the results cannot be generalized to other public or private universities. In addition, the survey was distributed to academic library deans/directors, specifically seeking data on their perceptions of the alignment of library services or resources with retention initiatives. Results cannot be generalized to other library positions, other university administrative positions, or across types of libraries serving different types of institutions or communities.

Additionally, the researcher used Kuh's (2008a) 10 high-impact practices for student engagement as a conceptual framework. While the Association of American Colleges and Universities accepts these HIPs as having a significant impact on retention, these practices most certainly do not encompass the full range of initiatives underway at institutions of higher education to improve retention. Consequentially, the results of this study cannot be generalized to retention initiatives or practices that fall outside the range of the study's conceptual framework.

Summary

This exploratory study into the views of academic library deans/directors on their libraries' involvement with retention initiatives was completed through the gathering of data using a survey. The survey, constructed using Kuh's (2008a) 10 high-impact practices as a conceptual framework, resulted in a scale of alignment between sample population library facilities, collections, and instruction with each of the HIPs. This scale, along with responses to open-ended questions regarding the collection and communication of library/retention initiatives, provided a dataset of academic library dean/director perceptions. The following chapter presents the results of the study.

CHAPTER IV: RESULTS

This chapter provides an overview of the study and the findings for each research question.

Overview of the Study

This study examined the perceptions of academic library deans/directors of the role their units can serve in retention through student engagement fostered by Kuh's (2008a) high-impact practices. The population under study consisted of all academic library deans/directors at the 271 public master's universities, as identified by the Carnegie Institution in January 2013 (see Appendix A). A survey was distributed by email to the entire population (see Appendix B). The email served as the cover letter (see Appendix C) and was accompanied by IRB approved consent documentation (see Appendix D). The survey was distributed on January 22, 2014, and was closed to responses on February 7, 2014. Several reminder emails were distributed to the survey population. A response rate of 20% (N = 54) was established as a minimum for the closing of the survey. Ultimately, a response rate of 25% (N = 68) was achieved.

Survey Instrument

The survey consisted of a matrix of 10 Likert-scale questions probing the level of alignment academic library deans/directors perceived their libraries had with the 10 AAC&U-adopted high-impact practices, and two open-ended questions soliciting information on current methods of documentation and communication of academic library impact on student retention. Four demographic questions also were included in order to determine the years of experience of the survey respondent as a library

dean/director, sample institutions' undergraduate enrollment, and whether librarians at the sample institutions hold faculty rank.

Research Questions

The guiding question for this study was: How do academic library deans/directors view their modern academic library in light of high-impact practices affecting student retention?

In this exploratory study three research questions were asked:

1. To what extent do academic library deans/directors perceive their academic library's current services and resources as aligning with high-impact practices affecting student retention?

2. How do academic library deans/directors document and communicate the impact of library services and resources on student retention?

3. Is there a correlation between retention data and academic library deans/directors' perception of their library's involvement with high-impact practices?

The survey directly addressed Research Questions 1 and 2 and resulted in a scale of academic library involvement with high-impact practices. Research Question 3 was examined by correlating the scale of involvement that emerged from the survey results with retention data from NCES.

This chapter presents data gathered through the survey and is organized by research question. The results provide insight into the perspectives of academic library deans/directors on the alignment among library services/resources with the HIPs, library support services in place for the HIPs, and methods used for documenting and

communicating the library's impact on retention. Where applicable, the researcher coded the results of the open-ended questions to provide clarifying and supporting data for the quantitative survey responses and to address Research Question 2. Institutional retention rates were collected from the IPEDS database and matched to the dataset produced by the survey.

Demographic Data

The survey instrument contained four questions designed to collect demographic data about the respondents and their institutions. The first question asked respondents to indicate the number of years they had served as the academic library dean/director at their current institutions. The second asked respondents to indicate the total number of years they had served as an academic library dean/director. Table 3 contains descriptive statistics on the data gathered for this question.

Table 3

Descriptive Statistics on Years of Service Demographic Questions

Survey Question	N	Mean	Standard Deviation	Minimum	Maximum
At your current institution, how many years have you served as the academic library dean/director?	68	7.54	6.167	1.00	30.00
In total, how many years have you served as an academic library dean/director?	68	10.69	9.011	1.00	37.00

The mean number of years serving as library dean/director at the current institution was 7.5, while the mean number of total years serving as a library dean/director was 10.7. A frequency distribution report showed that 45% of respondents

had served five years or less at their current institution. This report also showed that 55%

of respondents had been a dean/director for less than 10 total years. Of those who had

served for longer, most of the respondents had been a dean/director for 15 years or less.

The third demographic question asked respondents to indicate their institutions'

undergraduate enrollment. Table 4 presents the results of this question.

Table 4

Undergraduate Enrollment of Survey Respondents' Institutions

Undergraduate Enrollment	N	Percent
6,000 or less	27	39.71
6,000 – 12,000	27	39.71
12,000 – 18,000	9	13.24
More than 18,000	5	7.35

Respondents from institutions with undergraduate enrollment of fewer than

12,000 students accounted for 79.42% of the responses, while those from institutions

with undergraduate enrollment of 12,000 or above accounted for 20.59%.

The final demographic question asked respondents to indicate whether librarians

carry faculty rank at their current institutions. Seventy-nine percent of respondents noted

that librarians carry faculty rank in their institutions, while 21% indicated that librarians

were considered professional staff.

Research Question 1

This study's first research question asked, "To what extent do academic library

deans/directors perceive their academic library's current services and resources as

aligning with high-impact practices affecting student retention?" Data for this question

was obtained through the survey's Likert-style matrix, in which survey respondents rated their perceptions of alignment between high-impact practices with three library scales (library collections, library instruction, and library facilities) and provided responses to open-ended questions asking for supporting detail.

Quantitative Findings for Research Question 1

The ratings provided by survey respondents were summed for each HIP scale and each library scale. The value of each of the 10 HIP scales, displayed in Table 5, was determined by summing the ratings assigned by respondents to library collections, library instruction, and library facilities. The summation resulted in a minimum HIP scale score of 1 and a maximum HIP scale score of 15 per institution.

Table 5

HIP Scale Values

HIP Scale	N	Mean	Standard Deviation	Minimum Value	Maximum Value
First-Year Seminars	61	9.19	3.14	3.00	15.00
Common Intellectual Experiences	56	9.64	3.38	3.00	15.00
Learning Communities	49	6.65	3.15	2.00	15.00
Writing-Intensive Courses	62	9.90	3.36	1.00	15.00
Collaborative Assignments and Projects	62	9.72	3.18	2.00	15.00
Undergraduate Research	62	10.64	3.48	1.00	15.00
Diversity and Global Learning	65	9.49	3.46	3.00	15.00
Service Learning and Community-Based Learning	64	6.90	3.81	1.00	15.00
Internships	60	7.00	3.89	1.00	15.00
Capstone Courses and Projects	66	10.06	3.55	1.00	15.00

The value of each of the three library scales, displayed in Table 6, was determined by summing the ratings assigned by respondents to each of the high-impact practice variables. This summation resulted in a minimum library scale score of 1 and a maximum library scale score of 50 per institution. The sums for each HIP scale (Table 5) were correlated with the sums for each library scale (Table 6). The Pearson correlation coefficients and probability for each of these interactions are provided in Table 7.

Table 6

Library Scale Values

Library Scale	N	Mean	Standard Deviation	Minimum Value	Maximum Value
Library collections (LC)	66	26.37	10.40	2.00	50.00
Library instruction (LI)	67	26.95	10.05	6.00	46.00
Library facilities (LF)	68	27.94	11.04	1.00	49.00

To estimate the relationship between the 10 HIP scale scores and the three library services/resources scales (library collections, library instruction, and library facilities), Pearson correlation coefficients were computed. As seen in Table 7, a positive correlation was found between each of the 10 HIP scales and each of the three library scales. A moderately strong positive correlation was displayed between each library scale and first-year seminars (HIP 1), common intellectual experiences (HIP 2), writing-intensive courses (HIP 4), undergraduate research (HIP 6), diversity and global learning (HIP 7), service learning and community-based learning (HIP 8), internships (HIP 9), and capstone courses and projects (HIP 10). Library collections and library facilities also displayed a moderately strong positive correlation with learning communities (HIP 3) and collaborative assignments and projects (HIP 5). Library instruction displayed a strong

Table 7

Analysis of Library Services/Resources Alignment with HIPs

HIP Scales	Library Collections		Library Scales Library Instruction		Library Facilities	
	r	N	r	N	r	N
1: First-year seminars	0.414**	50	0.392**	60	0.473**	57
2: Common intellectual experiences	0.514**	52	0.474**	54	0.385**	55
3: Learning communities	0.598**	40	0.687**	44	0.472**	44
4: Writing-intensive courses	0.414**	56	0.427**	59	0.534**	62
5: Collaborative assignments and projects	0.651**	55	0.722**	59	0.635**	62
6: Undergraduate research	0.505**	59	0.581**	58	0.533**	62
7: Diversity and global learning	0.436**	63	0.499**	58	0.608**	63
8: Service learning and community-based learning	0.569**	61	0.509**	54	0.454**	57
9: Internships	0.473**	54	0.429**	52	0.534**	56
10: Capstone courses and projects	0.564**	61	0.512**	60	0.553**	64

** Denotes a significant correlation ($p < 0.01$)

positive correlation with learning communities (HIP 3) and a very strong positive

correlation with collaborative assignments and projects (HIP 5). Each of these positive

correlations was highly significant (p < 0.01). Increases in the rating of library alignment

with each of the 10 high-impact practices affecting retention were correlated with

increases in the summed rating of library collections, library instruction, and library facilities as supporting any particular HIP.

Further analysis of the data associated with Research Question 1 required the classification of responding institutions according to the overall level of alignment displayed by respondents to the HIPs. The high, moderate, and low alignment designations were determined for HIPs 1-10, as well as for the LC, LI, and LF scales, by identifying breaks in the frequency distribution of response sums. These breaks roughly fell along highest and lowest third percentiles. Subsequent to classification of high, moderate, or low for each institution's responses on both the HIP and library scales, a SAS impact report provided an overall designation for each institution. Of the responding institutions, 23 were designated as high alignment, 25 as moderate, and 20 as low alignment. The institutional alignment value was examined in relation to the three of four demographic variables: years spent as a library dean/director at current institution, total years spent as a library dean/director, and whether librarians at respondents' current institution carry faculty rank.

A Pearson correlation coefficient was computed to assess the relationship between institutional alignment with the HIPs and the two demographic variables related to years of service (years served as library dean/director at current institution; total years of service as a library dean/director). As seen in Table 8, no correlation was noted among each of the variables. None of the relationships was statistically significant. Increases in years of service, either at the current institution or in total, have no relationship with increases in perceived institutional alignment with the HIPs.

Table 8

Analysis of Years of Service Variables with Alignment Categories

Survey Demographic Question	Institutional Alignment Value	
	r	N
At your current institution, how many years have you served as the academic library dean/director?	0.153	68
In total, how many years have you served as an academic library dean/director?	0.141	68

As noted in Table 4, institutions with undergraduate enrollment of under 12,000 accounted for 79.42% of the responses, while institutions with undergraduate enrollment of 12,000 or above accounted for 20.59%. Due to the categorical nature of this demographic variable, correlation coefficients could not be calculated with alignment categories.

A frequency distribution was calculated for the alignment categories and the demographic variable on librarians as faculty or staff. As seen in Table 9, 43% of the librarians at responding institutions who do not hold faculty rank serve at libraries designated as high alignment. However, of the high alignment institutions, 73% of librarians hold faculty rank. This ratio grew slightly within the low and moderate alignment libraries. Librarians hold faculty rank in 75% of the low alignment libraries and in 88% of the moderate alignment libraries. Of the librarians with faculty rank, 42% were in moderate alignment libraries.

Table 9

Analysis of the Demographic Variable Regarding Librarians as Staff or Faculty

Alignment Classification		Librarians as staff	Librarians as faculty	Total
High Alignment	Frequency	6	16	22
	Percent	8.96	23.88	32.84
	Row percent	27.27	72.73	
	Column percent	42.86	30.19	
Moderate Alignment	Frequency	3	22	25
	Percent	4.48	32.84	37.31
	Row percent	12.00	88.00	
	Column percent	21.43	41.51	
Low Alignment	Frequency	5	15	20
	Percent	7.46	22.39	29.85
	Row percent	25.00	75.00	
	Column percent	35.71	28.30	
Total	Frequency	14	53	67*
	Column percent	20.90	79.10	100.00

*One survey respondent did not complete this question

Qualitative Findings for Research Question 1

The survey matrix also prompted respondents to provide a brief description of support practices for each HIP. The resulting qualitative data were coded according to whether the responding institution was designated as having high, moderate, or low alignment with the 10 high-impact practices. Once sorted by alignment category, data obtained from these open-ended questions were examined for the identification of themes. Emergent themes for each HIP are described below.

First-year seminars (HIP 1). A prevalent theme across alignment categories for first-year seminars was under library instruction. Many of the responses from high

alignment libraries indicated that information literacy or bibliographic instruction is a required component of their institutions' first-year seminars, and that a library liaison is assigned to work with these courses. By contrast, those from low alignment libraries indicated they had little involvement with the provision of information literacy or bibliographic instruction, even in first-year seminars where information literacy is an integrated learning outcome. Responses in this theme from the moderately aligned libraries indicated that these academic libraries were involved with first-year seminars when invited. A less prevalent theme, particularly found within the high alignment libraries, included the provision of classroom space for first-year seminars and the involvement of librarians as instructors/co-instructors of first-year seminars.

Common intellectual experiences (HIP 2). Responses to this HIP provided little in the way of observable themes. One theme that emerged was of the library facility as a space to host shared intellectual experiences through programming or events. Another was on the role of library instruction in supporting common intellectual experiences, a theme most prevalent among the low alignment libraries. Those in low alignment libraries indicated support of such activities in two ways: through information literacy instruction in shared experience courses, and through an information literacy learning outcome plan that would itself be a common intellectual experience for students in the same major.

Learning communities (HIP 3). Several themes were observed in the data related to the third high-impact practice. Responses from those in low and moderately aligned libraries predominantly tended to note that learning communities were not offered at their institution, or that library involvement with learning communities was

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minimal. Particularly prevalent among the high alignment libraries was a theme under library instruction, with comments indicating that information literacy or bibliographic instruction took place either at the request of a faculty member leading a learning community or as part of an integrated sequence of learning community courses (of which the library's instructional offering was a credit-bearing course).

A less prevalent theme was on the provision of a liaison librarian for learning communities, noted exclusively by those at the moderately aligned libraries. Another minor theme was the provision of a designated "study hall space" for participants in learning communities, noted by those in the low alignment libraries.

Writing-intensive courses (HIP 4). The themes that were observed in data related to writing-intensive courses differed across the alignment categories. A very prevalent theme emerged from comments of a general nature, indicating support or lack of support for writing-intensive courses. Those at high alignment libraries tended to indicate support for this HIP, while those at low alignment libraries tended to indicate little or no library support.

Across the alignment categories, those libraries that supported writing-intensive courses demonstrated a dominant theme in regard to library instruction. In this theme were many comments on a goal to provide information literacy instruction "tailored" to specific assignments for every student enrolled in writing-intensive courses. A less prevalent theme under library facilities was the provision of space within the library for a writing center or for writing workshops. A final minor theme for those in the low and moderately aligned libraries was the provision of a liaison librarian and individualized assistance for students in writing-intensive courses.

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Collaborative assignments and projects (HIP 5). One highly dominant theme observed in the data on collaborative assignments and projects was on the provision of group study space as a component of library facilities, with many respondents noting that their group spaces and learning commons experienced high use. This theme was present throughout the alignment categories. Other, less prevalent themes included the availability of electronic resources as supporting collaborative assignments and projects, the incorporation of collaborative assignments and projects in library instruction pedagogy, and training for faculty on how best to deploy library resources and services in support of collaborative projects.

Undergraduate research (HIP 6). A theme prevalent for this HIP, and seen again only in data for HIP 10 (capstone courses and projects), was on the archival and publication responsibilities of the academic library with regard to undergraduate research, particularly among the highly aligned libraries. Within this theme, comments ranged from the publication of student research journals to hosting student research in digital repositories. Additionally, the provision of personalized assistance for students with regard to preparation of presentations or posters was seen across alignment categories.

Also spanning the alignment categories, but with lesser prevalence, was a theme on the use of library space to support undergraduate research. Comments included such items as housing institutional offices for undergraduate research, providing specialized spaces with specific equipment and/or software used in undergraduate research projects, and the use of library space for research presentations given by students.

Diversity and global learning (HIP 7). A consistent theme for high, moderate, and low alignment libraries was in regard to the role of the library collection in

supporting diversity and global learning. Responses indicated that support via the collection took place through the availability of specialized collections supporting particular fields of study related to diversity. Many comments emphasized that the library collection was deliberately developed to represent a diverse range of perspectives or to respond to the needs of diverse populations.

Another consistent theme across the alignment categories was observed under "library facilities" and focused on the use of library space for exhibits, events, or programs related to diversity or global learning. The examples provided by respondents included displays of holidays for different cultures, international coffee hours, diversity book-reading clubs, and spotlights on different countries or on study abroad experiences. Also, under the code of "library facilities" was a consistent theme related to the provision of specialized space in support of campus diversity initiatives, such as housing centers for international education or engagement, providing diversity libraries or multicultural rooms, or the use of group study space to nurture the interaction of students from different cultures.

One theme observed only among the high alignment libraries was the presence of responses on the library's commitment to diversity being outlined in the library's mission statement or goals. This theme was not observed among the low or moderate alignment libraries.

Service learning and community-based learning (HIP 8). One observable theme was that of no support. In particular, comments from respondents at low and moderately aligned libraries were consistent in noting little or no involvement by the library in supporting service learning on campus, or the incidental/ad hoc nature of any

such involvement. An additional minor theme was on the role of the library as a host to volunteers or as the recipient of service learning activities. No dominant themes were observed in the areas of library collections, instruction, or facilities.

Internships (HIP 9). A single, overarching theme was observed in the data related to the high-impact practice of internships. This theme, focused on internship opportunities within academic libraries, was consistently noted across the alignment categories. Comments indicated that internships provided within academic libraries were typically in the areas of special collections/archives, technical services, circulation or information desks, or in support of a library science degree program offered by the institution or by nearby institutions. No themes were observed in the areas of library collections, library instruction, or library facilities.

Capstone courses and projects (HIP 10). Two predominant themes were observed in data related to capstone courses and projects. One, as noted under undergraduate research (HIP 6), was on the archival role of the library in preserving the research and culminating projects resulting from capstones. However, the dominant theme associated with this HIP was information literacy instruction, with respondents from each of the alignment category libraries providing comments regarding liaison librarians delivering tailor-made instruction and integration in capstone courses, along with personalized assistance for students enrolled in a capstone experience.

Summary of Research Question 1

An examination of the data for this study's first research question yielded a number of key findings. Research Question 1 asked, "To what extent do academic library deans/directors perceive their academic library's current services and resources as

aligning with high-impact practices affecting student retention?" The first method for measuring this consisted of the calculation of Pearson correlation coefficients between the sum of ratings provided by survey respondents on each HIP scale with each library scale. This analysis resulted in, at minimum, a moderately strong positive correlation between the ratings given by respondents to each library scale (library collections, library instruction, and library facilities) and the ratings given by respondents to each of the 10 high-impact practices. Each of these moderately strong positive correlations had high statistical significance at the 0.01 level. Academic library deans/directors perceive that their academic library's services and resources align with high-impact practices to a high degree.

Within this overall finding, several other key discoveries emerged for specific high-impact practices. Library instruction displayed a particularly strong correlation with both learning communities (HIP 3) and collaborative assignments and projects (HIP 5). Collaborative assignments and projects had an overall higher correlation for each library scale than the other HIPs. Library facilities also displayed a strong positive correlation with diversity and global learning (HIP 7).

Library alignment with the HIPs displayed no relationship with the two demographic variables regarding years of service as library dean/director. The majority of respondents were at institutions with an undergraduate enrollment of 12,000 or less. Librarians held faculty rank at the majority of the responding libraries, though a higher percentage of high alignment libraries reported librarians as staff.

Survey respondents were asked to provide brief descriptions of their libraries' support practices for each HIP. Responses to this item were coded and examined for

consistent themes. One or two predominant themes were observed for each HIP. Information literacy instruction was the dominant theme for first-year seminars (HIP 1), learning communities (HIP 3 – among high alignment libraries), writing-intensive courses (HIP 4), and capstone courses and projects (HIP 10). Themes regarding the library facility were observed in conjunction with common intellectual experiences (HIP 2 – facility as host to shared experiences); writing-intensive courses (HIP 4 – provision of space for writing centers or writing workshops); collaborative assignments and projects (HIP 5 – group study space); and diversity and global learning (HIP 7 – space for events and programming supporting diversity). A library collection supporting diverse worldviews was another prevalent theme for diversity and global learning (HIP 7). The archival and publication responsibilities of the academic library were the dominant themes for undergraduate research (HIP 6), and the provision of internship opportunities within the library was the dominant theme for the internships HIP (HIP 9). Finally, little or no library support was a theme for two high-impact practices: learning communities (HIP 3 – among low and moderately aligned libraries), and service learning and community-based learning (HIP 8). It is interesting to note this theme for learning communities, given the strong positive correlation observed between ratings for library instruction and learning communities.

Research Question 2

Research Question 2 in this study asked, "How do academic library deans/directors document and communicate the impact of library services and resources on student retention?" Data for this question was obtained through two open-ended questions on the survey instrument, in which respondents were asked to describe current

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methods used, if any, to document or communicate their libraries' impact on student retention. Data obtained from these open-ended questions were sorted by alignment category (high, moderate, or low) and examined for the identification of themes. Emergent themes for methods of documenting impact on retention and communicating impact on retention are described below.

Documenting Impact

Several key themes were identified in the data related to the documentation of library impact on retention. A highly prevalent theme among each of the three alignment categories was the development or use of information literacy assessment mechanisms as a method of documenting library impact. Responses in this theme ranged from collecting data on information literacy student learning outcomes in first-year seminars to student feedback or evaluation data collected at the end of more traditional instruction sessions. Information literacy data tended to be collected from instruction sessions, orientations, or credit-bearing information literacy courses. Responses from those at several institutions acknowledged that assessing student learning outcomes in the area of information literacy is not a direct measure for documenting impact on student retention. However, responses from those at two institutions noted a mechanism that served as a direct measure of the impact on retention. Library employees at these institutions measured the impact of attendance in mandatory freshmen library orientation sessions on retention and found absenteeism to be highly predictive of dropout. Personnel at one of these institutions have adopted a proactive approach using these findings, and have started reporting the names and identification numbers of those who did not attend to the institution's center for advising.

Another theme identified in the data on how those in libraries document impact on retention was the use of surveys and other user/student satisfaction or feedback instruments. This theme was evident throughout the alignment categories. Comments within this theme revealed two basic purposes for deploying surveys or other instruments, such as focus groups, to collect user feedback. Overwhelmingly, surveys and other user feedback instruments were used to collect user satisfaction data on different library services or resources. A secondary purpose was for the collection of self-reported data on library impact on students' academic success and learning outcomes. Occasionally it was indicated that this self-reported data was to be used as part of a larger assessment project regarding the library's impact on student success measures, including retention. In other instances, particularly among the low and moderately aligned libraries, this self-reported data comprised the entirety of data collection for such an assessment project. Comments on the theme of surveys and other feedback instruments were usually accompanied by comments on the use of anecdotal evidence to document library impact on retention.

A less prevalent theme across the alignment categories was the development of an assessment process specifically seeking to examine library impact on student retention and other measures of student success. Consistently, these developing processes included the accumulation of longitudinal data, particularly of various types of library use data such as circulation statistics, attendance in library instruction sessions or courses, and analytics on the usage of online and electronic resources. Often, these comments were accompanied by language indicating those at the responding institutions were still seeking best methods for calculating impact or correlation, as the volume of data was

overwhelming or was not yet organized in a way to facilitate examination in relation to retention.

A final highly prevalent theme identified in this data, particularly among the low and moderate alignment libraries, was the lack of any methods to document library impact. Several respondents commented that, while they desire to initiate a process, they do not know how to start.

Communicating Impact

As with the responses to the open-ended question on the survey instrument probing current methods used to document impact on retention, responses to the open-ended question on current methods used to communicate library impact on retention were examined for the identification of themes. One of the highly prevalent themes, particularly among the low and moderate alignment libraries, was simply "none." Some respondents elaborated, indicating that they had no methods in place because they had no assessment mechanisms built and, therefore, no data to convey. Other responses in this theme indicated that, while the library collects data on usage and satisfaction, there are no methods for connecting the data with student success measures such as retention.

Another highly prevalent theme across the alignment categories was the use of formal presentations with university leadership to communicate library impact. Comments in this theme indicated that these presentations take place annually or bi-annually and are conducted most often with the president or provost. Often, these formal presentations on library impact were included as part of an annual budget presentation. A few responses from those at libraries currently developing methods of direct measurement or correlation indicated they will be presenting their findings independently

from budget meetings in forums with university leadership and boards.

According to respondents, the formal presentation to university leadership often uses a formal annual report document as a vehicle for conveying various types of information. This represents a third theme identified in the data on communicating impact, particularly prevalent among the high alignment libraries. Within this theme, respondents indicated that the annual reports often contain statistical reports, user satisfaction data, and data gathered through the institutional effectiveness process toward meeting library goals and objectives. These reports also tend to contain value statements and anecdotal evidence of library impact. At a few libraries with retention assessment mechanisms already in place, a portion of the annual report is dedicated to findings in this area.

Though not as prevalent as the annual reports theme, respondents consistently noted the use of annual assessment reports as a method of communicating library impact on retention and other student success measures. Because of the prevalence of information literacy student learning outcomes as a theme for documenting impact above, responses in the theme of assessment reports tended to highlight data gathered through information literacy assessment. Taken in conjunction with the highly prevalent theme of formal presentations to university leadership, several respondents noted the connection between assessment reports containing library impact data with budget planning and the formulation and evaluation of the university's strategic plan.

A final and less prevalent theme under the communication of impact was informal communication. Respondents who noted the use of informal communication mechanisms described periodic verbal conversations in the dean's council and faculty

senate and the sharing of annual reports and assessment reports on the library website or through social media.

Summary of Research Question 2

Research Question 2 asked, "How do academic library deans/directors document and communicate the impact of library services and resources on student retention?" Data for this question was obtained by two open-ended survey items asking respondents to describe methods used, if any, to document and communicate the impact of library services on student retention. These qualitative responses were coded according to institutional alignment with the high-impact practices and examined for themes.

In the area of documenting academic library impact on student retention, four key themes emerged. One dominant theme was the lack of methods for documenting impact. Several respondents noted that, while they had no methods currently for documenting impact on retention, they were seeking methods for doing so. A second highly dominant theme was on the use of information literacy student learning outcomes or satisfaction as an indirect method of documenting the library's impact on retention. Several respondents noted that documenting the library's impact on learning outcomes was not a direct method of assessing impact on retention, and that the library was operating on an assumption that positively affecting learning outcomes had a positive effect on retention.

Another dominant theme was on the use of surveys and other feedback instruments (such as focus groups) to gather data. The comments provided indicated that data gathered in this method was overwhelmingly user satisfaction data, though a few libraries indicated the use of surveys to gather self-reported data regarding the impact of library services on learning outcomes or student success metrics. Once again, several

respondents noted that this data was an indirect method of examining the impact of the library on retention, with an assumption that higher library user satisfaction levels have a positive impact on retention.

A final theme observed in this area was a less prevalent one and was focused on the development of more direct methods for determining library impact or correlation with student success metrics such as retention. Those at a few libraries acknowledged the need for more direct measures, and indicated they were in either the early stages of piloting such assessment mechanisms or were actively seeking methods. In conjunction with this theme, those at many libraries noted the collection of longitudinal data on the use of the library, specifically stating they were seeking to expand data beyond traditional library statistics.

In the area of communicating academic library impact on retention, four key themes were identified. As with the area of documenting impact above, a dominant theme was "no methods." Other consistent themes for communicating impact included the formal annual report (with different types of content), assessment reports, and formal presentations to university leadership. The annual report appeared to act as the vehicle for both assessment reports and formal presentations to university leadership, and also served as the foundation for other themes in this area, such as informal communication.

Research Question 3

Research Question 3 asked, "Is there a correlation between retention data and academic library deans/directors' perception of their library's involvement with high-impact practices?"

Data for this question was obtained through the survey's Likert-style matrix, in

which survey respondents rated their perceptions of alignment between high-impact practices with three library scales (library collections, library instruction, and library facilities). The ratings for each HIP scale and each library scale were summed and correlated with institutional retention rates gathered from IPEDS. Table 10 displays descriptive statistics on the IPEDS values for full-time and part-time retention. Full-time retention rates had a minimum value of 48% and a maximum value of 88%. Part-time retention rates had a minimum value of 0% and a maximum value of 100%.

Table 10

Full-Time and Part-Time Retention Rate Values

Student Classification	N	Mean	Standard Deviation	Min Value	Max Value
Full-time	68	71.63	8.33	48.00	88.00
Part-time	68	41.35	24.99	0.00	100.00

The sums for each HIP scale and the sums for each library scale were correlated with full-time and part-time retention rates. The Pearson correlation coefficients and probability for each of these interactions are provided in Table 11.

A Pearson correlation coefficient was computed to assess the relationship among the 10 HIPs; the three library services/resources variables (library collections, library instruction, and library facilities); and full-time and part-time retention rates. As seen in Table 11, an overall negative correlation was found between each of the HIP variables and full-time and part-time retention rates. Each retention variable displayed a negligible negative correlation with first-year seminars (HIP 1), common intellectual experiences (HIP 2), learning communities (HIP 3), collaborative assignments and projects (HIP 5), undergraduate research (HIP 6), diversity and global learning (HIP 7), service learning

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Table 11

Correlations of HIP and Library Scales with Institutional Retention Rates

HIP or Library Scale	IPEDS Full-time Retention Rate		IPEDS Part-time Retention Rate	
	r	N	r	N
1: First-year seminars	- 0.135	61	- 0.053	61
2: Common intellectual experiences	- 0.078	56	- 0.055	56
3: Learning communities	- 0.147	49	- 0.034	49
4: Writing-intensive courses	0.004	62	- 0.012	62
5: Collaborative assignments and projects	- 0.029	62	- 0.159	62
6: Undergraduate research	- 0.023	62	- 0.061	62
7: Diversity and global learning	- 0.092	65	- 0.299*	65
8: Service learning and community-based learning	- 0.098	64	- 0.145	64
9: Internships	- 0.182	60	- 0.201	60
10: Capstone courses and projects	- 0.005	66	- 0.136	66
Library collections	0.119	66	- 0.123	66
Library instruction	0.105	67	- 0.140	67
Library facilities	- 0.109	68	- 0.101	68

* Denotes a significant correlation ($p < .05$)

and community-based learning (HIP 8), internships (HIP 9), and capstone courses and

projects (HIP 10). Full-time retention displayed a negligible positive correlation with

writing-intensive courses (HIP 4), while part-time retention displayed a negligible

negative correlation with this HIP. The negligible negative relationship between

diversity and global learning (HIP 7) and part-time retention is statistically significant

($p < 0.05$). All other negligible relationships, positive or negative, carried no statistical significance. Increases in rating library alignment with the 10 high-impact practices affecting retention have no or a slightly negative effect on increases in full-time or part-time retention.

An overall negative correlation also was found between each of the library scales and full-time and part-time retention rates. Full-time retention displayed a negligible positive correlation with both library collections and library instruction, and a negligible negative correlation with library facilities. Part-time retention displayed a negligible negative correlation with library collections, library instruction, and library facilities. These negligible relationships carried no statistical significance. Increases in rating the alignment of library collections, library instruction, and library facilities with the 10 high-impact practices affecting retention had no or a slightly negative effect on increases in full-time or part-time retention.

Summary of Research Question 3

The final research question asked, "Is there a correlation between retention data and academic library deans/directors' perception of their library's involvement with high-impact practices?" This question was examined by calculating the Pearson correlation coefficients between institutional retention rates reported to NCES (full-time and part-time) and each of the 13 HIP and library scales. These calculations revealed no correlation or a slightly negative relationship between either of the retention rates and alignment with the 10 HIPs or three library scales.

Summary of Findings

This study asked three research questions, attempting to discern how academic library deans/directors view the modern academic library in light of high-impact practices affecting student retention. Analysis of the data gathered through the survey instrument revealed a high level of alignment between library services/resources and the 10 high-impact practices outlined by Kuh (2008a) as having a positive impact on retention. The positive relationships between library services/resources and the HIPs displayed high statistical significance. Alignment with the HIPs did not vary based on demographic variables pertaining to years of service (at current institution or in total) or with librarians as faculty or staff rank, though respondents at a higher percentage of high alignment institutions classified librarians as staff. Consistent themes were observed in the qualitative data associated with each HIP which indicated specific trends in library support services for high-impact academic and social engagement activities, with the exception of learning communities and service learning initiatives.

Examination of responses on how academic library deans/directors document and communicate the impact of their libraries on student retention yielded several key findings. Notable among those findings was a reliance on information literacy and survey data for documenting library impact on retention, with those at a small number of libraries investigating or piloting more direct methods of measurement. Responses on methods of communicating library impact on retention typically indicated the use of a formal annual report, along with formal presentations to university leadership (president and provost). Another dominant theme for both documenting and communicating library impact on retention was "no methods."

Finally, possible correlations were examined between institutional retention rates and the perception of library deans/directors on HIP and library services/resources alignment. These calculations yielded no correlations between ratings of perceived alignment with the HIPs with actual retention rates.

CHAPTER IV: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This study addressed the perceptions of academic library deans/directors on the role their units can serve in student retention through social and academic engagement fostered through Kuh's (2008a) high-impact practices (HIPs). Given that all units within institutions of higher education are increasingly expected to maximize and document their impact on improving student retention, this study also laid the groundwork for future study into best practices for communicating the potential impact of academic libraries on student retention to university administrators such as chief academic officers and presidents.

Purpose of the Study

The guiding question for this study was: How do academic library deans/directors view their modern academic library in light of high-impact practices affecting student retention? This guiding question was examined through three research questions:

1. To what extent do academic library deans/directors perceive their academic library's current services and resources as aligning with high-impact practices affecting student retention?

2. How do academic library deans/directors document and communicate the impact of library services and resources on student retention?

3. Is there a correlation between retention data and academic library deans/directors' perception of their library's involvement with high-impact practices?

Significance of the Study

As state appropriations for higher education dwindle and postsecondary education institutions are held accountable for limited tuition increases, academic leaders seek to maximize tuition, in part, through retaining students. Many researchers and higher education leaders, such as McGiveney (2004) and Raab and Adam (2005), have noted that the cost of retaining students is less than that of recruiting new students. As a result of these circumstances, a field of study into the factors that affect a student's decision to withdraw from college has emerged. This field of study is dominated by two landmark theories. In Tinto's (1975) model of student integration, Tinto focused on the sociological reasons students are not integrated socially or academically with their choice of postsecondary institution. Bean (1980) focused his model of student motivation, instead, on the psychological motivations leading to a withdrawal from college, and placed greater emphasis on the factors in students' lives that are external to institutions of higher education. Between these two seminal theories lies a range of studies supporting, refuting, adapting, or applying these models to various student populations, from traditional freshmen to assorted categories of non-traditional students. Ultimately, these two models have empirical evidence suggesting that they complement one another and are not mutually exclusive.

Taking place concomitantly with the evolution of high retention rates as an indicator of student success (rather than low retention rates as an indicator of quality or academic rigor) has been a fundamental shift in the role of academic libraries and their place as the "heart" of the academic enterprise in higher education. As a result of

technology, academic libraries have undergone an evolution of a "multiplicity of roles,"

some of which were not previously related to the academic library's traditional mission

(Miller, 2012). Among the roles of a modern academic library is an expectation for the

provision of collaborative and solo study and socializing locations, supporting browsable

print collections while facilitating access to online journals and databases, and integrating

instruction in information literacy across the curriculum. Traditional measures of library

quality and success, such as the number of books held or the number of journal

subscriptions maintained, no longer resonate with university officials focused on

enrollment and retention (Lynch et al., 2007). Academic libraries, seeking to

demonstrate their relevance in a performance-funding environment, will find little

guidance on how to appropriately gather data or communicate impact to university

administrators.

Accordingly, this study examined the perceptions of academic library

deans/directors on the alignment of their libraries' services and resources with 10 high-

impact practices affecting student retention. Because of the gap in the record of research

in this area, this study also examined how library involvement with, or impact on,

retention initiatives is currently reported to university administrators.

While the HIPs are accepted practices for improving student engagement (and,

thereby, student retention) (Kuh, 2008a), the deliberate alignment of library services with

high-impact practices has not been specifically addressed in previous literature. An

understanding of how academic library deans/directors document and communicate the

impact of library services on student retention sets the stage for future study on how

different university administrators would prefer academic library deans/directors gather

and communicate such data, as well as the impact such data collection and sharing may have on funding and personnel decisions. Ultimately, an increased awareness by both academic library deans/directors and university administrators on the actions colleges and universities can implement to improve, not simply student retention, but also intellectual development can be realized through this study and follow-up studies.

Conceptual Framework

Consistently, in studies into retention, researchers note that not all of the factors impacting a student's decision to withdraw are under the control of postsecondary institutions. However, there are actions personnel at a university may take that increase certain types of academic engagement, resulting in higher overall retention rates. Ten such practices have been validated nationally through the National Survey of Student Engagement and have been adopted by the Association of American Colleges and Universities (AAC&U) as "high-impact practices" (Kuh, 2008a). These 10 HIPs served as the conceptual framework of this study and are as follows: first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity and global learning, service learning and community-based learning, internships, and capstone courses and projects. The implementation of Kuh's (2008a) HIPs is not limited to the formal classroom environment. Indeed, Kuh indicated that the majority of the time spent completing an activity associated with the HIPs takes place in informal academic environments. Kuh and Gonyea (2003) described the academic library as an ideal informal academic environment that encourages student engagement, making these 10 practices relevant as a conceptual framework for this study.

Research Design

This exploratory study examined the perceptions of academic library deans/directors of the role their units can serve in retention through student engagement fostered by Kuh's (2008a) high-impact practices. The population under study consisted of all academic library deans/directors at the 271 public master's universities, as identified by the Carnegie Institution in January 2013 (see Appendix A). The sample derived from this population consisted of 68 respondents to a survey (see Appendix B).

The survey consisted of a matrix of 10 Likert-scale questions probing the level of involvement academic library deans/directors perceived their libraries had with the 10 AAC&U-adopted high-impact practices, and two open-ended questions soliciting information on current methods of documentation and communication of academic library impact on student retention. Four demographic questions also were included in order to determine the years of experience of the survey respondent as a library dean/director, sample institutions' undergraduate enrollment, and whether librarians at the sample institutions hold faculty rank.

Data analysis methods consisted of descriptive statistics, Pearson correlation coefficients, frequency distributions, and the identification of themes in coded qualitative data. Pearson correlation coefficients were calculated between the interactions within the matrix of Likert-style questions, as well as between these interactions and institutional retention rates gathered from IPEDS. Frequency distributions were used to designate responding institutions as high, moderate, or low alignment, according to the involvement demonstrated with each HIP, based on ratings provided in the matrix.

Because this study specifically examined the perceptions of academic library deans at public master's universities, the results cannot be generalized to other library positions, other university administrative positions, or across types of libraries serving different types of institutions or communities. Additionally, because the conceptual framework for this study consisted of Kuh's (2008a) HIPs, the results cannot be generalized to retention initiatives or practices that fall outside of the range of the study's conceptual framework.

<div align="center">**Discussion of the Findings**</div>

This section provides a discussion of the findings for each research question.

Research Question 1

Research Question 1 asked: To what extent to academic library deans/directors perceive their academic library's services and resources as aligning with high-impact practices affecting student retention? Two findings were associated with this question.

Finding one. Academic library deans/directors demonstrated a high level of perceived alignment between their libraries' services/resources and each of the HIPs, with each interaction displaying, at minimum, a strong positive correlation. Increases in rating library alignment with each of the 10 high-impact practices affecting retention were correlated with increases in the summed ratings of library collections, library instruction, and library facilities as supporting any particular HIP.

Within this finding, several notable interactions were found between library services/resources and specific HIPs. Library instruction, in particular, displayed a stronger relationship with learning communities and collaborative assignments and projects than library collections and library facilities. This finding is intriguing, given the

observation of a theme in open-ended responses provided by low and moderate alignment libraries of little or no support provided by academic libraries for learning communities. Collaborative assignments and projects had an overall higher correlation for each of the three library services/resources categories than was observed for any of the other HIPs. Qualitative data on the support services offered for this HIP had a diverse range of observable themes, with the provision of group study space as a component of library facilities as the dominant theme across alignment categories. Other, less prevalent themes for this HIP included the availability of electronic resources, the incorporation of collaborative assignments and projects in library instruction pedagogy, and training for faculty on how best to deploy library resources and services in support of collaborative projects.

A final strong positive correlation was observed between library facilities and diversity and global learning. Two themes in the qualitative data on support services offered for this HIP were the use of library space for exhibits, event, or programs related to diversity or global learning and the provision of space within the library in support of campus diversity initiatives. Such space included housing centers for international education or engagement, providing diversity libraries or multicultural rooms, or the use of group study space to nurture the interaction of students from different cultures.

Finding two. With the exception of learning communities and service learning and community-based learning, qualitative responses for each HIP contained at least one predominant theme providing descriptions of library support services for each HIP. These comments served to clarify the ratings given by respondents to the alignment of each HIP with each library scale. Responses for learning communities (among low and

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moderate alignment libraries) and service learning and community-based learning tended to indicate little or no library support for these particular HIPs. Themes under library instruction and library facilities were observed much more often than those associated with library collections. This finding is in keeping with the correlations computed between HIPs and library services/resources, which tended to have the strongest relationships among the library instruction and library facilities scales.

Information literacy instruction was observed to be a primary theme for first-year seminars, learning communities (among high alignment libraries), writing-intensive courses, and capstone courses and projects. Themes in regard to the library facility were observed in conjunction with common intellectual experiences (facility as host to shared experiences), writing-intensive courses (provision of space for writing centers or writing workshops), collaborative assignments and projects (group study space), and diversity and global learning (space for events and programming supporting diversity). Themes related to library collections were observed in association with diversity and global learning, from comments indicating that library collections support diverse worldviews. The archival and publication responsibilities of the academic library was the dominant theme for undergraduate research.

Research Question 2

Research Question 2 asked, How do academic library deans/directors document and communicate the impact of library services/resources on student retention? Three findings were associated with Research Question 2.

Finding one. The responses on survey items probing these issues show that academic libraries, on the whole, have no methods for either the documentation or

communication of library impact on retention. Among these responses were many comments by library deans/directors regarding a lack of knowledge on how to go about documenting library impact on retention.

Finding two. For those libraries that are attempting to document impact on retention, the prevalent themes were on the use of information literacy assessment or survey and self-reported data, most of which was oriented to user satisfaction. This is consistent with Haddow and Joseph's (2010) assertion that academic libraries tend to rely on user satisfaction and information literacy outcomes as the most common methods of conducting research into library impact on larger institutional priorities. Responses in these themes were at times accompanied by acknowledgements that these methods are indirect and based on an assumption of connection with retention. A small sub-set of responses indicated some libraries are seeking or are piloting research and assessment methods that are more direct, using library use data in connection with student success metrics.

Finding three. For those libraries communicating statistics or findings, as well as anecdotal information from surveys or focus groups, the Annual Report publication and formal presentations with university leadership are the most common methods.

Research Question 3

Research Question 3 asked, Is there a correlation between retention data and academic library deans/directors' perception of their libraries' involvement with high-impact practices? One finding was associated with Research Question 3.

Finding one. No correlation was noted between institutional retention rates and the perceived alignment between library services/resources with the HIPs, with the

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exception of a negative correlation between diversity and global learning and part-time retention. The perceptions of academic library deans/directors on the level of alignment between their libraries with high-impact practices affecting retention had no relationship with institutional retention rates.

<div align="center">

Conclusions

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Based on the results of this study, a number of conclusions can be drawn.

Research Question 1

From the findings associated with Research Question 1, two conclusions can be drawn.

Conclusion one. It can be concluded that academic library deans/directors at public master's universities tend to view their library as being involved with many high-impact practices. This perceived level of involvement takes place regardless of institutional size, longevity of the dean/director, or faculty rank held by librarians.

Library deans/directors tend to view library instruction as the element of the academic library most involved with high-impact practices, particularly for learning communities and collaborative assignments and projects. Library deans/directors also tend to view the "collaborative assignments and projects" HIP as a practice with which library collections, library instruction, and library facilities are most involved.

Conclusion two. Academic libraries tend to provide consistent support services for the various HIPs, although some difference was seen in the support services offered between libraries with a high level of alignment with the high-impact practices and libraries with a low level of alignment with the high-impact practices. Low alignment libraries tend to indicate no support provided for some of various HIPs.

Research Question 2

From the findings associated with Research Question 2, two conclusions can be drawn.

Conclusion one. The involvement of library services/resources with many high-impact practices perceived by academic library deans/directors is not being documented or communicated with university leadership. This could be attributed to the relatively recent ascendancy of student success metrics such as retention as a high-stakes issue for institutions of higher education, and the equally new call for academic libraries to develop new methods of demonstrating value (Oakleaf, 2010). Because academic librarians have not established a profession-wide set of best practices regarding the collection and analysis of such data, many library deans/directors do not know how to start documenting library impact on retention.

Conclusion two. Academic library leaders tend to continue a reliance on self-reported user satisfaction data and information literacy assessment outcomes as indirect or assumed measures of impact on retention. This could be attributed to the ease of collecting such data. More direct measures of library impact on student retention require the collection of data on individual users. While this can be accomplished without violating library user privacy, librarians and library deans/directors may be reluctant to engage in such data collection because of a profession-wide tradition of protecting user privacy. This is consistent with Matthews' (2012) recommendation for librarians to develop assessment methods that link individual users with institutional data.

Research Question 3

From the findings associated with Research Question 3, no definitive conclusions can be drawn. The findings yielded no relationship between library deans/directors' perception of involvement with the HIPs and institutional retention rates.

Institutional retention rates are affected by a large number of factors. While library deans/directors may perceive a high level of involvement with the implementation of any given high-impact practice at their university, those HIPs may not be implemented by the institution in the most effective manner. Other than the HIPs, many other institutional or student demographic variables may impact local retention rates. The negative relationship between diversity and global learning and part-time retention rates could be attributed to time spent on campus. Generally, part-time students do not spend as much time on campus and would not visit the library as frequently as full-time students. The correlation between diversity and global learning and library facilities was a strong relationship, which could mean that part-time students who do not visit the library facility as often may not benefit from the contact with diverse populations offered by the library facility.

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Researcher's Reflections and Recommendations for Practice

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During the course of analyzing the data gathered during this study, the researcher had a number of additional observations or thoughts. These may be considered recommendations for practice, with implications for future research.

Recommendation One

Given the prominence of library instruction's already high relationship with specific HIPs, academic library leaders should investigate ways in which to further

integrate library instruction in other high-impact practices or educationally purposeful

activities provided by their unique institutions. Not only does this provide additional data

on the impact of library instruction, it also develops deeper awareness of the academic

library and its varied services and resources among more students and faculty.

 Additionally, academic library leaders may investigate methods by which library

collections or library facilities may be brought into further alignment with the HIPs.

Recommendation Two

Academic library leaders should identify a set of metrics that could be used to

establish standards for calculating correlations between common library services and

retention. Woodley (2004) noted a mimetic tendency across institutions of higher

education with regard to the implementation of similar initiatives aimed at improving

retention. Many institutions will have similar programs in place to impact student

engagement or retention, though with unique approaches to accommodate the specific

needs of their constituencies. Likewise, academic libraries tend to mimic services in

support of the academic enterprises in place at their institutions. Because of this, it

should be possible to identify a set of metrics that could be used across academic libraries

to calculate correlations with retention.

Recommendation Three

Library deans/directors should give thought to ways to transcend simply reporting

library impact on retention to taking a proactive approach to improve retention tailored to

the specific practices of the institution. This would allow each academic library to create

unique and tailored services unlike those offered elsewhere. For example, one

respondent in this study noted the ability to correlate attendance at a mandatory freshman

orientation to the library with retention. Absence from the session was found to be highly predictive of student withdrawal, allowing the library dean/director to establish a partnership with that institution's office of advising.

Recommendation Four

Academic library leaders who develop and implement new methods of measuring library impact on retention should request special meetings with university leadership to share findings, while integrating those findings into budget and personnel requests. University leadership, while expecting academic libraries to develop more relevant measures of value, does not clearly indicate how they would like this to take place. Folding new methods of assessment into established annual reports, assessment reports, or budget presentations may result in university leadership overlooking the findings.

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Recommendations for Further Research

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The researcher for this study sought to fill a gap in the existing body of research on academic libraries and student retention by examining the perspectives of academic library deans/directors on high-impact practices affecting retention. A number of opportunities exist for further research, building on the results of this study. This section also provides general recommendations for further research in the area of academic libraries and student success.

Recommendation One

One area for further research is to adapt this study for use with other Carnegie classifications. As has been noted in the delimitations and limitations section of Chapter III, this study is bounded and limited to public master's level universities in the United States. These findings cannot be generalized to institutions in other Carnegie

classifications.   Practices that facilitate student engagement (and, thereby, potentially affect retention) may differ dramatically from community colleges to doctoral institutions. Such further study could adjust the conceptual framework to the study population. Alternately, replicating this study with the conceptual framework intact would yield a set of data that could be compared across institutional types.

Recommendation Two

Another area for further research is to focus more exclusively on individual HIPs, drawing on different sources of data to provide a more detailed picture of HIP implementation, support, and impact. As the researcher of this study found that libraries do not tend to support learning communities or service learning and community-based learning, case studies of academic libraries that support these practices could reveal methods of aligning services and resources not previously considered by other academic library deans/directors.

Recommendation Three

The literature on student engagement includes other practices that have potential impact on students' withdrawal decisions, with varying degrees of empirical support. Further research could examine these other engagement practices in light of library services and resources.

Recommendation Four

Based on this study's findings regarding documentation and communication of library impact on retention, one recommendation for further research is to conduct a similar study with provosts and presidents in order to determine the effectiveness of these mechanisms (existing and in development) on swaying funding decisions. As has been

noted, when documentation and communication of library impact on retention occurs, documentation tends to take the form of information literacy assessment and user satisfaction data, while communication tends to rely on formal annual reports and presentations with university leadership.

Recommendation Five

Case studies of institutions that piloted more direct methods of assessment is another area for further research, and would serve to deepen the understanding of how such results are used within the funding and strategic planning of the library. Several respondents to the survey indicated their intent to develop more direct methods of assessing library impact on retention through the calculation of correlations between library use data and student success metrics. As many libraries indicated a reliance on information literacy assessment to indirectly demonstrate the impact on retention, further study could also be conducted to monitor the effectiveness of this indirect measure in such areas as funding decisions.

Recommendation Six

A meta-analysis of the developing body of data on library use and student success could be conducted to develop a national set of findings. A small, but growing, body of literature can be found that reports the results of direct methods of assessment on the correlation between library impact and student success metrics such as retention. Many of these studies, as well as the pilot studies indicated by some respondents to this study's survey, make use of very similar methodologies. As this body of data grows, the similarities in data collection and analysis allow for a future study of these correlations to take place on a national level.

Summary

Dramatic changes in state appropriations, coupled with increasing restrictions on tuition increases and performance-based funding models, have resulted in an increased focus on various student success metrics, including student retention. Traditional measures of library success no longer resonate with university leaders, leading academic libraries leadership to seek new methods of determining and demonstrating library value to student success. This study focused on the role of academic libraries on positively affecting student retention through student engagement. Kuh and Gonyea (2008) noted that academic libraries provide an informal academic environment that can nurture student engagement. Kuh (2008a) also went on to describe 10 practices that have been nationally validated as having a positive impact on both student engagement and retention.

These 10 high-impact practices served as the conceptual framework for this study, which sought to determine how academic library deans/directors view the modern academic library in light of high-impact practices affecting student retention. The researcher found that academic library deans/directors view their libraries' service and resources as having a high level of alignment with the HIPs, with library instruction having stronger correlations with two of the HIPs than was demonstrated in other relationships. Qualitative findings suggest that academic libraries, particularly high alignment libraries, have consistent methods of supporting the HIPs, with the exception of two HIPs (learning communities, and service learning and community-based learning).

Academic libraries tend to rely on information literacy from student learning outcome assessments and user satisfaction ratings to indirectly document library impact on retention, though a small number of respondents indicated they were seeking or piloting more direct methods involving library use data. Communication of such findings, either direct or indirect, tends to occur using a formal annual report or presentation to university leadership as the vehicle. In addition to these findings, another predominate theme in the area of documenting and communicating library impact on retention was "no methods." No correlation was noted between institutional retention rates and library dean/director ratings of perceived alignment between library services/resources with the HIPs.

The academic library value proposition is changing, as higher education moves to new funding methods and measures of impact. Academic library leaders face increasing pressure to demonstrate the library's role as the "heart of the university" in ways that resonate with institutional leaders focused on student success. Developing viable methods of calculating the library's role in helping students to remain enrolled is one method of doing so. In this exploratory study, the researcher sought to fill a gap in the literature on academic libraries and retention and, through its findings, provided suggestions for further research. These and future findings will benefit academic library deans/directors seeking conceptualization of a paradigm shift in how academic libraries measure success.

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APPENDIX A: American Public Master's Universities

Public Master's University	City	State
Adams State College	Alamosa	CO
Alabama A & M University	Normal	AL
Alabama State University	Montgomery	AL
Albany State University	Albany	GA
Alcorn State University	Alcorn State	MS
Angelo State University	San Angelo	TX
Appalachian State University	Boone	NC
Arkansas State University-Main Campus	Jonesboro	AR
Arkansas Tech University	Russellville	AR
Armstrong Atlantic State University	Savannah	GA
Auburn University at Montgomery	Montgomery	AL
Augusta State University	Augusta	GA
Austin Peay State University	Clarksville	TN
Bemidji State University	Bemidji	MN
Black Hills State University	Spearfish	SD
Bloomsburg University of Pennsylvania	Bloomsburg	PA
Boise State University	Boise	ID
Bridgewater State University	Bridgewater	MA
California Polytechnic State University-San Luis Obispo	San Luis Obispo	CA
California State Polytechnic University-Pomona	Pomona	CA
California State University-Bakersfield	Bakersfield	CA
California State University-Channel Islands	Camarillo	CA
California State University-Chico	Chico	CA
California State University-Dominguez Hills	Carson	CA
California State University-East Bay	Hayward	CA
California State University-Fresno	Fresno	CA
California State University-Fullerton	Fullerton	CA
California State University-Long Beach	Long Beach	CA
California State University-Los Angeles	Los Angeles	CA
California State University-Monterey Bay	Seaside	CA
California State University-Northridge	Northridge	CA
California State University-Sacramento	Sacramento	CA
California State University-San Bernardino	San Bernardino	CA
California State University-San Marcos	San Marcos	CA
California State University-Stanislaus	Turlock	CA
California University of Pennsylvania	California	PA
Cameron University	Lawton	OK
Central Connecticut State University	New Britain	CT
Central Washington University	Ellensburg	WA
Cheyney University of Pennsylvania	Cheyney	PA

Chicago State University	Chicago	IL
Christopher Newport University	Newport News	VA
Citadel Military College of South Carolina	Charleston	SC
Clarion University of Pennsylvania	Clarion	PA
Coastal Carolina University	Conway	SC
College of Charleston	Charleston	SC
Colorado State University-Pueblo	Pueblo	CO
Columbus State University	Columbus	GA
Coppin State University	Baltimore	MD
CUNY Bernard M Baruch College	New York	NY
CUNY Brooklyn College	Brooklyn	NY
CUNY City College	New York	NY
CUNY College of Staten Island	Staten Island	NY
CUNY Hunter College	New York	NY
CUNY John Jay College Criminal Justice	New York	NY
CUNY Lehman College	Bronx	NY
CUNY Queens College	Flushing	NY
Dakota State University	Madison	SD
Delaware State University	Dover	DE
Delta State University	Cleveland	MS
East Central University	Ada	OK
East Stroudsburg University of Pennsylvania	East Stroudsburg	PA
Eastern Connecticut State University	Willimantic	CT
Eastern Illinois University	Charleston	IL
Eastern Kentucky University	Richmond	KY
Eastern Michigan University	Ypsilanti	MI
Eastern New Mexico University-Main Campus	Portales	NM
Eastern Oregon University	La Grande	OR
Eastern Washington University	Cheney	WA
Edinboro University of Pennsylvania	Edinboro	PA
Emporia State University	Emporia	KS
Fairmont State University	Fairmont	WV
Fashion Institute of Technology	New York	NY
Fayetteville State University	Fayetteville	NC
Ferris State University	Big Rapids	MI
Fitchburg State University	Fitchburg	MA
Florida Gulf Coast University	Fort Myers	FL
Fort Hays State University	Hays	KS
Framingham State University	Framingham	MA
Francis Marion University	Florence	SC
Frostburg State University	Frostburg	MD

Georgia College & State University	Milledgeville	GA
Georgia Southwestern State University	Americus	GA
Governors State University	University Park	IL
Grambling State University	Grambling	LA
Grand Valley State University	Allendale	MI
Henderson State University	Arkadelphia	AR
Humboldt State University	Arcata	CA
Indiana University-Northwest	Gary	IN
Indiana University-Purdue University-Fort Wayne	Fort Wayne	IN
Indiana University-South Bend	South Bend	IN
Indiana University-Southeast	New Albany	IN
Jacksonville State University	Jacksonville	AL
James Madison University	Harrisonburg	VA
Johnson State College	Johnson	VT
Kean University	Union	NJ
Keene State College	Keene	NH
Kennesaw State University	Kennesaw	GA
Kutztown University of Pennsylvania	Kutztown	PA
Langston University	Langston	OK
Lincoln University	Jefferson City	MO
Lincoln University of Pennsylvania	Lincoln University	PA
Lock Haven University	Lock Haven	PA
Longwood University	Farmville	VA
Louisiana State University-Shreveport	Shreveport	LA
Mansfield University of Pennsylvania	Mansfield	PA
Marshall University	Huntington	WV
McNeese State University	Lake Charles	LA
Metropolitan State University	Saint Paul	MN
Midwestern State University	Wichita Falls	TX
Millersville University of Pennsylvania	Millersville	PA
Minnesota State University-Mankato	Mankato	MN
Minnesota State University-Moorhead	Moorhead	MN
Minot State University	Minot	ND
Mississippi University for Women	Columbus	MS
Mississippi Valley State University	Itta Bena	MS
Missouri State University	Springfield	MO
Montana State University-Billings	Billings	MT
Montclair State University	Montclair	NJ
Morehead State University	Morehead	KY
Murray State University	Murray	KY
Naval Postgraduate School	Monterey	CA

New Jersey City University	Jersey City	NJ
New Mexico Highlands University	Las Vegas	NM
New Mexico Institute of Mining and Technology	Socorro	NM
Nicholls State University	Thibodaux	LA
Norfolk State University	Norfolk	VA
North Carolina Central University	Durham	NC
North Georgia College & State University	Dahlonega	GA
Northeastern Illinois University	Chicago	IL
Northeastern State University	Tahlequah	OK
Northern Kentucky University	Highland Heights	KY
Northern Michigan University	Marquette	MI
Northwest Missouri State University	Maryville	MO
Northwestern Oklahoma State University	Alva	OK
Northwestern State University of Louisiana	Natchitoches	LA
Pennsylvania State University-Penn State Erie-Behrend College	Erie	PA
Pennsylvania State University-Penn State Great Valley	Malvern	PA
Pennsylvania State University-Penn State Harrisburg	Middletown	PA
Peru State College	Peru	NE
Pittsburg State University	Pittsburg	KS
Plymouth State University	Plymouth	NH
Prairie View A & M University	Prairie View	TX
Purdue University-Calumet Campus	Hammond	IN
Radford University	Radford	VA
Ramapo College of New Jersey	Mahwah	NJ
Rhode Island College	Providence	RI
Rowan University	Glassboro	NJ
Rutgers University-Camden	Camden	NJ
Saginaw Valley State University	University Center	MI
Saint Cloud State University	Saint Cloud	MN
Salem State University	Salem	MA
Salisbury University	Salisbury	MD
San Francisco State University	San Francisco	CA
San Jose State University	San Jose	CA
Shepherd University	Shepherdstown	WV
Shippensburg University of Pennsylvania	Shippensburg	PA
Slippery Rock University of Pennsylvania	Slippery Rock	PA
Sonoma State University	Rohnert Park	CA
Southeast Missouri State University	Cape Girardeau	MO
Southeastern Louisiana University	Hammond	LA
Southeastern Oklahoma State University	Durant	OK

Southern Arkansas University Main Campus	Magnolia	AR
Southern Connecticut State University	New Haven	CT
Southern Illinois University Edwardsville	Edwardsville	IL
Southern Oregon University	Ashland	OR
Southern Polytechnic State University	Marietta	GA
Southern University and A & M College	Baton Rouge	LA
Southern University at New Orleans	New Orleans	LA
Southern Utah University	Cedar City	UT
Southwest Minnesota State University	Marshall	MN
Southwestern Oklahoma State University	Weatherford	OK
Stephen F Austin State University	Nacogdoches	TX
Sul Ross State University	Alpine	TX
SUNY at Fredonia	Fredonia	NY
SUNY at Geneseo	Geneseo	NY
SUNY College at Brockport	Brockport	NY
SUNY College at Buffalo	Buffalo	NY
SUNY College at Cortland	Cortland	NY
SUNY College at New Paltz	New Paltz	NY
SUNY College at Oneonta	Oneonta	NY
SUNY College at Oswego	Oswego	NY
SUNY College at Plattsburgh	Plattsburgh	NY
SUNY College at Potsdam	Potsdam	NY
SUNY Empire State College	Saratoga Springs	NY
SUNY Institute of Technology at Utica-Rome	Utica	NY
Tarleton State University	Stephenville	TX
Tennessee Technological University	Cookeville	TN
Texas A & M International University	Laredo	TX
Texas A & M University-Texarkana	Texarkana	TX
Texas State University-San Marcos	San Marcos	TX
The College of New Jersey	Ewing	NJ
The Evergreen State College	Olympia	WA
The Richard Stockton College of New Jersey	Pomona	NJ
The University of Tennessee at Chattanooga	Chattanooga	TN
The University of Tennessee-Martin	Martin	TN
The University of Texas at Brownsville	Brownsville	TX
The University of Texas at Tyler	Tyler	TX
The University of Texas of the Permian Basin	Odessa	TX
The University of Texas-Pan American	Edinburg	TX
Thomas Edison State College	Trenton	NJ
Towson University	Towson	MD
Troy University	Troy	AL

Truman State University	Kirksville	MO
University of Alaska Anchorage	Anchorage	AK
University of Alaska Southeast	Juneau	AK
University of Arkansas at Monticello	Monticello	AR
University of Baltimore	Baltimore	MD
University of Central Arkansas	Conway	AR
University of Central Missouri	Warrensburg	MO
University of Central Oklahoma	Edmond	OK
University of Colorado at Colorado Springs	Colorado Springs	CO
University of Guam	Mangilao	GU
University of Houston-Clear Lake	Houston	TX
University of Houston-Victoria	Victoria	TX
University of Illinois at Springfield	Springfield	IL
University of Louisiana Monroe	Monroe	LA
University of Mary Washington	Fredericksburg	VA
University of Maryland Eastern Shore	Princess Anne	MD
University of Maryland-University College	Adelphi	MD
University of Massachusetts-Dartmouth	North Dartmouth	MA
University of Michigan-Dearborn	Dearborn	MI
University of Michigan-Flint	Flint	MI
University of Minnesota-Duluth	Duluth	MN
University of Montevallo	Montevallo	AL
University of Nebraska at Kearney	Kearney	NE
University of North Alabama	Florence	AL
University of North Carolina at Pembroke	Pembroke	NC
University of North Carolina at Wilmington	Wilmington	NC
University of North Florida	Jacksonville	FL
University of Northern Iowa	Cedar Falls	IA
University of South Florida Sarasota-Manatee	Sarasota	FL
University of South Florida-St. Petersburg	St. Petersburg	FL
University of Southern Indiana	Evansville	IN
University of Southern Maine	Portland	ME
University of the District of Columbia	Washington	DC
University of Washington-Bothell Campus	Bothell	WA
University of Washington-Tacoma Campus	Tacoma	WA
University of West Alabama	Livingston	AL
University of West Georgia	Carrollton	GA
University of Wisconsin-Eau Claire	Eau Claire	WI
University of Wisconsin-Green Bay	Green Bay	WI
University of Wisconsin-La Crosse	La Crosse	WI

University of Wisconsin-Oshkosh	Oshkosh	WI
University of Wisconsin-Platteville	Platteville	WI
University of Wisconsin-River Falls	River Falls	WI
University of Wisconsin-Stevens Point	Stevens Point	WI
University of Wisconsin-Stout	Menomonie	WI
University of Wisconsin-Superior	Superior	WI
University of Wisconsin-Whitewater	Whitewater	WI
Valdosta State University	Valdosta	GA
Virginia State University	Petersburg	VA
Washburn University	Topeka	KS
Wayne State College	Wayne	NE
Weber State University	Ogden	UT
West Chester University of Pennsylvania	West Chester	PA
West Texas A & M University	Canyon	TX
Western Carolina University	Cullowhee	NC
Western Connecticut State University	Danbury	CT
Western Illinois University	Macomb	IL
Western Kentucky University	Bowling Green	KY
Western New Mexico University	Silver City	NM
Western Oregon University	Monmouth	OR
Western Washington University	Bellingham	WA
Westfield State University	Westfield	MA
William Paterson University of New Jersey	Wayne	NJ
Winona State University	Winona	MN
Winston-Salem State University	Winston-Salem	NC
Winthrop University	Rock Hill	SC
Worcester State University	Worcester	MA
Youngstown State University	Youngstown	OH

APPENDIX B: Survey Instrument

Hello,

My name is Adam Murray. I am the Dean of University Libraries at Murray State University, located in Western Kentucky. I'm currently working on my dissertation, examining connections between academic libraries and student retention. By conducting this study, I hope to inform academic library directors of the context in which they may position their libraries as a unit which assists the university in the fulfillment of critical retention initiatives.

I would like to ask you to help pilot a survey for academic library deans/directors. The survey should take approximately 15 minutes to complete. You will be asked to fill out this survey now, and once again in approximately one week. In order to configure this survey appropriately, the instrument also contains five anonymous questions that will allow us to match responses.

Your participation in this study is completely voluntary. If you decide not to participate or withdraw from the study at any time, there will be no penalty or negative impact to you in the future. If you decide to participate, you are also entitled to discontinue your participation at any time during the project.

There are no foreseeable risks. Although there may be no direct benefit to you, the information you provide may benefit academic library directors as they seek to understand how they can maintain or position their units in a central role for modern institutions of higher education.

If you have any questions regarding the study, you can contact me at (270) 873-9425 or via e-mail at amurray@murraystate.edu. You can also contact my dissertation committee chair, Provost Emeritus Burch at barbara.burch@wku.edu.

Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

Your continued cooperation with the following research implies your consent.

Thanks in advance for your participation,
Adam

Institutional Characteristics

1: Enter the name of your university.

[   ]

2: Select the state in which your university resides.

[▼]

3: At your current institution, how many years have you served as the academic library dean/director?

[▼]

4: In total, how many years have you served as an academic library dean/director?

[▼]

5: What is your institution's current undergraduate enrollment?
- ○ 6,000 or less
- ○ 6,000 - 12,000
- ○ 12,000 - 18,000
- ○ More Than 18,000

6: At your current institution, are librarians viewed primarily as professional staff or do they carry faculty rank?
- ○ Professional Staff
- ○ Faculty Rank

Educational Practices Survey

Below are 10 statements related to educational practices on your campus. For each, please rate the level of involvement in each by your institution's *library collections, library instruction, library facilities, and other library services* as of **Fall 2012**. The rating scale ranges from VERY LITTLE to VERY HIGH involvement. If your institution does not offer a particular practice, indicate N/A.

If your institution's academic library has a set of collections, instruction, facilities, or other services purposefully deployed to support the following educational practices, briefly describe how they operate in the last column.

	Library Collections	Library Instruction	Library Facilities	Brief Description of Support Practices
				Answer 1

				Answer 1
1. First-year seminars and first-year experiences are organized around the concept of bringing small numbers of freshmen together with faculty and staff on a regular and structured basis.	▼	▼	▼	
2. Common intellectual experiences are built upon the concept of core curricular and co-curricular activities which are shared between students in order to increase their engagement with their fellow students and with faculty.	▼	▼	▼	
3. Learning communities seek to link curricular efforts across multiple courses, usually centered on a theme, and may involve the residential areas of the college or university.	▼	▼	▼	
4. Writing-intensive courses emphasize multiple drafts and frequent feedback from instructors, and may be found "across the curriculum," regardless of discipline.	▼	▼	▼	
5. Collaborative assignments and projects provide students the opportunity to learn to work and solve problems with others, and to sharpen understanding by listening to the insights of others, especially those with different backgrounds and life experiences.	▼	▼	▼	
6. Undergraduate research seeks to involve students in empirically testing actively contested questions, engaging them with faculty and fellow undergraduate researchers, and allowing students the opportunity to work with technology, present their findings, and potentially publish.	▼	▼	▼	
7. Diversity and global learning engage students with worldviews and perspectives different from their own, and can increase students' awareness of the diversity which exists within U.S. society as well as world cultures.	▼	▼	▼	
8. Service learning and community-based learning are field-based experiences which provide students an opportunity to apply the knowledge and skills they have learned in the classroom to relevant, real-world situations in their community, followed by reflection.	▼	▼	▼	
9. Internships provide students the opportunity to engage in the application of knowledge and skills in a work environment with the benefit of	▼	▼	▼	
a professional in the field providing supervision and coaching.				
10. Capstone courses and projects are culminating experiences which require students to integrate and apply what they have learned over the years in a final project, portfolio, exhibit, thesis, or some other project.	▼	▼	▼	

Briefly describe methods currently used, if any, to document the impact of your institution's academic library on student retention.

Briefly describe methods currently used, if any, to communicate the impact of your institution's academic library on student retention to university administrators (such as the President or Chief Academic Officer/Provost).

If you are interested in receiving a synopsis of this study's findings, please enter your email address below. Your responses to this survey will be kept confidential.

>>

APPENDIX C: Cover Letter to Survey Population

Hello,

My name is Adam Murray. I am the Dean of University Libraries at Murray State University, located in Western Kentucky. I'm currently working on my dissertation, examining connections between academic libraries and student retention. By conducting this study, I hope to inform academic library directors of the context in which they may position their libraries as a unit which assists the university in the fulfillment of critical retention initiatives.

The survey should take approximately 15 minutes to complete. Your participation in this study is completely voluntary. If you decide not to participate or withdraw from the study at any time, there will be no penalty or negative impact to you in the future. If you decide to participate, you are also entitled to discontinue your participation at any time during the project.

There are no foreseeable risks. Although there may be no direct benefit to you, the information you provide may benefit academic library directors as they seek to understand how they can maintain or position their units in a central role for modern institutions of higher education. Data will be analyzed and reported in aggregate to further protect confidentiality.

If you have any questions regarding the study, you can contact me at (270) 873-9425 or via e-mail at amurray@murraystate.edu. You can also contact my dissertation committee chair, Provost Emeritus Burch at barbara.burch@wku.edu.

Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

Your continued cooperation with the following research implies your consent.

If you agree, click the link below to begin the survey. If for any reason the direct link below does not work for you from within your email, please cut and paste it into your browser:

Thanks in advance for your participation,
Adam

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD
Paul Mooney, Human Protections Administrator
TELEPHONE: (270) 745-2129

APPENDIX D: Institutional Review Board (IRB) Approved Forms

WESTERN KENTUCKY UNIVERSITY

Institutional Review Board
Continuing Review Report

Name of Project: Ed.D Dissertation: Academic Library and High-Impact Practices for Student Retention: Perspectives of Library Deans
Name of Researcher: Adam Murray
Department: Ed Leadership Doctoral Program

How many total subjects have participated in the study since its inception? #0_____

How many subjects have participated in the project since the last review? #0_____

Is your data collection with human subjects complete?   **No**

   1. Has there been any change in the level of risks to human subjects?
(If "Yes", please explain changes on a separate sheet).   No
   2. Have informed consent procedures changed so as to put subjects
above minimal risk? (If "Yes", please describe on a separate sheet).   No
   3. Have any subjects withdrawn from the research due to adverse
events or any unanticipated risks/problems? (If "Yes", please describe
on a separate sheet).   No
   4. Have there been any changes to the source(s) of subjects and the
Selection criteria? (If "Yes", please describe on a separate sheet).   No
   5. Have there been any changes to your research design that were not
specified in your application, including the frequency, duration and
location of each procedure. (If "Yes", please describe on a
separate sheet).   Yes
   6. Has there been any change to the way in which confidentiality of the
Data is maintained? (If "Yes", please describe on a separate sheet).   No
   7. Is there desire to extend the time line of the project?   No
      On what date do you anticipate data collection with human subjects to be completed? _____

Research Design Changes
This study will examine correlation or significant differences of academic library deans' perception of their libraries' involvement in retention initiatives with institutional retention data available through IPEDS. In order to do this, the approved survey needs to include two new questions for identifying the institution in order to match data from the survey with data from IPEDS. The two questions are:

   1. Enter the name of your university
   2. Select the state in which your university resides

Once survey data and IPEDS data are matched, institutional name will be removed from the data set to protect anonymity. This link is to the preview of the survey:
https://wku.qualtrics.com/SE/?SID=SV_brQsrIDIVANMCGh&Preview=Survey&BrandID=wku

Informed consent language was updated based on the average time to complete the survey found during the pilot version of the survey.