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Student Satisfaction and Perception of Value with a New Student Union Facility

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by

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Abstract

Student union facilities have served as the hub of college campuses for over 100 years. In the past decade there has been a surge in new facilities and major renovations, which represent substantial investments on the part of students and the state; many projects have been in the range of $100 million. This study employed a commonly used satisfaction instrument, the ACUI/EBI College Union/Student Center Assessment, to measure levels of satisfaction or dissatisfaction with the student union. Multivariate analyses were used in this study. Results of the study indicated that students of color and involved students maintained a high level of overall satisfaction while students with a low level of involvement showed a lower level of overall satisfaction. When trends of satisfaction were considered, high levels of satisfaction on ENVIRONMENT and RETAIL FOOD components did not correspond to high levels of satisfaction on EFFECTIVENESS component.

This work is dedicated to my family that supported me throughout this process, including my student union family. Without the support of them, the completion of this work would not be possible.

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Chapter One: Introduction

Student unions have served as the hub of college campuses since the turn of the century. With the primary goal of "education of the total person: mind, body, and spirit", these campus centers developed from a simple place to connect with fellow students into facilities with amenities that made it easier to get an education (Milani, Eakin, & Brattain, 1992, p. 4). In addition to providing a physical space for students to connect with the campus, these facilities have become a vital part of attracting new students. This has forced institutions to put money and effort into student unions in order to be competitive in the recruitment process (Bok, 2003).

Retention research has suggested that when students are engaged both within and outside the classroom they become more invested in their experience and therefore are retained at a higher rate than those who do not display engagement behaviors (Astin, 1993, 1999; Pascarella & Terenzini, 2005; Tinto, 1987). The mission of student unions has traditionally been to provide a space in which students from all demographic groups can engage with the campus community which in turn contributes to their overall experience and retention (Presinger & Wilson, 1992).

Student unions, also known as student centers, have historically served to support student involvement and contribute to the overall environment of community, but the pathways to achieving this goal have continued to expand and develop. Although student unions have been on campuses since 1896 (Milani et al., 1992), a surge in new student union facilities occurred in the 1960s as the college student boom of incoming students initiated a new focus on student life (Association of College Unions International [ACUI], 1988). As the number of students on college campuses grew and as student

union facilities aged, student demand led campuses to spend significant funds for renovations, additions, or entirely new facilities. Because student unions are a prominent building on most campuses and are featured during recruitment of students, competition among campuses has increased related to the design, technology, and services offered within these facilities. Institutions have designed bigger and better buildings in order to be competitive (Bok, 2003; Williams, 2006). These new facilities represent major investments on the part of students and the state, often in the range of $100 million. A large portion of the facility costs is borne by students, paid each year by student fee contributions. These fees are often a substantial proportion of the total cost of education to the student (Brailsford & Dunlavey, 2005).

The U.S. and worldwide economic downturn which began in 2007 presented challenges for institutions of higher education. As a result of decreased state funding, many institutions were forced to raise tuition and fees (Kelderman, 2009). Increasing fees allowed institutions to continue to offer needed services, but it was a deterrent to some students who could not afford, or were not willing, to pay increased fees. For over 70 years, economic theorists have argued that consumers have been willing to pay for a service as long as they felt the value matched the price (Hicks, 1946). In order to be retained, students need to realize value in their education in proportion to the fees they are charged (Heller, 1997). As costs to the students escalate, the perceived personal value of their education must keep pace with that escalation in order for colleges to retain them as customers and students. The cost to students in student union fees is no exception.

The higher education funding formulas in most states are based on full-time student equivalent enrollment. As a result, it has been particularly important for institutions to retain students in order to maintain a budget allocation substantial enough to keep the institution operational (Hebel, 2010). Tinto argued that the depletion of financial resources brought the importance of retention to the forefront of institutional administrations (Tinto, 1987). In addition to financial incentives for retaining students, there may often be political gain to be realized from higher student retention rates. Student retention rates serve as one indicator of public accountability. High rates indicate that the student is satisfied, values the educational experience, and is committed to the institution (Zumeta, 2000). Thus, high retention rates indicate that the institution is a good steward of state resources.

Whereas past generations of administrators have enjoyed less political oversight, public accountability has become critical and institutions need to provide evidence that student and societal needs are being met with the use of state funds (King Alexander, 2000). The importance of having access to information to support the value of education, as well as aid administrators in making decisions, is not to be understated.

Universities have struggled to understand the value students place on their education in general, and have had particular difficulty in understanding specific demographic groups. Underserved populations, as well as other groups with historically low retention rates, have been a focus of administrators and researchers (Hurtado, 1994; Lau, 2003). For example, students from an underrepresented racial or ethnic background, students working off-campus, and commuter students have been demonstrated to have lower retention rates in higher education (Gandra & Maxwell-Jolly,

1999). These students represent a growing proportion of the higher education market and in order to meet their needs, specific valuation research is critical for these populations (Heller, 2001).

As higher education administrators think about the retention of students and the value of education to the student, student life facilities such as student unions become central to the assessment equation. Satisfaction of higher education as a consumer product is an important variable to be considered. With movement toward increased accountability in higher education, combined with the amount of money spent on these new facilities, universities need to determine if these new student unions support student retention and what, if any, differences exist between the distinct demographic groups.

Statement of the Problem

Student life facilities such as student unions are designed to provide services that support students in their quest to be successful in college and thus complete their degrees. Because these facilities add a substantial cost through additional student fees, it is important to know if they are meeting their goal of retaining students. It is particularly important to understand the impact of these facilities on students who have historically demonstrated a lower student retention rate, including those from an underrepresented racial or ethnic background, working students, and commuter students (Gandra & Maxwell-Jolly, 1999). One method of determining the impact is to study the perceptions of value and satisfaction of these particular populations. Individual needs assessments are generally performed before making a commitment to build new facilities, but little is done following the opening of these facilities (Brailsford & Dunlavey, 2005). A substantial amount of research is done on student retention in general; however, research

on the impact of student unions on retention is limited. Studies have shown that if students feel a sense of community and are involved on campus outside the classroom, they are more likely to graduate (Braxton, 2000; Braxton & Breir, 1989; Nora, 2001; Tinto, 2001, 2006). In their official statement of the Role of the College Union, the Association of College Unions International (ACUI) defined student unions as contributing to the sense of community and facilitating student involvement (ACUI, 1988). It is a logical deduction that student union facilities contribute to student retention; however, research is needed to provide new insight. In addition, no peer-reviewed research existed at this time of this study concerning ongoing student satisfaction of student life facilities as well as how the perceived value of student life facilities differed among specific populations of students. Measuring student perceptions in relation to costs may provide needed information. The results of this research might be used to guide administrators and key decision makers in the allocation of the dwindling fiscal resources aimed at student retention in higher education.

Purpose of the Study

The purpose of this study was to develop a better understanding of student satisfaction and the perception of value with a new student union. This study was conducted in two phases. The first phase tested a commonly used instrument and identified satisfaction factors from the data. Phase two examined how students might cluster regarding the newly identified satisfaction factors and then used demographics to define those clusters. In addition, this study expanded the body of literature with respect to student life facilities and college student retention. During the first step of the study, the Educational Benchmarking Inc. (EBI) survey instrument was tested to determine if it

represented a valid measure of the claimed factors in the selected population; these factors included items such as staff, promotion, food, and bookstore. This study also sought to identify student sub-populations who report dissatisfaction and who did not perceive value in new student life facilities (ACUI, 2008). The investigation focused on groups that had been identified in the research as being at greater risk of departure from a higher education institution. Conclusions were added to the literature by examining the issue from a new perspective in order to support, or provide evidence against, the concept that these groups have a higher level of dissatisfaction and a lower level of perceived value of the costs of education as well as investigating potential impacts on that satisfaction level. Administrators may be able to use this information to better target services and resources in a practical way to better serve students and eventually increase retention for institutions.

Research Questions

The purpose of this study was two-fold: (a) to establish the validity of a commonly used survey instrument; and (b) to better understand the perceptions of students regarding satisfaction and perceived valuation of a new student union facility at a single institution.

Student union professionals have relied on the EBI instrument when measuring satisfaction and performing program evaluation. However, the instrument had not been tested for construct validity. Research questions guiding this phase of the study included:

1. When measuring student satisfaction and perception of value with student union facilities, was the EBI instrument valid for use with the selected population?

2. Did a factor analysis confirm all, or some, of the published factors of the EBI instrument?
3. Did a factor analysis present new factors in regard to student satisfaction and perception of value with new student union facilities?

The second phase of the study began with the assumption that, through viewing students as consumers, and taking into account consumer-demand theory, satisfaction and value would impact retention. The following questions were taken into consideration when developing the structure and analysis of this portion of the study:

1. Did specific clusters of students emerge when examining student satisfaction and perception of value with student union facilities?
2. How did identified clusters of satisfied and dissatisfied students differ?

Methodology

This study was a quantitative investigation into student satisfaction and student perception of value of a newly constructed student union facility. Factor analysis was used in validation of the instrument and its published factors as well as to define new factors to be included as variables in the second phase of the study. Cluster analysis was the primary statistical tool in the second phase with the inclusion of a cross tabulation analysis to define the demographics of each cluster identified.

The study utilized data previously collected through an online survey conducted by a student union at a midsized, land-grant public research university in the Western United States. Data was collected in April of 2010. A standardized survey instrument developed by EBI and ACUI was utilized in the collection of data within this single institution during the first year of full operation of a newly constructed student union

facility. There are 12 factors published by EBI associated with this instrument of student satisfaction and perceived value and these factors formed a base for testing the instrument (EBI, 2010).

At the time of this study students paid a fee to support the new student union. This fee was implemented in 2006 with the start of construction of the new facility. A price differential existed in order to limit the impact on part-time students. Those undergraduates taking one to three credits paid a lower fee than those taking four or more credits; those graduate students taking six or less credits paid a lower fee than those taking seven or more. The population included in this study was comprised of students paying the higher student union fee, thus focusing on the students with a greater financial investment in the student union. From this population, a random sample was selected for the survey (C. Price, personal communication, July 20, 2010).

Variables used for the factor analysis included the majority of the questions in the EBI instrument on student satisfaction and the perceived value of the student union. The resulting factors from the factor analysis became the new variables for the cluster analysis. After performing the cluster analysis to identify satisfied/dissatisfied groups, demographic variables were used to describe these clusters, including racial/ethnic characteristics, class standing, gender, employment status, on-campus/commuter living status, and student engagement variables such as club participation, frequency of participation in union activities, frequency of union visitation, and Greek involvement.

Limitations

The field of student retention research is extensive and the study of student valuation of education is substantial. The idea of a single study developing

comprehensive conclusions, even when the scope is narrowed to student union facilities, was improbable. Limitations were placed on the study to help focus into a manageable initial step in research. Even with these limitations, findings discovered with this study could be indicators for future study and could impact practice in similar settings.

The first limitation concerned the breadth of the study. A single institution was selected as a first step in research. Institutional characteristics of geographic placement, funding structures, political environment, campus culture, and demographics of students made it unique; thus projection to all institutional types should be evaluated with this limitation in mind.

Depth of the study is also to be recognized as a limitation. This study sought to understand how student satisfaction and perception of value impacted retention. This is a complex issue that potentially changes over time, taking into account different environmental factors such as a new facility; however, this study concentrated on data consisting of a snapshot of time in a single environment. While the subject could have been explored more deeply by a longitudinal study, this study serves as a first step in the research.

The population examined in this study was selected based on the specific institutional fee structure. Those students taking four or more undergraduate credits or seven or more graduate credits were required to pay a higher student union fee. These two groups were identified by the institution to complete the survey. It should be noted that the definition of full-time and part-time for the purpose of fee assessment was determined by the student governments at the institution and is different from the

definition established at most institutions for determination of part-time/full-time status (C. Price, personal communication, August 2, 2010).

Although the survey methodology followed the Dillman approach (Dillman, 2007), a limitation in accuracy of contact information existed. The sample was selected directly from the institutional records which hosted only university emails and personal emails provided by students. The delivery of the survey was through this university email account and depended on whether students checked their university email or set up a forwarding protocol to their personal email account. Only students that received the link and followed it were given access to complete the survey and therefore were included in the data set. A response rate of 33% was achieved by the institution and the possibility of non-response bias should be considered when interpreting results although recent research suggests limited statistical linkage of response rate to non-response bias (Groves & Peytcheva, 2008).

Assumptions

Through viewing students as consumers and taking into account consumer-demand theory, this study assumes that student satisfaction and perception of value have a connection with student retention. An examination of the literature concerning economic impacts and retention supports this assumption.

Another set of assumptions of this study center around representativeness. This study assumes that the selected sample is representative of the entire population at the institution. Although each institution is unique, the fact that the examination of this population may indicate potential trends at other student union facilities is also assumed.

Definition of Terms

ACUI. The Association of College Unions International professional association which includes students and administrators. This association developed the "Role of the College Union" as well as collaboratively engaged in creation of the ACUI/EBI College Union/Student Center Assessment survey instrument.

Cluster. A group of related cases based on an analysis of variables and their distance from a cluster center.

Cluster Analysis. An analysis type that identifies groups of cases that are a component of a larger group of cases. This method measures each individual case's distance from a cluster center to distinguish which cluster cases are most closely related when examining a set of variables.

Cross-Tab Analysis. A presentation of data about multiple variables in a table for easier examination of relationships. In this study, the Cross-Tab Analysis examined frequency of demographics within each cluster.

EBI. Educational Benchmarking, Inc. which developed the ACUI/EBI College Union/Student Center Assessment survey instrument and manages the implementation of the survey.

Factor. A group of related variables that are a component of a larger group of variables.

Factor Analysis. An analysis type that allows for data reduction by finding patterns in the variables to identify underlying composite variables.

Student Union. A facility and program designed to serve as the hub of the campus community. Also known as the college union or student center and whose

comprehensive program includes the design of the facility and spaces, commercial retail within the building, and a variety of student programs and community events.

Variable. Any attribute of data that can vary. Used in all forms of data analysis, a variable provides differences in cases. In this study, phase one utilized each scaled question on the EBI survey as a variable as each case maintained a response that varied from other cases. Phase two made use of the factors identified in phase one and the mean of the responses to the included variables in each factor as the new variable value. Phase two also took each case's demographics from the categorical questions on the EBI survey as a variable for use in the cross-tab analysis.

Organization of the Study

This study is presented in five chapters:

1. Chapter One: Introduction serves as a background to the study and provides a framework including a brief summary of existing conditions and research. It provides the focus of the study as well as the methodology utilized and discloses potential limitations and underlying assumptions of the study.
2. Chapter Two: Review of Related Literature gives a more in-depth background as to related research including discussions of student unions through campus culture, engagement and retention, student economic satisfaction, specific populations of concern, and assessment.
3. Chapter Three: Methodology presents a thorough discussion regarding the methodology of the study including general study structure, population, data source, procedures and data analysis techniques.
4. Chapter Four: Results offers the significant findings of the study.

5. Chapter Five: Conclusions provides an analysis of these results in relation to accepted theory, identifies ways the findings might contribute to the literature, and suggests directions for further study.

Chapter Two: Review of Related Literature

The review of related literature is divided into five sections. These are (a) The Student Union as the Central Hub of Campus Culture; (b) The Student Union, Campus Engagement, and Student Retention; (c) The Student Unions and Student Economic Satisfaction; (d) The Student Union and Issues of Student Specific Population Concern, and; (e) Assessment in Higher Education and the EBI Instrument

The Student Union as the Central Hub of Campus Culture

Student unions have served as primary facilities for social interaction on campuses since 1896 (Milani et al., 1992). These facilities have borne several different names over the course of history, such as student unions, student centers, or university centers. Common to all of them was a design intended to build community and facilitate campus engagement between students, faculty, and staff outside of the classroom (Henry, 2004; Yates, 1992). Since the late 1800's, the student union has been the common meeting place for faculty, staff, and students, while offering such amenities as food, entertainment, and information. The amenities provided convenience for all with the intended outcome of bringing individuals together to support a sense of campus community and engagement (Butts, 1971).

The Association of College Unions International (ACUI) serves as the professional organization for all college unions and provides support for college unions internationally as they promote community building on college campuses. ACUI was founded in 1914 by a group of students in the Midwest who took the lead and worked with professional staff toward the solidification and verbalization of this purpose. From

these early years, ACUI emerged as the united professional voice of student unions through its organization (Butts, 1971). This group remains the primary active source for information, support, and guidance to student union professionals (Butts, 1971; C. Price, personal communication, July 20, 2010). The environment of community, outlined by ACUI's "Role of the College Union" in 1988, served as a foundation for interactions with peers and faculty, which further supported theories of student retention which abounded in the retention literature (ACUI, 1988).

Given that the primary mission of colleges and universities is to offer classes which lead to graduation, the concept of and need for student and faculty engagement outside the classroom may not be readily understood by some. Some college and university administrators hold to the belief that the academic environment is the primary place of engagement for students. Understanding the importance of out of classroom interaction, such as that which takes place in a student union, requires thinking in different way on the part of some campus leaders. Bolman and Deal (2008) describe this process of rethinking as "reframing". Higher education is particularly vulnerable to depending on tradition. Ironic for an industry charged with creating new knowledge and being research-based, often administrators make decisions based on their beliefs and personal experience. This environment may benefit from reframing and the student union provides a place to begin. The idea that student unions serve as the hub of campus culture, as well as facilitate campus engagement, provides an example of this concept of reframing, described by Bolman and Deal (2008).

As defined by Bolman and Deal (2008), "a frame is a mental model – a set of ideas and assumptions – that you carry in your head to help you understand and

negotiate" (p. 11). They describe four perspectives or frames from which to view organizations. These include the Structural, Human Resource, Political and Symbolic Frames. The Structural Frame focuses on more formal ways of viewing the organization through items such as policies, organizational structure, and official rules and responsibilities. This frame views the organization as a machine being predictable and rational. The second frame reviewed is the Human Resources Frame. Here they encourage viewing the organization through a psychological view and focus on individual people with feelings, relationships, and personal motivation – the organization as a family. Through the Political Frame, organizations are viewed as a jungle. This frame examines the organization through a competition for power and resources with negotiation, coercion, and coalitions. The last frame is the Symbolic Frame – the frame that views the organization as a theater. Focus is put on culture, ceremony, heroes and myths. Using the Symbolic Frame, the organization considers its values when defining purpose, but sees those values as manifested through players and symbols. The authors demonstrate that any organization can been seen through these frames and the most appropriate frame will vary depending on the situation. By forcing the view of the organization to be framed though these different perspectives, they suggest that administrators may be open to new information and different interpretations of the organization (Bolman & Deal, 2008).

The student union can best be viewed using the Symbolic Frame which depicts "organizations as cultures, propelled by rituals, ceremonies, stories, heroes and myths rather than rules, policies and managerial authority" (Bolman & Deal, 2008, p. 16). Student union buildings often serve as a symbol of student life as they are student driven

and often student created in every aspect of the building. Students serve as the life blood of the building by being members of advisory boards, developing programs, and often being core staff of running the building itself (Milani et al., 1992). Student unions build community and provide a new way for campuses to evolve their culture around the symbolic "hearthstone" of the campus (ACUI, 1988). While all student unions may share a common vision, each campus remains unique with an individual campus culture. This culture forms "the superglue that bonds an organization, unites people, and helps an enterprise accomplish desired ends" (Bolman & Deal, 2008, p. 253). The culture of each campus community is manifested by the symbols it selects and these student union facilities reflect those symbols.

Where student unions traditionally provided a place to bring community together through the availability of food services and lounge space, more recent trends reveal a wider array of commercial services (Brailsford & Dunlavey, 2005). Newer facilities also focus on services that provide convenience and make students' lives easier. Commercial retail such as hair salons, banks, mail services, and others were designed to keep students on campus longer by providing the services they need for day-to-day life (Brailsford & Dunlavey, 2005). Because of these increased services and amenities, the student union may be viewed as an important student retention tool. These facilities have provided a competitive advantage in student recruitment as well as an incentive to stay on campus compared to other campuses without such student life facilities (Bok, 2003; Williams, 2006).

The interaction of faculty and students inside the classroom, as well as outside the classroom, has been well documented to be a positive influence on student learning

(Pascarella & Terenzini, 2005; Tinto & Russo, 1994). The "Student Learning Imperative" national report commissioned by the American College Personnel Association, put forth a challenge to student affairs professionals to conscientiously make efforts to follow the research and embrace inventive ways to support student learning (ACPA, 2011). Through concentrating on programs that encourage active learning on the part of students rather than waiting for professors to impart knowledge on them, connection of curricular and co-curricular programs, and providing programs to translate what students learn in the classroom into experiences such as volunteerism and service, student affairs programs can add to the academic mission of the institution. Programs such as those offered by a student union play into that role of embellishing what happens in the classroom and encouraging student involvement in their educational experience.

Student involvement in the learning process was also identified as one of the leading contributors to student success in Astin's 1993 book, *What Matters Most in College*? This book presents an analysis of a quantitative study investigating impact of variations in college experiences on students including environment, satisfaction and involvement. This study included different types of colleges to determine if the kind of college impacted the college experiences, and if so, on what levels with what variation in results. The focus of the work was on the outcomes of the experience on the students rather than the means to get to that outcome. His work underscored the potential that student involvement has for affecting their college experience and development. Retention was found to be positively associated with academic involvement, involvement with faculty, and involvement with student peer groups. When analyzing the measures of faculty involvement, he discovered that variations in student-faculty contact within any

given institutional environment may have important positive implications for student development, satisfaction, and retention (Astin, 1993). Cooperative learning among students has also been shown to increase student retention as well as student satisfaction and active participation in the classroom (Cooper, 1995). An environment supporting these concepts of cooperative learning and involvement in student learning by both faculty and students may be extended to an environment that builds community.

Opportunities to collaborate outside of the classroom can be made easier with facilities and programs that offer expanded services and which bridge the gap between academic and social environments (Brailsford & Dunlavey, 2005). Researchers suggest that this kind of collaboration would benefit students and enhance their quality of life (Kuh, 2003; Tinto, 1988). Student unions provide an environment which facilitates these collaborations and thus contribute to the positive environment of the institution and to retention of students (Miliani et al., 1992).

The environment of reciprocity between students, faculty, and the institution in general leads students toward the commitment to and from the institution (Tinto, 1993). Students, faculty, and the institution itself must support each other and take responsibility for working toward each other's success. For many decades, students were seen as responsible for absorbing the knowledge that the faculty bestowed upon them, faculty were responsible for creating and sharing knowledge, and the institution primarily supported that transmission; however, the interrelation stopped there in many cases. Tinto (1993) believed that once the institution accepts a student into the community, it has an obligation to serve that student and should be dedicated to that individual's social and intellectual involvement. The institution needs to adopt a philosophy of commitment

to student learning with the expectation of student involvement to follow. "We must provide them with meaningful ways of becoming involved in learning, both inside and outside the classroom" (Tinto, 1993, p. 210). This is consistent with the research that linked student retention to student involvement in their educational experience as well as with the sense of community that supports these efforts (Astin, 1984; Pascarella & Terenzini, 2005; Tinto, 1987, 1993).

Tinto offered that institutions that were successful with retention concentrated on the idea of community and the dedication of that community to students as individuals. "Communities… which care for and reach out to members and which are committed to members' welfare are also those which keep and nourish their members" (Tinto, 1993, p. 146). By measuring the satisfaction of members of the community, specifically targeting those members of the community who are struggling to connect to that community, institutions may be able to focus efforts toward those students who have the greatest risk of leaving. ACUI describes that student unions serve to support and nurture a sense of community (ACUI, 1988). As the hub of community, this research may be applied to student unions that encourage these interactions.

The Student Union, Campus Engagement and Student Retention

In the 1970's and 1980's the importance of student interactions with peers, their academics, and the environment became a reoccurring topic in the literature through the works of researchers such as Astin, Pace, and Pascarella. The concept of "student involvement" was developed (Astin, 1975, 1984; Pace, 1984; Pascarella, 1980). Where prior research examined the student as an individual, this volume of work discussed how the student interacts with the institution.

Vincent Tinto came to the forefront of student retention literature in the 1980's with his research on student departure. The *Model of Institutional Departure*, which he presented in his early work and later fully developed in his 1987 book, challenged institutions to move beyond merely examining the background of their students in an effort to serve them effectively as they interact with the institution both socially and academically (Tinto, 1975, 1987). He explained that although it was important to understand the characteristics students bring to their education, persistence was more a function of what happened after they arrived. Contrary to the common understanding of the time, Tinto portrayed student departure to be more the failure of the institution than the failure of the student (Tinto, 1975, 1987, 2006).

This shift in thinking signaled a new area of emphasis in the research and the literature strongly moved toward student involvement with the institution as it related to retention. In 1993, Tinto established his *Dimensions of Institutional Action* as an advisement to move past theory and a call to action for educators. This model began with addressing the mislabeling of students who chose to leave the institution as being a student "dropout"; thus implying a failure on the part of the student only. Using this model Tinto suggested that if students did not define their departure from the institution as a personal failure, neither should the institution. Tinto encouraged institutions to better define the reasons students chose to leave and to discover where institutional action could have been more effective in providing a meaningful student experience. In the course of establishing retention goals and policies, the administrators were challenged by Tinto to take into account not only the goals and actions of the student, but also discern

the institutional mission and goals and how those institutional goals complemented student goals (Tinto, 1993).

Expanding on the understanding of student departure, Tinto outlined three principles for effective retention rather than providing a menu of one-size fits all programs. These principles focus on setting institutional goals that place a high priority on students. He maintained that successful program development guided by the following principles would bring about effective retention efforts (Tinto, 1993).

1. Institutional commitment to students. This principle stresses that in order to be successful with retention efforts, the institution must first put the student welfare above the institutional goals. He indicated that this principle was the most difficult to measure and delves into the very core character of the institution itself. Success relies on the values of the entire institution. Inclusion of assessment efforts to determine how students feel about their experiences through reflection on satisfaction and perception of value are expected to lead to a better understanding of the impact of the institutional core character.
2. Institutional commitment to the education of all students. This principle was outlined as a key concept to understanding successful student retention. Rather than having the institutional goal as retention itself, the retention goal should be met through the institution's focus on student learning. Tinto suggested that energies should be directed toward supporting the academic success of the student through the recruitment and admission of better qualified students, followed by the provision of educational settings that supported that success, including measuring and providing constructive feedback to each student. No student

should be left behind and student learning should be active rather than passive. In efforts to serve each student, a deeper understanding of differentiated groupings should be included to provide evidence of when the institution is successful in serving every student and where additional efforts are needed.

3. Institutional commitment to the development of the supportive social and intellectual communities in which students function. This principle involves the integration of social and intellectual life. Effective retention programs are to nurture and rely on the community integration to provide the support for the learning process. The sense of community in a variety of settings establishes personal bonds, not only between students, but also with faculty and the institution as a whole.

In addition to developing the principles of effective retention programs, Tinto also outlined ideology to guide in the effective implementation of these programs. These were commonly accepted constructs for effective implementation of programs of any type – sufficient resources and training, incentives for participation, commitment for the long-term, empowerment to those carrying out change, collaboration and coordination of efforts, and continuous assessment improvement (Tinto, 1993). This continuous assessment retained a presence through much of the literature especially when partnered with the increase in accountability documented in more recent years (Burke & Serban, 1997; King Alexander, 2000).

Although Tinto could be defined as an expert in the field of student retention, and his interactionalist theory formed the basis of a large portion of work in the area of

student retention, further research followed Tinto, leading to a better understanding of these complex concepts.

Where early research studies treated all higher education institutions as homogeneous, new studies brought out the differences in student retention based on differences in institutional type and setting. For example, when examining persistence in a primarily commuter campus, the emphasis is on understanding the impact of external events, such as having to commute to campus, as well as the importance of the classroom as the primary interactive environment (Tinto, 1997; Tinto, Russo, & Kadel, 1994).

Through the examination of economic, sociological, and psychological models, researchers provided different views of the issue of retention (Bean, 1980; Cabrera, Castaneda, Nora, & Hengstler, 1992; Pascarella & Terenzini, 2005; Tierney, 2000). However, regardless of these new directions of viewpoint, the hallmark of Tinto's work remained constant throughout the expansion of student retention theory. Student involvement and the sense of community was a vital component in impacting student retention even in these more recent works (Braxton, 2000; Braxton & Breir, 1989; Nora, 2001; Tinto, 2001, 2006).

An environment of community.

Tinto (1993) suggested in his interactionalist theory that the sense of active community was primary to successful retention of students. As with any community, he described the importance of a proactive, caring environment where the institution, through its faculty and staff, reached out to students. Student connections to the institutional community contributed to their positive experiences and resulted in commitment to that institution. The lack of these connections was identified as factors in

dropout behavior (Turnbull, 1986). In 1987, Tinto first proposed his *Model of Institutional Departure*, claiming that student departure was dependent on the student experiences at the institution (Tinto, 1987). He found that positive experiences led to further student involvement and negative experiences led to withdrawal from social and educational circles and eventual departure from the institution. These concepts support the need to evaluate student satisfaction as a measure of the student viewpoint on their experiences with the institution. Following Tinto's line of thought, this information on their satisfaction with their experiences could serve as an indicator of the extent of potential student involvement.

The impact of community and peer groups is well documented in the literature. As early as 1969, Pace established the importance of peer reference groups in addition to the individual student's perceptions of experiences. Through further analysis, Pace developed the College and University Environment Scales (CUES), which included ways to analyze several dimensions of the university environment including sense of community (Pace, 1969, 1974). This instrument and Pace's resulting studies provided a look into the cultural, social, and intellectual climate of a campus and served as an important first step to build upon.

In his work, *What Matters Most in College?*, Astin (1993) presented the finding that the "Lack of student community has stronger direct effects on student satisfaction with the overall college experience than any other environmental factor" (Astin, 1993, p. 352). Baird (2000) examined campus environment and found that the dimensions of environment that present themselves as influential over student satisfaction with their college experience are the friendliness or cohesiveness of the student culture, shared

identity, approachability and quality of faculty-student interactions, as well as the importance of fun and social interactions. Although there have been studies that questioned the empirical support for Tinto's model, Braxton, Sullivan, and Johnson (1997) concluded that the agreed upon concept of social integration and involvement in the community validated Tinto's model with regard to the environment and campus community.

On the other side of the equation from the institutional responsibility for creating a sense of community is the examination of student involvement in the educational community. Student involvement, or what is also known as engagement, has been shown to positively contribute to the college experience. The literature revealed that students learn from participating in their education both inside and outside the classroom and this participation impacts retention (Astin, 1993; Kuh, Scheuh, Whitt, & Assoc., 1991; Pace, 1984). Other studies demonstrated what Kuh described as "involving colleges" and addressed how student retention is achieved through building a relationship between individual students and the institution as well as encouraging students to be involved in the learning process (Kuh et al., 1991). Kuh supported these findings through his 2001 study with Hu, which examined research university students and their learning productivity. This longitudinal study found that a connection existed between the student view of involvement with the institution and learning; however, they held demographic characteristics constant to examine the relationships over time. This leaves room to examine the student demographic attitudes and learning over time (Kuh & Hu, 2001). Kuh's work also emphasizes that although the focus may be on the student's responsibility toward student engagement, the institutional policies and commitment to

an environment of community can have a positive impact on building a culture that encourages this student engagement (Pike & Kuh, 2005).

These concepts form the base of the "Role of the College Union" developed by the Association of College Unions International (ACUI, 1988). This professional association that encompasses student/college unions at all types of institutions from around the world contains membership of students and administrators alike. Students and staff from representative campuses came together to create the "Role of the College Union" to define their vision for what a college union should be and what role it should play on a campus. As part of this role, the union provides a sense of community and positive environment to support and encourage student interaction and engagement in all areas of their education. The support of the academic development of the student, balanced with the development of the student socially and as a citizen, completes the student's intellectual development. This role of college unions is accepted by all institutions that are members of the ACUI (ACUI, 1988).

Peer interactions.

In addition to the impact of involvement in his or her own learning on a student's decision to persist, peer interaction was also found to be a very strong influence on retention. Astin (1999) recognized the influence of peers as the strongest single source of influence on all aspects of students' personal and educational development when analyzing the interconnections between the findings of two national reports – "Involvement in Learning" and the "Student Learning Imperative". Through the analysis of these two reports, student affairs was both recognized for the active learning that naturally develops from peer involvement and was called to utilize research to more

effectively realize the potential available. This work built on Astin's (1993) earlier findings that interactions with peers could lead to greater satisfaction and commitment to the institution. Other significant works included Pascarella and Terenzini's book (2005) which presented more recent data and offered an additional historical perspective with connection to their works in the 1990's and 1980's. They found that peer influence encourages "conformity with the group's attitudes, beliefs, and behaviors" which suggested the importance of measuring these attitudes (Pascarella & Terenzini, 2005, p. 418).

Tinto's work with retention and idea of community also extended to the qualities of peer interactions. Tinto's work with Russo (1994) suggested that a supportive community of peers outside of the classroom was critical to the persistence of students in a community college setting. He recognized that involvement and peer interaction was shaped by the environment and a difference of educational experiences, but found a consistency with the idea of the supportive community of peers (Tinto & Russo, 1994). This community of peers is often found at the student union as a meeting place outside of the classroom (Milani et al., 1992).

Facility impact on retention.

When examining retention, the concepts of environment and involvement support the importance of including the study of the physical environment and how it might have an impact on students; however, research in this area is limited. Studies of facility contributions to the educational environment revolve primarily around the classroom setting. Links have been shown to exist between the physical facility of the classroom and student learning and persistence (Brase, 1988; Tinto, 1997). Several factors such as

furniture placement and room layouts encourage student interactions and students identified them in a 2006 study as significant in their learning experience (Veltri, Banning, & Davies, 2006). However, the amount of research about institutional facilities outside of the classroom and their effect on student success is extremely limited. Study rooms, residential halls, and facilities for disabled students have been shown to impact student learning and contribute to a positive environment, but these studies did not directly consider student unions (Lau, 2003).

A 2009 study examined student usage of campus facilities, including the student union, and the relationship of usage to student retention (Mallinckrodt & Sedlacek, 2009). This study found that students that used certain facilities, including the student union, were retained at a greater rate when examining all students. The researchers broke the results down by race and found that African-American specifically showed a greater increase in retention related to usage of these facilities. Student programs sponsored by the student union were shown to be indicators of increased retention. Although a single study with a small population, this study supports the idea that student unions have a connection to student retention.

The Student Unions and Student Economic Satisfaction

Missing in the early research of student retention was the role of economic forces. The microeconomic theory of John Richard Hicks has been a staple of business and political conversations since 1946. The concept of consumer demand implied that as tuition and costs rose, consumer demand is driven down as the market sought to find equilibrium. However, if value was added as cost rose, this shift should retain consumers (Hicks, 1946). This presented the concept of value as central to the idea to

retaining students; however, it wasn't for generations that it was acknowledged in higher education retention literature. In the earlier works of Bean (1982) and Tinto (1987), the accepted assumption was that if the student enrolled, the personal or family finances were sufficient. This assumption was only valid if economic factors remained stable at best and tuition did not rise, which is rarely the case (St. John, Cabrera, Nora, & Asker, 2000). Tinto revised his model to include finances as a variable (Tinto, 1993). Tinto stated that "retention and departure mirror economic forces, especially those which influence both the economic benefits accruing to college education and the financial resources which individuals can bring to bear on their investment in continued college attendance" (Tinto, 1993, p. 87).

In 1987, Leslie and Brinkman published an analysis of the literature on the impact of finances on enrollment. They found that the greater impact on enrollment is not simply the cost of tuition, but actual cost to the student – total cost minus aid. This was updated and expanded by Heller (1997) to include not just the cost to the student as a factor, but how that cost is realized. Heller found that whether grants or loans were the primary source of funds played a part in number of students enrolled, but that the original tuition level, or what is considered the sticker price, still are is a primary impact to these numbers. A recent study built on these understandings found that it was not only the cost to the student that impacted enrollment, but differences in the price sensitivity of groups. In an examination of high tuition/high aid institutions in comparison to low tuition/low aid schools, Curs and Singell (2010) found that need and ability impacted price responsiveness. Although limited to a single public institution, this study suggested that

when analyzing price sensitivity and value added, such as value added by a new student union facility, demographics played an important part.

Several researchers established the importance of financial factors on retention particularly while focusing on students from impoverished backgrounds. Voorhees (1984), as well as Stempen and Cabrera (1988), emphasized that decisions on whether to invest in higher education were no different than other economic decisions. When considering an investment in higher education, including the decision made each year to persist, students considered a cost-benefit analysis and finances as factors of influence when making the decision to continue their education (Stempen & Cabrera, 1988; Voorhees, 1985). Retention theory merged with economic theory leading to a better understanding of how these schools of thought tended to co-exist. Where lack of resources were identified as having a direct impact on retention, there also existed a secondary impact not as easily defined, which was students' perception of their ability to pay. This perception was shown to impact how they interacted with the institution and also impacted student commitment and involvement (Cabrera, Castaneda, Nora & Hengestler, 1992).

The connection between economic forces and student involvement, as well as with other institutional environmental factors, is well documented in relation to retention. Financial factors such as aid and total costs have been shown to play an overwhelming role encompassing half of the total variance of persistence (St. John & Starkey, 1995; St. John et al., 2000). Prior studies took into account not only the financial aid portion of available resources when considering impact, but also the importance of total cost of education including fees such as student union fees.

New student union facilities are often being funded by additional student fees representing a significant investment on the part of the student (Brailsford & Dunlavey, 2005). The students who are investing in these facilities are investing in their education with the expectation that student union programs will provide them with a base of services and facilitate a sense of community (Henry, 2004). These student union programs carry with them a critical goal of community building representing a potentially significant impact on retention (ACUI, 1988). However, little peer-reviewed research has been published to assist administrators and researchers in understanding the impact of student unions. Through their professional networks and publications, as well as hired consultants, ACUI provides data and professional standards to guide administrators, but testing of this data is lacking. One descriptive publication provided thought provoking essays on several issues confronting student union administrators in 1992; however, there was no research or findings to support those theoretical constructs (Milani et al., 1992). A promising study by Wilma Henry (2004) began to scratch the surface of new construction and student unions, but focused only on the student fees of the expansions and not on the impact. Other dissertation works focused on the administrative leadership and structure, but did not focus on the students or testing of existing data (Danals, 2001; Mironack, 2003).

Higher education and business models.

Higher education in America stood as an enigma for many years. Most early universities were religious-based and even when public schools developed, academic freedom often brought a unique set of considerations when setting policies and the goals and missions guiding them (Tinto, 1993). Using traditional business models to explore

higher education was not feasible, but times have changed and there has been an adoption of business models in many areas of higher education.

Parasuraman, Berry, and Zeithaml (1991) explored the relationship to market share and quality levels of service and found that indeed the greater market share is produced by providing high quality services. They pointed out that economies have moved past being industrial based and have moved toward a service base. Researchers found that increasingly competitive markets led institutions to develop services that exceed their competition (Bok, 2003; Poole, Harman, Snell, Deden, & Murray, 2000). While improved services differentiate new student life facilities they provide a competitive edge to campuses. Meek and Wood (1998) claimed that students have also become viewed not as a product, but as a customer (Meek & Wood, 1998). As a customer, satisfaction and efforts to optimize and improve services are paramount. In 2000, Cronin et al. produced a model suggesting that student-customer loyalty is determined by the overall level of satisfaction which is influenced directly by the perceived value the student places on the educational service of the institution (Brown & Mazzarol, 2009; Cronin, Brady, & Hult, 2000). A significant portion of the value-added services may be found in the student union; therefore, data is needed to gain insight into satisfaction with regard to the programs and services offered within these facilities.

If viewing students as customers, a look into the studies involving customer retention is appropriate. Studies have identified customer satisfaction as an indicator for customer retention or what may be described as loyalty (Gustafsson, Johnson, & Roos, 2005; Oliver, 1999). In a study on the evaluation of customer satisfaction and relationship commitment, Gustafsson et al. (2005) found that customer satisfaction is

directly related to loyalty, regardless of outside forces. Contrary to the general understanding within the marketing literature, Goyles and Gokey (2005) found that understanding customer retention should not be the only measure of success. They found that since the customers themselves evolve, the service or product must evolve and satisfy the new customer base. When examining the demand for new student union facilities and the services within, it appears that students and their needs have evolved (Brailsford & Dunlavey, 2005). Information on student satisfaction is needed to serve the new student base.

Higher education adapted the concept of marketing from the business world. Relationship marketing focuses on building and maintaining customer loyalty. A model incorporating this framework for higher education retention has been presented by Ackerman and Schibrowsky (2007) that shows promise; however, their study focuses on a single initiative. Other descriptions of implementation of relationship marketing in higher education focus on customer service, but most focus on recruitment of students and not on retention of students (Vander Schee, 2010). The literature suggests that relationship marketing in higher education is a trend worth assessing; however, the focus of this research is on how to implement these marketing efforts rather than on presenting data supporting effectiveness.

The Student Union and Issues of Student Specific Population Concern

Several pre-college factors that students bring with them to the institution have been identified as affecting their ability to persist to graduation, particularly when considering underrepresented groups on campuses. One such group are students of color who have been shown to have special challenges relating to retention because of their

lack of understanding of college expectations and the need for increased support due to pressures of responsibilities at home (Berger, 2001; Seidman, 2007). Although the student's background, individual attitudes, and pre-college schooling all have been shown to have an impact on their success in college, Tinto reminded us that these factors were only part of the picture and were not as significant in comparison to what occurred once the student arrives on campus (Tinto, 2006, 2010).

Hurtado's earlier work with Latino students built a significant foundation by providing great insight into factors for success and persistence (Hurtado, 1994; Hurtado & Carter, 1996). She carried these concepts forward through several recent collaborations to include an examination of African American, Asian American, and White students; however, these studies still revolved around the idea of racial relations and peer interactions in regard to student transition to college (Hurtado, Han, Saenz, Espinosa, Cabrera, & Cerna, 2007; Saenz, Ngai, & Hurtado, 2007; Locks, Hurtado, Bowman, & Osaguera, 2008). While these concepts are essential to a comprehensive understanding of retention for students of color, they only discuss transition to college and adjustment, limiting data to experiences within the first year.

Although it has been shown that some racial groups have lower rates of retention, other demographics have been identified as presenting a higher risk for student departure. For example, Astin (1993) examined the commuter student and found that they spent less time on campus. He derived that commuter students might be at a higher risk of completion because commuting has a negative effect on involvement (Astin, 1993). Astin's idea that commuter students were less engaged in their education has been tested again using the National Survey for Student Engagement (NSSE) which indicated that

those students that drove to campus spent less time on campus and had limited participation in co-curricular activities. An additional study, led by Kuh, found that these findings still held true (Kuh, Gonyea, & Palmer., 2001).

Earlier works from Tinto and Astin treated the population of commuter students as a homogenous group, and did not examine the different demographics within the subgroup (Astin, 1975, 1993; Tinto, 1975, 1987). However, it was postulated that commuter students represented the larger portion of the student population and should be examined at the subgroup level (Dugan, Garland, Jacoby, & Gasiorski, 2008). In a 2008 study of self-efficacy for leadership, it was found that there were differences in gender, racial background and age when examining the larger commuter population (Dugan et al., 2008). A promising model examining commuter students, specifically Latino/a students, emerged from Torres (2006) as a first step to understanding this subset of college students; however, the small sample and qualitative method used leave room for expansion. These studies began to examine concepts like leadership and involvement that have been linked to retention, but more information is needed. Both leadership and involvement opportunities are available in student unions thus presenting an opportunity for examination (ACUI, 1988).

In addition to being a target group for retention studies due to engagement issues, Henry (2004) postulated that commuters would be less likely to accept a fee increase for student union facilities because of a lack of perceived value. By examining fee structures, she found that residential campuses where students spent the majority of their time on campus were accepting of a higher flat fee as opposed to commuter campuses where students were only accepting of higher fees if they were on campus more

frequently and students supported a per credit fee. For a full-time student, the flat fees that students voted to tax themselves were significantly higher than the equivalent full-time total per credit fees. She interpreted this data to infer that students that did not reside on campus may not place as high of a value on a new facility. The suggestion that certain demographic groups such as commuter students might present as a group with lower perceived value is of interest, but the research supporting this concept is limited.

Torres (2006) found that the number of hours students work serves as an important variable when identifying students at risk for leaving the institution. In the qualitative portion of the study, students were asked to comment on what aspects of the college experience were helpful and what they would like to see changed in an effort to gauge college environment factors that influenced their choice to stay at the institution. A primary theme developed from the analysis of responses was commuters feeling that they came to class and left without any involvement in the campus. The respondents identified that this was due to a work schedule off-campus. Again, this finding was related to the concept that students that were not involved or engaged in their education are of interest when discussing retention issues (Astin, 1993; Tinto, 1993). A student union may have impact in this area by assisting students within a specific racial or other demographic group in their transition to college (Milani et al., 1992).

Some researchers have focused on the experiences of students from various backgrounds rather than examining all students as a general population. Sylvia Hurtado's work with Latino students and her studies on race and climate described the cultural factors that impact retention (Hurtado, 1994; Hurtado & Carter, 1996). An analysis of several essays by Johnson et al. in 2004 led them to call for a

commitment to the study of underrepresented groups as related to student retention (Johnson, Earnest, Huntley, Hensen, Reason, Saunders, & Schuh, 2004). This expansion to include a wider variety of influences on retention, including cultural, economic, and social factors, in addition to institutional pressures, bring the focus onto the complexity that shapes the student experience (Berger, 2001; Braxton, Bray, & Berger, 2000; Braxton & Hirschy, 2005). This complexity demonstrates the increasing need to understand attitudes that may differ between groups of students.

Assessment in Higher Education and the EBI Instrument

Upcraft and Schuh (1996), in their book *Assessment in Student Affairs: A Guide for Practitioners*, describe a move beyond relying on satisfaction questionnaires to a more comprehensive output approach. They suggest persistence as a measure of satisfaction, but neglect the converse relationship of satisfaction as a measure of persistence (Upcraft & Schuh, 1996). The increase in output assessment as opposed to direct methods such as satisfaction surveys has been well documented (Astin, 1991; Banta, 1993; Terenzini, 1989, 1996). This is contrary to the literature reviewed up to this point which discusses the importance of student satisfaction as an influence on retention (Astin, 1993; Brown & Mazzaroli, 2009; Cooper, 1995; Cronin et al., 2000). In order to fully examine persistence, the output of satisfaction should be included.

Survey instruments are a viable means of collecting data to focus on retention models in regards to student engagement and institutional commitment. One such way institutions measure student engagement is through the NSSE survey instrument. This instrument provides valuable information to the institution about student perceptions and

behaviors and levels of institutional commitment; however, it does not measure how specific programs engage students (Kuh, 2003). Where NSSE may indicate that the institution is successful in encouraging institution commitment, it does not inform on how a specific program or facility may contribute.

EBI instrument.

In response to the need for a comprehensive way to assess student satisfaction with a student union program, Educational Benchmarking, Inc. (EBI), in partnership with the Association of College Unions International (ACUI), developed the ACUI/EBI College Union/Student Center Assessment survey instrument. The instrument was created to identify areas for improvement by benchmarking responses on multiple levels: comparing the institution's collected responses to other colleges or universities selected by the institution; comparing the institution's collected responses to all institutions completing the survey; and comparing the institution's collected responses longitudinally for a single institution. The ACUI/EBI College Union/Student Center Assessment (commonly known as simply EBI) is the standard within the profession of student union administration (ACUI, 2008). Launched in 2000, the EBI instrument has been used by over 80 institutions across the country to provide systematic feedback on utilization and performance as well as satisfaction and student's perceived value of the student union facility, staff, and programs (ACUI, 2008; Legan, Sumner, Zaft, & Jones, 2009). The survey identifies several primary factors; however, they have not been tested in a peer-reviewed setting. These published factors include: Publicizes the Union and Promotes Campus; College Union has a Positive Environment; College Union is Student Oriented; College Union is a Source of Entertainment; College Union Enhances Life and

Leadership; Union Food Variety, Quality, and Price; Aspects of Dining Service; Bookstore Staff; Bookstore Items Variety and Price; Union Cleanliness; Union Staff; and Overall Program Effectiveness (EBI, 2010).

When the EBI instrument was first developed in 2000 it was primarily a pencil and paper survey with a web component available. Over the decade, the implementation method of the survey moved from having a web survey component available to being entirely web-based. The transition to utilizing the web allows easier access to a wider population and moved the survey past usage mainly as an intercept survey which can limit the sample (Dillman, 2007). However, other than a few minor revisions through the transition process, the instrument has not been changed substantially to allow for longitudinal benchmarking. This EBI instrument has not been tested, but is used widely by programs to identify areas for improvement through benchmarking and longitudinal studies. Other instruments, such as the NSSE instrument, have undergone confirmatory factor analysis and validation; however, no such study exists for EBI (Gordon, Ludlum, & Hoey, 2007; LaNasa, Cabrera, & Trangsrud, 2008). A factor analysis of the instrument will test the questions and factors that EBI identifies for construct validity.

Conclusions

Vincent Tinto (1993) asserted that misconceptions have blurred the visions of institutions; however, these are vital to understanding the complexity of the problem of retaining students. Tinto claims that goal clarification allows administrators to focus on the types of departure and the types of students most impacted by institutional retention efforts. Where substantial retention research exists, administrators must remain mindful when keeping retention as the ultimate goal. Even the experts warn that retention

numbers alone should not be the only goal for decision-making for administrators. Tinto (1993) posits that although retention is important, it should not be the guiding principal for all institutional decisions. He suggests that the emphasis should be on doing what is right for students in their development. By enhancing the character of the education provided and the environment of that education, retention will naturally follow.

If institutions are to return to Tinto's idea of doing what is right for the student, a better understanding of students as consumers is essential. If retention is the desired outcome, the impacts on the value and character of student education cannot be overlooked. Satisfaction and perceived value must be ascertained and certainly can be investigated by examining retention numbers; however, is that too late? Is it excusable to lose those students whose departure indicates a problem with the institution? A better understanding of the relationship of cost increases on satisfaction as well as groups that may be impacted disproportionately is needed to identify groups to target.

This chapter began by discussing the student union's development as the hub of the campus through a brief look into the history of the union as a student initiated center of campus life (Butts, 1971). Through viewing the student union through Bolman and Deal's (2008) symbolic frame, the concept behind the student union and the services that have developed can be seen as a center of community. By providing a positive environment where students and faculty can come together in formal and informal discussion and interaction encourages student involvement in their learning experience (Astin, 1993). This provided a larger framework for the study and an introduction to the discussion on retention.

The next section of the chapter offered an overview of retention literature using Tinto as a theoretical framework. Inclusion of an environment of community and peer interaction provided the opportunity to examine how a student union might contribute to these ideas. By exploring researchers like Astin (1993) and Pascarella and Terenzini (2005), the concept of student engagement and involvement in their learning becomes a central theme. A connection from the ACUI "role" that college unions hold as primary to their mission can be drawn to this research. However, very little peer reviewed research exists to validate these connections of a facility's impact on retention (ACUI, 1988).

Student involvement and environment have been shown to be significant indicators on retention. This chapter additionally explored the inclusion of economic factors in retention research as well as the literature addressing higher education as a business. As student unions are primarily funded by student fees, an analysis of economic factors such as consumer-demand theory and impact on retention led to a discussion on business models in higher education. Bok (2003) pointed out that higher education has become a competitive business. By paying attention to customer retention strategies such as a focus on student satisfaction, students may be retained at a higher level. However, again the literature in this area is lacking, particularly when examining student value-added items such as a student union.

With these larger concepts forming a background, the discussion turned to specific groups that may be of interest. Specifically, research examining students of color, commuter students, and students who work full-time while attending school was investigated. These groups have been shown in the literature to be at a greater risk of

departure (Astin, 1993; Seidman, 2007; Tinto, 1993). The final section of this chapter reviewed the state of assessment in higher education and described the EBI instrument.

This chapter forms the basis for the argument that more research is needed in these areas, particularly where student unions are concerned. The following chapter will describe in detail the methodology used in this study to add to this research in an effort to inform on these topics. Chapters four and five will outline the results found in the study as well as explore interpretations of the data.

Chapter Three: Methodology

This chapter focuses on the methodology of the study and is divided into six primary sections: Research Questions, Participants, Data Source, Instrument, Procedures, and Data Analysis. This study utilized existing data gathered by the institution. Although the participants, instrument, and procedures were selected and implemented by the institution, a description of these factors is included in order to present a framework for the study and allow future researchers to more effectively build on this study. The first section of this chapter reviews the research questions of the study. The second section includes a description of the characteristics of the participants and the sample of the study. The chapter then includes a discussion of the primary data source and presents an examination of the EBI survey instrument that was used to measure student satisfaction and perception of value with a new student union facility. The procedures of collection are described, and finally, a discussion is presented on the factor analysis test and cluster analysis test in relation to this study.

Research Questions

The purpose of this study falls into two distinct phases each with its own guiding research questions. The first phase involved testing the instrument validity of a widely used survey instrument. For this phase, the following questions were used in determining study structure:

1. When measuring student satisfaction and perception of value with student union facilities, was the EBI instrument valid for use with the selected population?
2. Did a factor analysis confirm all or some of the published factors of the EBI instrument?

3. Did a factor analysis present new factors in regards to student satisfaction and perception of value with student union facilities?

The second phase of the study examined student satisfaction and perception of value with a new student union facility. The following questions were answered:

1. Did specific clusters of students emerge when examining student satisfaction and perception of value with student union facilities?
2. How did identified clusters of satisfied and dissatisfied students differ?

Participants

This study utilized existing data that was collected in April of 2010 by the institution used in this study as a part of routine program evaluation. The randomly selected sample consisted of 3,500 students attending a medium-sized public research institution in the Western United States where a new student union facility was within the first year of full operation. The institution maintained a price break in the student union fee structure to limit the effect on those students taking one or two classes. Due to this price break, undergraduate students taking three or less credits and graduate students taking six or less credits were eliminated from the study population by the institution in order to focus the study on those students with a greater financial investment. When removing the lower paying students, the resulting target population for the study was approximately 13,000 students. The associate director of the student union sent an email to a sample of 3,500 students requesting their participation in an assessment effort to improve the student union program. Students with an invalid email address were eliminated from the study with a resulting final sample size of 3,450 students. The sample size was selected by the institution in order to receive a target response of at least

1,000 completed surveys to ensure representativeness based on a mean response rate of approximately 25% from prior EBI studies (R. DePuy-Grafton, personal communication, July 23, 2010). According to Gay, Mills, and Airasian (2006), this response rate produces a sample size for data analysis that is appropriate in relation to the target population. From this sample, the number of responses was 1,156 (N=1,156) with a response rate of 33.5% that falls within an expected range for email surveys (Dillman, 2007; Porter & Umbach, 2006; Sheehan, 2001).

A relevant demographic breakdown of the respondent pool can be found in the following tables. Table 1 outlines Ethnic/Racial and Gender demographics; Table 2 describes Class Standing, Place of Residence, and Employment Factors; and Table 3 details the response breakdown to Student Involvement Factors.

Table 1

Demographic Breakdown of Survey Respondents – Ethnic/Racial and Gender

Demographics	N	Percentage of Total
U.S. Ethnic Group of Nationality		
Multiracial American	48	4.6%
African American	17	1.6%
Native American	9	0.9%
Asian American	67	6.4%
Hispanic American	80	7.6%
White American	738	70.6%
Non-US Citizen or Pernament Resident	53	5.1%
Other	34	3.3%
Total		*100%*
Gender		
Male	422	40.2%
Female	626	59.7%
Transgender	0	0.0%
Other	1	0.1%
Total		*100%*

Table 2

Demographic Breakdown of Survey Respondents – Class Standing, Place of Residence, Number of Hours Worked Per Week, and Employment Status

Demographics	N	Percentage of Total
Class Standing		
Freshman	154	14.6%
Sophomore	171	16.3%
Junior	248	23.6%
Senior	282	26.8%
Graduate	195	18.5%
Non-degree student	2	0.2%
Total		*100%*
Place of Residence		
Residence hall	145	13.7%
Fraternity/soroity	14	1.3%
On-campus apartment	18	1.7%
Off-campus apartment	446	42.2%
Living at home	282	26.7%
Other	152	14.4%
Total		*100%*
Number of Hours Worked Per Week		
0 hours	208	23.8%
1 - 10 hours	124	14.2%
11 - 20 hours	273	31.2%
21 - 30 hours	110	12.6%
31 - 40 hours	93	10.6%
40+ hours	66	7.6%
Total		*100%*
Type of Employment		
Not employeed	286	29.3%
Full-time, off-campus	100	10.2%
Full-time, on-campus	44	4.5%
Part-time, off-campus	343	35.1%
Part-time, on-campus	203	20.8%
Total		*100%*

Table 3

Demographic Breakdown of Survey Respondents – Student Involvement Demographics

Demographics	N	Percentage of Total
Frequency of Participation in Union Activites		
Never participate	317	30.0%
Participate 1 - 2 times per semester or less	457	43.2%
Participate 1 - 3 times per month	207	19.5%
Participate once per week	48	4.5%
Participate 2 - 4 times per week	22	2.1%
Participate daily	5	0.5%
Participate more than once per day	1	0.1%
Total		*100%*
Frequency of Visitation		
Once or twice a semester	26	2.5%
Once a month or less	52	4.9%
2-3 times a month	143	13.5%
Once a week	157	14.9%
2 - 3 times per week	327	30.9%
4 - 5 times per week	185	17.5%
6 - 7 times per week	77	7.3%
8 - 9 times per week	25	2.4%
More than 9 times per week	65	6.2%
Total		*100%*
Involvement in a Union Student Organization		
No	796	75.7%
Yes, an officer in at least one	96	9.1%
Yes, only as a member	159	15.2%
Total		*100%*
Greek Social Fraternity or Sorority Member		
No	966	91.4%
Yes	91	8.6%
Total		*100%*

Demographic breakdown of the total population of the institution at the time of data collection, Spring 2010, is provided in Table 4 (University of Nevada, Reno, 2011).

Table 4

Demographic Breakdown of Total Institution Population – Spring 2010

Demographics	N	Percentage of Total
U.S. Ethnic Group of Nationality		
American Indian/Alaskan	173	1.1%
Asian/Pacific Islander	1,142	7.2%
Black Non-Hispanic	420	2.6%
Hispanic	1,258	7.9%
White Non-Hispanic	11,046	69.3%
Non-Resident Alien	604	3.8%
Unknown	1,296	8.1%
Total	*15,939*	*100%*
Gender		
Male	7,448	46.7%
Female	8,491	53.3%
Total	*15,939*	*100%*
Class Standing		
Freshman	2,052	12.9%
Sophomore	2,470	15.5%
Junior	2,736	17.2%
Senior	4,817	30.2%
Graduate	3,220	20.2%
Non-Degree Student	408	2.6%
First Professional (M.D.)	236	1.5%
Total	*15,939*	*100%*

Data Source

Data for this study was collected as part of an annual evaluation and assessment process of the institution's student union department in April of 2010. EBI performed the data collection for the institution in this study. All respondents completed the survey via EBI's Web-Enabled Survey System. Data was housed at EBI. Data was acquired directly from EBI with the permission of the director of the student union.

Instrument

The ACUI/EBI College Union/Student Center Assessment instrument was used in data collection by the institution. The instrument contained 15 categorical questions to determine demographics of participants as well as participant utilization of the student union. The next set of 56 scaled questions assessed individual variables by asking respondents how closely their feelings matched the question or statement regarding satisfaction and perceived value on a scale of one to seven, one being not at all and seven being extremely, with NA as a selection for no response. Each question represented a different variable to be considered in the data analysis; scaled questions were used in the factor analysis. Ten of the 15 categorical questions were used through a crosstab analysis to determine the demographics for description of the clusters from the cluster analysis. The instrument also included five institutionally specific questions and two free text questions which were not included in this study due to limited generalizability of these questions. A copy of the questions included on this instrument can be found in Appendix A.

EBI published the following factors associated with this instrument: Publicizes the Union and Promotes Campus; College Union has a Positive Environment; College Union is Student Oriented; College Union is a Source of Entertainment; College Union Enhances Life and Leadership; Union Food Variety, Quality, and Price; Aspects of Dining Service; Bookstore Staff; Bookstore Items Variety and Price; Union Cleanliness; Union Staff; and Overall Program Effectiveness (EBI, 2010).

A decade of support by ACUI and repeated usage of the instrument by over 80 institutions support the reliability of this instrument (Legan et al., 2009). In regard to

validity of the instrument, the proposed factor analysis in this study was used to establish construct validity (Saunders & Cooper, 2009).

Procedures

Data used for this study was existing data from a program assessment performed by the institution. The institution contracted EBI to perform the survey through their Web-Enabled Survey System. Procedures for the institutional implementation of the survey are as follows (R. DePuy Grafton, personal communication, August 3, 2010; C. Price, personal communication, August 5, 2010):

1. Sample selection: A roster including email addresses provided by the institution of all undergraduate students enrolled in four or more credits and graduate students enrolled in seven or more credits in a spring semester was compiled as a list of potential participants. Each potential participant was assigned a random number through a random number generator. The roster was sorted by assigned random number in ascending order and all but the first 3,500 names on the list were discarded with the remainder comprising the randomly selected sample.
2. Loading of sample to EBI system: Potential participant first and last names with their associated email address as provided to the institution by the students were loaded into EBI's Web-Enabled Survey System (WESS).
3. Initial communication with participants: The entirety of the survey process including communication with participants was managed by EBI and structurally followed Dillman's Tailor Designed Method (Dillman, 2000). An initial email inviting students to participate in the survey project was sent through WESS from the Student Union Associate Director with one month left in the Spring semester

of classes. A copy of this email text is provided in Appendix B and a description is below.

- Contained a personalized greeting with each recipient's first name
- Described the purpose of the study including the benefits to the program and student body at large
- Identified the approximate amount of time needed to take the survey
- Presented a list of incentives to be given through a drawing of participant names. Incentives were selected through a focus group of students for relevance to the population of study (Gansemer-Topf & Wohlgemuth, 2009)
- Requested student participation
- Clearly stated that responses would be anonymous
- A unique embedded hyperlink to the survey to avoid duplicate responses
- Contact information for the university representative
- An link to opt out of the survey

4. Removal of invalid email addresses and participants: From this initial email, 50 invalid email addresses were identified and participants were removed from the sample as unreachable.
5. Reminder communications: Reminder emails were sent to those who had not responded or opted out of the survey two weeks after the initial email and one week before the survey closed (to align with the institution's Study Day before finals).

The survey was administered by WESS and was entirely web-based. The survey was open for approximately one month. All identifying information was only used for

contacting potential participants and winners of the drawing for incentives and was removed by EBI for all analysis and storage of raw data. Raw data for this study was provided by EBI to the researcher in an electronic spreadsheet with associated response key.

All individual identifying information was removed by EBI for all analysis and storage of raw data. Permission for usage of the data was secured from both the university and EBI. The university's Institutional Research Board indicated through email that this study does not fall under their oversight since it utilized existing data and participants were not known to the researcher.

Data Analysis

The characteristics of the initial variables measured by the instrument and the focus of the study determined the types of data analysis to be utilized in this study. Primary analysis of the data to answer the last research questions was performed by a cluster analysis test. In order to increase the validity of the instrument, as well as to identify variables used in the cluster analysis, a factor analysis test was used as a first stage in the study.

The first test performed on the data was a factor analysis test. Factor analysis was selected for two reasons. Due to the limited published research utilizing the EBI instrument, a factor analysis was used to test construct validity of the instrument (Saunders & Cooper, 2009). A factor analysis was also selected due to the large number of variables. This multivariate test identified underlying composite variables utilized in the cluster analysis. These summary variables allowed a data reduction of the larger set of variables in order to provide better focus to the final analysis. These latent variables

were rotated through a statistical software program, Predictive Analysis SoftWare (PASW), to determine best fit (Cooper & Shelley, 2009). The new factors identified by the factor analysis became the variables for the second phase of the study utilizing cluster analysis.

The second, and primary, test used in interpreting the data to answer the second set of research questions was a cluster analysis test. The characteristics of the variables as well as the nature of the research question led to the selection of this multivariate test. Everitt, Landau, and Leese (2001) describe cluster analysis as a structured way to identify clusters of groups sharing the same characteristics, or in the case of this study, the new variables that were identified by the factor analysis findings. By utilizing the cluster analysis test, the study was able to identify groups of students that emerged in relation to the factors that defined areas of student satisfaction and perceived value with the new student union facility. The final step in the study was to take the demographic variables from the categorical survey questions in a crosstab analysis with the identified clusters in order to describe the clusters.

This study used the collected data described and these data analysis procedures outlined to inform the research questions. This chapter serves as a thorough description of the data as well as the primer for the methodology employed. Chapter four describes in greater detail exactly how the data analysis was performed and defines the results attained. Chapter five examines the significance of these results and discusses potential impacts of the findings.

Chapter 4: Results

This study investigated student satisfaction and perceived value with a new student union facility in a mid-sized Western public research university. The data collected via the ACUI/EBI College Union/Student Center Assessment as part of regular program assessment of the student union program was analyzed in two phases, each using a different statistical technique. Phase one utilized factor analysis to validate the instrument as well as identify and define emerging factors for use in phase two. Phase two of the study used cluster analysis to determine if clusters of students emerged from the data. In addition a crosstab analysis was run on the demographics of the respondent in each cluster to describe those clusters. This chapter presents the results of that analysis.

Overview of Data

This study utilized existing data collected by the student union program through a web-based standardized survey instrument hosted by EBI. Data was collected during the first year of complete operation of the new student union facility. The data consisted of 1,156 completed surveys. Although these surveys also collected data on specific non-visitor areas of concern by branching to a supplemental section of questions, this section of data was striped prior to analysis to focus on data relevant to satisfaction and perceived value. These completed surveys provided data across a series of variables including 56 scaled questions representing 56 different variables to be used in consideration when performing the first phase of the study. Although 15 categorical questions were hosted on the survey, only 10 were utilized by this study. The variables used in phase two of the

study provided by the categorical questions are academic standing (STANDING), gender (GENDER), U.S. ethnic group or nationality (ETHNICITY), place of residence (RESIDENCE), average number of hours worked per week (HRS WORKED), and current employment status (EMPLOYMENT). Several variables were also included to consider student involvement such as participation in activities sponsored by the College Union (FREQUENCY), how often they visit the student union (VISIT), involvement in a student organization (CLUB), and membership in a Greek social fraternity or sorority (GREEK). The variables involving enrollment status and number of credits taken were not included in this study due to the sample limitations. The variable regarding age was left out in favor of Academic Standing when examining the experience on campus as it was determined that time on campus provided better information than age of the student. Academic Preparation was also not considered as it fell out of the focus of the study on student life involvement. Likely Reasons to Visit the Student Union was not examined as the scale of the question did not fall in line with the rest of the study. Complete demographic breakdowns of respondents were presented in chapter three and were used in the second phase of the study: cluster analysis.

Factor Analysis

Phase one of this study focused on answering the following questions:

1. When measuring student satisfaction and perception of value with student union facilities, is the EBI instrument valid for use with the selected population?
2. Does a factor analysis of the student union subjects from the institution examined confirm all, or some, of the published factors of the EBI instrument?

3. Does a factor analysis of the student union respondents from the institution examined present new factors in regard to student satisfaction and perception of value with student union facilities?

In an effort to establish construct validity as well as to achieve data reduction, factor analysis was selected as a means of analyzing the composite variables that lie under the variables represented by the scaled questions. Factor analysis was performed using PASW. All 56 variables were considered in the statistical analysis. A principle component analysis was initially used to determine usability of the data and to provide an overview of possible factors with an eigenvalue greater than 1.0 (Mertler & Vannatta, 2005). Thirteen potential factors were identified by this first test showing initial usability of the factor analysis test. Subsequent tests included relevant combinations of extraction methods and data rotations utilizing a cut off of an eigenvalue greater than 1.0.

In order to examine the factors presented by EBI (EBI, 2010), a repeated factor analysis including relative extraction methods and rotations was run forcing 12 factors. When detailed analysis of the rotated factor matrix was performed, a loading was determined to be significant utilizing a criteria of the highest loading being greater than .500 (>.500) with the second highest loading being less than .330 (<.330) (Ho, 2006). Meeting these criteria was considered to be high and pure. With 12 factors selected, no combination of extraction methods and rotations produced high and pure factor loadings on all factors. Upon examination of results, the Unweighted Least Squares extraction method and Varimax rotation were selected based on interpretability. A full table of the rotated factor matrix is provided in Appendix C including the related expected factor for each variable based on information from EBI (EBI, 2010). One factor from the rotated

factor matrix contained no variables and two factors contained only two variables which did not meet the expected rule of thumb of inclusion of at least three variables to determine a factor. It should be noted that one of the EBI factors only contained two expected variables.

Although all expected EBI factors contained high and pure variables from the rotated factor matrix, there were factors that broke out into more than one as well as factors that fell into other factors. This study found that the EBI STUDENT ORIENTED factor did not contain any factors loading high and pure on a unique factor. Instead the data suggested that variables from this factor fell into POSITIVE ENVIRONMENT or SOURCE OF ENTERTAINMENT if displaying high and pure on a factor. Another variation from the expected EBI factors came in that the factor BOOKSTORE ITEMS VARIETY AND PRICE appeared to possibly break into two separate factors although one only contained two variables. Five variables also did not meet the high and pure loading specifications for this study.

Referring back to the original principle component analysis, it was determined that 13 factors were too many and presented problems with interpretation as did 12 factors. As suggested by Green and Salkind (2005), the number of factors was based on a priori conceptual belief about the number of underlying dimensions and a rule of thumb was employed that between four and eight factors should be used for the number of surveys returned. All relevant extraction methods and rotations were run with four, five, six, seven, and eight factors selected.

The interpretability of the factor solution was the primary criteria considered when deciding the final number of factors to retain, as well as the extraction method and

rotation method (Cooper & Shelley, 2009). Five factors were selected for the study with an Unweighted Least Squares extraction method and Varimax rotation. A total of 48.36% of the total variance was explained by these factors as shown in Table 5. The breakdown included 12.70% for the first factor, 12.04% for the second factor, 9.23% for the third, 8.11% for the fourth, and 6.28% for the fifth. When considering the initial eigenvalues, this percentage of total variance accounted for was determined to be acceptable.

Table 5

Total Variance Explained with Unweighted Least Squares Extraction and Varimax Rotation

Factor	Initial Eigenvalue	Percentage of Variance
1	10.547	12.70%
2	6.626	12.04%
3	4.924	9.23%
4	3.836	8.11%
5	3.653	6.28%

The rotated solution yielded five interpretable factors. The next step in the analysis was to determine which variables loaded high and pure in respect to which factors. A complete table of the resulting rotated factor matrix is provided in Appendix D. Detailed analysis of the rotated factor matrix utilized the same criteria of the highest loading being greater than .500 (>.500) with the second highest loading being less than .330 (<.330). Nineteen (19) of the 56 variables were discarded when they did not meet this criteria: Source of Information, Get Involved in Campus Life, Central Meeting Place, Source of Wide Entertainment, Reasonably Priced Entertainment, Bookstore Staff Availability, Bookstore Staff Courteous, Bookstore Textbook Availability, Bookstore

Textbook Prices, Bookstore School Supplies Variety, Bookstore Supply Prices, Bookstore Software Availability, Bookstore Software Prices, Bookstore Merchandise Prices, Cleanliness of Restrooms, Quality of Environment, Staff Availability, Staff Knowledge, and Staff Courteous.

Upon further analysis of the fit of the remaining variables and their underlying dimensions, the following factor names were given: Factor 1 (RETAIL FOOD), Factor 2 (STUDENT LIFE), Factor 3 (ENVIRONMENT), Factor 4 (PROMOTION), and Factor 5 (EFFECTIVENESS). An outline of the factors and their included variables with respective primary factor loadings are provided in Table 6.

Table 6

Variables Included in Final Factors

Factor	Variable	Primary Factor Loading
Retail food	Food quality	.939
	Food prices	.898
	Dining room atmosphere	.863
	Food hours of operation	.858
	Food customer service	.826
	Dining room cleanliness	.825
	Dining room seat availablity	.790
	Variety of food	.779
	Courteousness of food staff	.706
Student life	Provide opportunity for leadership	.883
	Enhance appreciation of volunteerism	.866
	Understanding of diversity	.862
	Understanding of citizenship	.854
	Expose to new ideas	.852
	Enhance social ability	.837
	Enhance arts appreciation	.837
	Provide leadership training	.828
Environment	Cleanliness of entry	.725
	Welcoming	.670
	Student-oriented	.647
	Cleanliness of hall	.631
	Place to study	.595
	Convenient hours	.571
	Variety of services	.569
	Place to relax	.551
	Safe	.541
	Enjoyable	.519
Promotion	Promotes programs of interest	.803
	Publicized activites	.798
	Involves students in decisions	.738
	Publicizes clubs and organizations	.704
	Promotes community	.676
	Interesting events	.515
Effectiveness	Would recommend	.912
	Fulfill mission as community center	.882
	Overall satisfaction	.828
	Value	.757
	Enhance overall education	.743

Cluster Analysis

A K-means cluster analysis was conducted to answer the second set of research questions.

1. Do specific clusters of students emerge when examining student satisfaction and perception of value with student union facilities?
2. How do identified clusters of satisfied and dissatisfied students differ?

This portion of the study explored those new variables identified in the factor analysis as well as respondent demographic information gathered through the EBI survey. The cluster analysis technique examines the full complement of inter-relationships between variables based upon the distance of each case from the cluster center. Once clusters were identified, this portion of the study examined the demographic characteristic make up of the groups.

First steps of this stage of the study included data preparation to ensure the best data was used. Variables for the cluster analysis were derived from the first phase of the study in which a factor analysis presented five new factors which became the variables for the second phase of the study. In order to assign a value to those variables identified in the factor analysis (RETAIL FOOD, STUDENT LIFE, ENVIRONMENT, PROMOTION, and EFFECTIVENESS), a mean of those original variables from the EBI survey was calculated for each case. Because this portion of the analysis explored the data by utilizing a mean of responses to the initial variables, all responses of "not applicable" were categorized as missing data so as not to skew results. If a case did not have a value for one or more of the factor variables, they were not considered valid for use in the cluster analysis. As with the factor analysis, cases that answered the non-

visitor branch of the survey were eliminated to focus on those students with the most knowledge of the program. After the data preparation and resulting elimination of cases containing missing data, 653 cases were considered as valid and utilized for the remaining analysis.

In order to determine the appropriate number of clusters, multiple K-means cluster analyses were run utilizing PASW. A separate analysis was run considering two (2), three (3), four (4), and five (5) clusters. Each analysis ran several iterations until convergence was achieved by the next iteration resulting in a less than 2% change in cluster centers (Everitt, Landau, & Leese, 2001). In order to present the most differentiation between clusters while still having each cluster contain enough cases to meaningfully analyze, analyses were run with increasing numbers of clusters until reaching a resulting cluster with a very small number of cases (Burns & Burns, 2008). The five-cluster analysis resulted in one cluster containing one case; thus, the four-cluster analysis was considered the optimal number of clusters and used in further analysis. The final number of clusters was selected based on interpretability of the cluster characteristics. Table 7 shows the breakdown of the number of cases that make up each cluster of the four-cluster analysis.

Table 7

Number of cases in each cluster from K-means cluster analysis for four clusters

	Number of cases	Percentage of total cases
Cluster 1	142	22%
Cluster 2	247	38%
Cluster 3	85	13%
Cluster 4	179	27%
Total	653	100%

The final cluster centers for each variable identified by the factor analysis are shown in Table 8. These cluster centers represent a number on the original instrument scale. In the EBI instrument, two different terminology scales were used: a "to what extent" scale and a "satisfaction" scale (Dillman, 2007). Since the new variables from the factor analysis contained data from both scales, in order to simplify and utilize single terminology the satisfaction scale was selected as the new scale. The original instrument measured satisfaction questions on a scale of one (1) to seven (7) with one (1) being "very dissatisfied", four (4) being "moderately satisfied", and seven (7) being "extremely satisfied". Sections that asked for respondent indication of extent of satisfaction were translated to the equivalent rating on the "to what extent" questions scale with one (1) "not at all" equaling "very dissatisfied", four (4) "neutral" equaling "moderately satisfied", and seven (7) "extremely" equaling "very satisfied". Respondents were also provided a "not applicable" selection for each original instrument variable which was treated as missing data and thus not included in the cluster analysis.

Table 8

Final cluster centers from K-means cluster analysis with four clusters

	RETAIL FOOD	STUDENT LIFE	ENVIRONMENT	PROMOTION	EFFECTIVENESS
Cluster 1	4.60	4.24	5.31	4.22	4.09
Cluster 2	6.18	5.29	6.53	6.02	5.53
Cluster 3	4.58	1.71	4.89	3.02	2.28
Cluster 4	5.69	3.03	6.05	4.53	4.24

A graphic representation of the final cluster centers for the four clusters with the RETAIL FOOD, STUDENT LIFE, ENVIRONMENT, PROMOTION, and EFFECTIVENESS variables is presented in Figure 1. When examining the specific

variables and their respective cluster centers, STUDENT LIFE exhibited the widest range between clusters and contained the lowest level of satisfaction for all clusters except within Cluster 1 where PROMOTION was slightly lower. In general, Cluster 2 mirrors the satisfaction trends of Cluster 1 and Cluster 3 mirrors Cluster 4. All clusters show a dip in STUDENT LIFE satisfaction with Clusters 3 and 4 indicating a level of dissatisfaction. All clusters show ENVIRONMENT as the highest satisfaction variable with RETAIL FOOD also carrying a positive satisfaction level for all clusters.

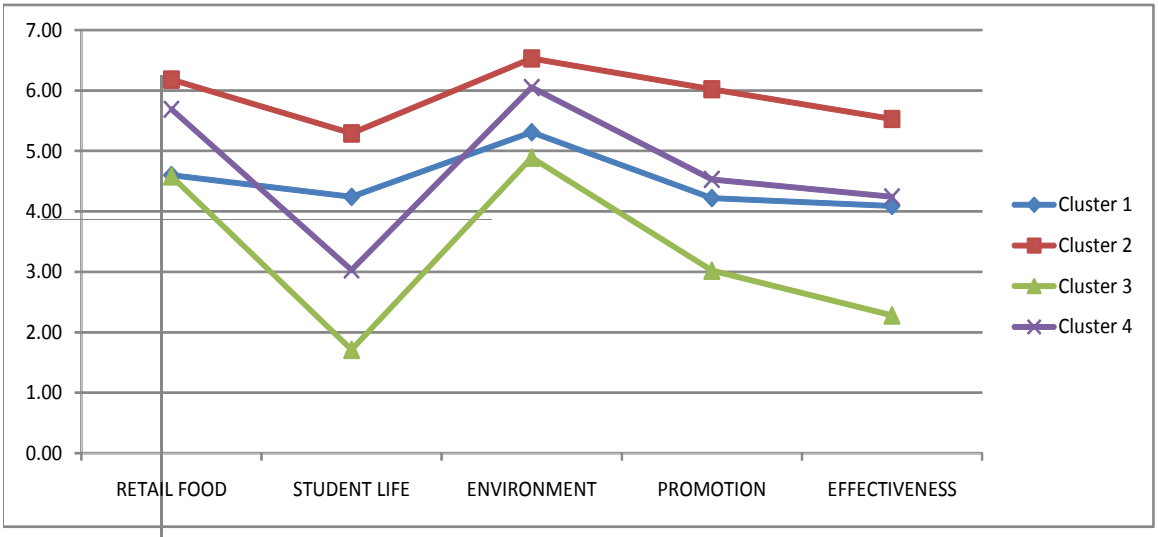

Figure 1. Cluster centers for K-means cluster analysis with four clusters

Cluster 1 (INVOLVED OLDER) contained 142 cases with the least amount of variation in between the variable cluster centers (RETAIL FOOD = 4.60, STUDENT LIFE = 4.24, ENVIRONMENT = 5.31, PROMOTION = 4.22, and EFFECTIVENESS = 4.09). This cluster was primarily composed of upper classmen (juniors and seniors) at 54% of the cluster with the largest proportion of graduate students of any cluster at 22% and the lowest proportion of lower classmen (freshman and sophomores) at 24%. In

examining ethnicity, this cluster had the lowest level of white students at 63% and the highest level of non-residents at 9% of any other cluster. The majority of students in this cluster indicated that they worked 20 hours or less (62%). Sixty-five percent (65%) of students in this cluster specified that they visited the student union multiple times per week. When considering involvement indicators, 75% of students indicated that they took part in student union sponsored activities at least once a semester, 29% of students were a member or officer in a student organization, and 8% were a member of a sorority or fraternity.

Cluster 2 (INVOLVED YOUNGER) contained the largest number of cases at 247 cases. This cluster had the highest level of satisfaction on all variables and also had a relatively low level of variability between the cluster centers (RETAIL FOOD = 6.18, STUDENT LIFE = 5.29, ENVIRONMENT = 6.53, PROMOTION = 6.02, and EFFECTIVENESS = 5.53). This cluster was made up of the highest percentage of lower classmen at 42% and the lowest percentage of graduate students at 10%. It also had the highest percentage of females at 65%. This cluster had the second lowest percentage of white students at 70%. Students in this cluster indicated the highest frequency of visitation to the student union at 75% visiting multiple times per week. Of the students in this cluster, 66% reported that they work 20 hours a week or less; however, it contained the largest percentage of students working 11 – 20 hours per week with 34%. When evaluating involvement indicators, this cluster reported the highest percentage of students that took part in a student union sponsored activity at least once a semester with 84%, the highest percentage of students being a member or officer in a student organization at

30%, the highest Greek membership at 11%, and the highest residence hall population at 17%.

Cluster 3 (DISSATISFIED WHITE) was the smallest cluster with 85 cases and also consisted of the lowest satisfaction level of all clusters across all variables (RETAIL FOOD = 4.58, STUDENT LIFE = 1.71, ENVIRONMENT = 4.87, PROMOTION = 3.02, and EFFECTIVENESS = 2.28). Cluster 3 had the highest percentage of white students at 80% and shared with Cluster 1 the highest proportion of males at 45%. It was made up of 27% lower classmen, 54% upper classmen, and 18% graduate students with the only non-degree student falling into this cluster. Students in this cluster indicated the lowest level of frequent visitation (more than once a week) at 52%. Cluster 3 reported 69% of students in this cluster worked 20 hours or less per week with the highest proportion of all clusters of those indicating no employment at 35%. Involvement indicators showed the lowest level of overall involvement with 44% reporting they never visit the student union, 82% selecting no student organization involvement, only 2% Greek membership, and only 12% living on campus or in a Greek house.

Cluster 4 (MIDDLE-OF-THE-ROAD) contained 179 cases with the second highest cluster center in satisfaction for most variables (RETAIL FOOD = 5.69, ENVIRONMENT = 6.05, PROMOTION = 4.53, and EFFECTIVENESS = 4.24); however, when examining the STUDENT LIFE variable it showed the second lowest satisfaction level at 3.03. This cluster was made up of 59% female, 74% white students, and 28% lower classmen, 50% upper classmen, and 21% graduate students. The percentage of students in this cluster reporting they visit the student union more than once per week was 38% and 62% indicated they worked 20 hours or less per week.

Involvement indicators for these students show the second lowest percentage of students taking part in a student union sponsored activity at least once per semester at 64%, the second lowest student organization involvement at 29% a member, officer or part of a sorority or fraternity, and 16% living on campus or in a Greek house.

When examining the specific variables and their respective cluster centers, STUDENT LIFE exhibited the widest range between clusters. Within the STUDENT LIFE variable, two clusters (CLUSTER 3 and CLUSTER 4) indicated a level of dissatisfaction.

The results detailed in this chapter are simply the data found through this study. The following chapter provides an interpretation and discussion of the significant findings as well as potential impacts for administrators and researchers and directions for further study.

Chapter 5: Conclusions and Recommendations

This study examined college student satisfaction and students' perceptions of value with a new student union facility during the first year of full operation. Specifically, it analyzed responses to the ACUI/EBI College Union/Student Center Assessment (EBI survey). The first phase of the study sought to validate a commonly used instrument; confirm all, some, or none of the EBI published factors; and identify underlying new composite factors. In the second phase, the study utilized the new composite factors to determine if groups of satisfied or dissatisfied students clustered together. Finally, the study examined the demographics of those clusters in order to provide a description of those groups.

The population of this study attended a medium-sized public research institution in the Western United States where a new student union facility was in its first year of full operation. Data was collected by the institution in April of 2010 as part of annual program evaluation efforts. This population was limited by the institution to undergraduate students taking four or more credits and graduate students taking seven or more credits as at this institution these students paid a higher student union fee. The randomly selected sample consisted of 3,500 students and a final number of responses of 1,156 (N=1,156).

By taking the individual responses to the EBI survey and performing a factor analysis, the instrument was tested for validity to ensure that the expected underlying constructs were measured by this instrument. In analyzing the instrument, the study began with testing the assumption that the 12 factors published by EBI as the expected outcomes of the factor analysis would in fact be reproducible. A further factor analysis

looked for a smaller number of underlying composite factors to serve as variables in a cluster analysis to determine if the cases clustered into groups of satisfied or dissatisfied students. Finally a crosstab analysis was used to define the demographics of each cluster and to describe each cluster's membership.

Variables used in the first phase of the study, factor analysis, were based on 56 scaled questions on the EBI instrument with each question representing a different variable. For the cluster analysis, five new variables identified in phase one as factor outcomes were utilized: RETAIL FOOD, STUDENT LIFE, ENVIRONMENT, PROMOTION, and EFFECTIVENESS. Demographic variables used for the crosstab analysis for description of the clusters came from 10 of the 15 categorical questions on the EBI survey. This chapter will present an overview of significant findings, their implication for theory and practice, as well as present some possible directions for further study.

Overview of Significant Findings

This study presents many results as outlined in Chapter 4. The following are the more significant findings and a discussion on their relationship to the literature.

EBI instrument validity.

Initial findings for the first phase of this study focus on the validation of the EBI survey instrument. EBI published 12 factors that were expected to reoccur when performing a factor analysis (EBI, 2010). Although not all criteria of the analysis for this study were met by every variable, the overall findings support the validity of the instrument. The challenges of one expected EBI factor breaking up into two factors and a few variables falling out of the high and pure loading criteria of this study suggest some

room for fine-tuning the instrument; however, by and large the factor analysis presents a valid instrument that measures the intended constructs with this population.

There is one finding on the instrument validity that should be noted as not presenting variables that indicate high and pure factor loading by the criteria of this study. The STUDENT ORIENTED expected EBI factor does not have any variables that align with a separate factor. There are two variables that align with the HAS POSITIVE ENVIRONMENT expected EBI factor and one that aligns with the SOURCE OF ENTERTAINMENT expected EBI factor. There are also two variables expected to fall into the STUDENT ORIENTED expected EBI factor that do not have a high and pure loading on any factor according to the study criteria. The fact that this specific expected EBI factor appears to not have clearly informing questions could be considered significant.

The EBI survey instrument was designed in collaboration with ACUI. An examination of this organization's core beliefs reveals a definitive orientation toward students, including the membership of the organization itself consisting of college union administrators and students (Milani et al., 1992). ACUI's own "Role of the College Union" describes the student union as a "student-centered organization" (ACUI, 1988). As shown through the work of Butts (1971), student unions developed historically from a student perspective and through student initiatives. Even today's new student union facilities are designed with significant student involvement and most often from a student demand (Brailsford & Dunlavey, 2005). Based on these core understandings, the expectation then of an instrument that measures student satisfaction and perceived value

should be that the instrument would specifically measure whether or not the program is student oriented.

Racial/Ethnic relationship to satisfaction.

Perhaps the most intriguing finding of this study revolves around the racial/ethnic makeup of the clusters. The INVOLVED OLDER and INVOLVED YOUNGER clusters both maintain satisfied cluster centers on all variables. These two clusters represent the two highest satisfaction levels with the variable STUDENT LIFE. These two clusters also contain the largest percentage of non-white students (INVOLVED OLDER = 37%; INVOLVED YOUNGER = 30%). Alternatively, the DISSATISFIED WHITE cluster shows dissatisfaction with three of the five variables including STUDENT LIFE, PROMOTION, and EFFECTIVENESS with STUDENT LIFE registering the lowest of all variables in any cluster with a cluster center of 1.71 described as “very dissatisfied”. DISSATISFIED WHITE cluster membership consists of the lowest percentage of the group being non-white at 20%. The data indicates that with this study’s population, students of color seem to be more satisfied with the student union than white students.

One possible explanation for this division relates to a specific choice in the design of the new student union facility. Review of the program design documents and interviews with student union staff members revealed a conscientious decision to include The Center for Student Cultural Diversity (The Center) in a prime location in the new building (Brailsford & Dunlavey, 2005; C. Price, personal communication November 10, 2010; R. DePuy-Grafton, personal communication, November 14, 2010). The inclusion of this successful program, as well as the visibility of location, may have led to a higher level of satisfaction from this demographic group.

Research on students of color has uncovered a connection of climate and environment to the successful retention of these students (Hurtado, 1994; Hurtado & Carter, 1996). In addition to the student union's focus on diversity as evidenced by its "Role of the College Union", the inclusion and visibility of a focused program such as The Center presents a strong effort and priority towards these students (ACUI, 2010; Brailsford & Dulavey, 2005). With the attention that was placed on a program to support their cultural connections, the data in this study may indicate that student unions should be seen as a program which supports student retention in students of color.

Student involvement and satisfaction.

The STUDENT LIFE variable in the cluster analysis maintains the greatest variability of the cluster centers. The analysis found a high of 5.29, "satisfied", with the INVOLVED YOUNGER cluster to the low of 1.71, "very dissatisfied", with the DISSATISFIED WHITE cluster. These cluster centers tend to follow the same trends as the involvement levels indicated by the students as well as frequency of use.

The INVOLVED YOUNGER cluster was made up of the highest percentage of students on many student involvement indicators as well as on frequency of use. The number of students that took part in a student union sponsored activity at least once a semester was the highest of any cluster with 84% indicating that involvement. They had the highest frequency of visitation at 75% reporting that they visited the student union multiple times per week. The fact that they also had the highest number of respondents designating that they are a member or officer in a student organization as well as having the highest Greek membership further supports this high level of student involvement. Although involvement with organizations and Greek membership may not speak directly

to the student union involvement, this information does indicate that students are involved on campus, as does the data showing that this cluster also contained the highest number of students living in the residence halls at 17%.

Conversely, the DISSATISFIED WHITE cluster contains members that indicated the lowest level of involvement. Forty-four percent (44%) of these students selected that they never took part in a student union sponsored activity and only 52% reported visiting the student union more than once per week. Other involvement indicators also reveal the lowest satisfaction levels of all clusters with only 18% selecting being a member or officer in an organization and 2% having Greek membership.

When examining the INVOLVED YOUNGER cluster, their cluster membership demonstrates an overall higher level of satisfaction. They display an overall satisfaction level above a "satisfied" on all variables. As opposed to the DISSATISFIED WHITE cluster that indicates the lowest level of satisfaction on all variables with three, STUDENT LIFE, PROMOTION, and EFFECTIVENESS, ranking below "dissatisfied". Increased student involvement appears to have a positive relationship to satisfaction.

This supports the literature findings that student engagement relates to student satisfaction with the college experience as well as to retention. Tinto (1993) describes the strength and importance of a sense of community to satisfaction with the college experience. The high levels of involvement by the INVOLVED YOUNGER cluster and the related high satisfaction levels may portray that sense of community for these students. The student engagement that these students experience may in fact lead to higher retention rates where the lower levels of the DISSATISFIED WHITE cluster may

indicate a group that potentially is in danger of a lower persistence rate (Astin, 1993; Tinto, 1987).

Effectiveness indicators.

Not all findings in this study necessarily support what were expected outcomes after a review of the literature. Environment has been shown as a significant factor in a student's experience with the institution (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1993); however, the data in this study does not depict the positive relationship expected between ENVIRONMENT and EFFECTIVENESS in this population. For all clusters, the ENVIRONMENT variable cluster center was the highest satisfaction level of all variables; however, the EFFECTIVENESS variable was either the lowest or second-lowest variable. The expectation would be that these two variables would follow similar trends, but this appeared not to be the case.

The RETAIL FOOD variable also scored very high on student satisfaction across all clusters; however, the EFFECTIVENESS variable still rated low on satisfaction. Research leading up to program development for new facilities demonstrates that students want services such as retail food (Brailsford & Dunlavey, 2005). The literature also shows the demand from the students for more commercial service which leads to increased competition for facilities that contain these services (Bok, 2003; Williams June, 2006). If this is true, then why are students that exhibit satisfaction for these services not confirming their satisfaction for overall program effectiveness? One explanation is that the EFFECTIVENESS variables are the questions targeted at measuring perceived value. Perhaps even if they are satisfied with the service, the cost of the service through the student fee does not equal the value of that service.

Implications of Results for Theory

When focusing on racial demographics and student satisfaction with their college experience, the potential focus on integration of targeted programs within a large program should be considered. The data from this study raises the possibility that a visible, targeted program such as The Center may indeed impact student satisfaction and perception of the larger program. If that is true, it may be carried through to the institution itself. This supports the existing research on students of color and the impact of culture and community.

The data in this study also supports student engagement theory. The discussions on student engagement/student involvement and the impact on student retention that exist in the literature are sustained by the findings in this study. Throughout the clusters, the tendency for satisfaction on the STUDENT LIFE variable is indicative of the cluster membership involvement levels. In addition, the overall satisfaction level on all variables appears to relate to the membership involvement levels.

This study introduces a possibility that environment may not be as closely related to effectiveness and therefore retention as has been documented in past studies. Participants in this study rated the ENVIRONMENT variable with an overall high satisfaction; however, EFFECTIVENESS with an overall low satisfaction. This calls into question the concept that a positive environment leads to a satisfactory college experience.

Implications of Results for Practice

When examining the EBI survey instrument for construct validity, the construct of student orientation of the program or facility was not supported by the data in this study

with this population. This finding suggests that this section of the survey should be reviewed. In addition, there are additional questions that might be fine tuned to provide a more informing set of data collected by this instrument on the constructs of interest. This instrument by its very stability provides benchmarking data for longitudinal and also between peer institutions. The downside to this stability in question is that consistent revision that many instruments undergo is not feasible. Although the EBI survey instrument is widely used, student unions should use multiple program assessment methods rather than relying solely on the EBI survey instrument.

In examining the potential impact of purposeful programs focused on creating a community center for cultural diversity, this study supports the inclusion and development of similar programs. As institutions make challenging choices with budget cuts, these programs are a tempting reduction as they serve a small group of students and may be seen as not directly serving the academic mission of the institution; however, the findings of this study support funding for these programs and validate the potential program impact on students of color. Their satisfaction with their college experience may encourage persistence.

Involved students indicated a higher level of overall satisfaction on all variables. Focusing on programs and resources that introduce and encourage student involvement may be an effective use of diminishing resources.

If students indicate that the environment and retail food meets their needs, but they are not satisfied with the overall student union effectiveness, there may be reason to develop and focus on other programmatic efforts. The findings of this study suggest that individual satisfaction with the services does not necessarily lead to program satisfaction.

With these findings, more efforts need to be initiated to find out what makes the student union valuable to students following the implementation of the new facility. It is possible that student needs change once the building is a reality. What was important to them in the development phase might be different once they have it. Ongoing assessment of services and areas in which to invest resources is suggested. As suggested by Bolman and Deal (2008), administrators should "reframe" their view of the facility and return to viewing it through the Symbolic Frame. Refocusing on the student union as the symbol of student life rather than as a commercial center affords administrators an opportunity to return to the values at the core of the student union.

Recommendations for Further Research

Although this study may present promising findings as a first step to researching student satisfaction with a new student union facility, further research is needed.

1. **Longitudinal study:** This study explored a single institution at a single point in time. A more comprehensive examination would include a longitudinal study at the same institution. By comparing similar data sets over multiple time periods, a complete picture could be drawn of student satisfaction before a new student union was developed, during the design and construction process, and following the completion of the new facility. This would allow for an analysis of the impact of a new facility.
2. **Study replication:** Another expansion on this study would be to utilize data from other institutions to replicate the study. Since this study uses data from a single institution and each institution maintains a unique campus culture, further analysis

of different populations would lead to a deeper understanding of student satisfaction and student perception of value.

3. **Study replication with non-visitors:** This study focused on users of the student union as those most familiar with the program. Data collected by the institution through the EBI survey provided full responses only from this group of visitors. A similar study utilizing responses from non-visitors would allow more comprehensive data on the of the overall student population in regard to student satisfaction and perceived value with a new student union facility.
4. **Program needs analysis performed after completion of project:** Often a significant effort is made to measure student needs as institutions consider an investment into new student union facilities. A program study includes a gathering and analysis of data regarding what students indicate is important to them. This program study is used to design the buildings; however, little is done to gather information in this area following completion of a new facility. This study suggests that those factors identified by students as needs—retail and positive environment—do not necessarily lead to a satisfaction with program effectiveness. Further research to determine if student needs have changed would shed increased light on this area.
5. **Analysis of how students connect and form community:** Student union facilities historically have provided a physical location for students to connect with each other, faculty, and the institution in order to form community. However, recent trends in electronic communities may impact student unions and how students interact with them. These phenomena of online interactions and

connections through Facebook, virtual classrooms, Twitter, blogging, and other online forums may mean that institutions need to examine how community is built. This study suggests that there may be an evolution in student needs from a physical environment and retail services to something else for overall program effectiveness.

References

Ackerman, R., & Schibrowsky, J. (2007). A business marketing strategy applied to student retention: A higher education initiative. *Journal of College Student Retention: Research, Theory, and Practice, 9*, 307-336.

American College Personnel Association. (2011). *Student Learning Imperative.* Retrieved from http://www.acpa.nche.edu/sli/sli.htm.

Association of College Student Unions International. (1988). *College unions: Fifty facts.* Bloomington, IN: Author.

Association of College Student Unions International. (2008). *Assessment tools from ACUI and EBI.* Retrieved from http://www.acui.org/content.aspx?menu_id=18&id=374&terms=EBI.

Astin, A. (1975). *Preventing students from dropping out*. San Francisco, CA: Jossey-Bass.

Astin, A. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel, 25,* 297-308.

Astin, A. (1991). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education. American council series on education/Macmillan series on higher education.* New York, NY: Macmillan Publishing Group.

Astin, A. W. (1993). *What matters in college?* San Francisco, CA: Jossey-Bass.

Astin, A. W. (1999). Involvement in learning revisited: Lessons we have learned. *Journal of College Student Development, 40,* 587-598.

Baird, L. (2000). College climate and the Tinto model. In J. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 62-80). Nashville, TN: Vanderbilt University Press.

Banta, T. W. (1993). *Making a difference: Outcomes of a decade of assessment in higher education.* San Francisco, CA: Jossey-Bass.

Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education, 12,* 155-187.

Bean, J. (1982). Student attrition, intentions and confidence: Interaction effects in a path model. *Research in Higher Education, 55,* 425-429.

Berger, J. B. (2001). Understanding the organizational nature of student persistence: Recommendations for practice. *Journal of College Student Retention: Research, Theory & Practice, 3,* 3-22. Retrieved from http://baywood.metapress.com/media/5hyy105mtj5unh5fgndm/contributions/3/k/6/a/3k6a2recgju58280.pdf.

Bok, D. (2003). *Universities in the marketplace: The commercialization of higher education.* Princeton, NJ: Princeton University Press.

Bolman, L. G., & Deal, T. E. (2008). *Reframing organizations: Artistry, choice, and leadership.* San Francisco, CA: Jossey-Bass.

Brailsford & Dunlavey, Inc. (2005). *Student union needs assessment. Prepared for the University of Nevada, Reno.* Washington, DC: Author.

Braxton, J. (2000). *Reworking the student departure puzzle* (Ed.). Nashville, TN: Vanderbilt University Press.

Braxton, J., Bray, N., & Berger, J. (2000). Faculty teaching skills and their influence on the college student departure process. *Journal of College Student Development, 41*, 215-227.

Braxton, J., & Brier, E. (1989). Melding organizational and interactional theories of student attrition: A path analytic study. *Review of Higher Education, 13*, 47-61.

Braxton, J., & Hirschy, A. (2005). Theoretical developments in the study of college student departure. In A. Seidman (Ed.), *College student retention: Formula for student success.* Westport, CT: ACE/Praeger.

Braxton, J., Sullivan, A., & Johnson, R. (1997). Appraising Tinto's theory of college student departure. In. J. Smart (Ed.), *Higher education: Handbook of theory and research*. New York, NY: Agathon Press.

Brase, W. (1988). Design criteria for effective classrooms. *Planning for Higher Education, 17*, 81-91.

Brown, R. M., & Mazzarol, T. W. (2009). The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education, 58*, 81-95.

Burke, J. C., & Serban, A. M. (1997). *Performance funding and budgeting for public higher education: Current status and future prospects.* Albany, NY: The Nelson Rockefeller Institute of Government.

Butts. P. (1971). *The college union idea.* Stanford, CA: The Association of College Unions International.

Cabrera, A., Castaneda, M., Nora, A., & Hengstler, D. (1992). The convergence between two theories of college persistence. *Journal of Higher Education, 63*, 143-164.

Cooper, N. (1995). Cooperative learning: An approach for larger enrollment courses. *Journal of Chemical Education, 72,* 162-164.

Cooper, R. M., & Shelley, M. C. (2009). Data analysis. In J. H. Schuh and Associates (Eds.), *Assessment methods for student affairs* (pp. 77-106). San Francisco, CA: Jossey-Bass.

Cronin, J. J., Brady, M., & Hult, G. T. (2000). Assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing, 76,* 193-218.

Curs, B. R., & Singell, L. D. (2010). Aim high or go low? Pricing strategies and enrollment effects when the net price elasticity varies with need and ability. *The Journal of Higher Education, 81,* 515-543. DOI: 10.1353/jhe.0.0099.

Dillman, D. A. (2007). *Mail and internet surveys: The tailor designed method* (2nd ed.). Hoboken, NJ: John Wiley & Sons, Inc.

Dugan, J. P., Garland, J. L., Jacoby, B., & Gasiorski, A. (2008). Understanding commuter student self-efficacy for leadership: A within-group analysis. *NASPA Journal, 45,* 282-310.

Educational Benchmarking, Inc. (2011). *College union/Student center.* Retrieved from http://webebi.com/_AsmtServices/Union/default.aspx.

Everitt, B. S., Landau, S., & Leese, M. (2001). *Cluster analysis* (4th ed.). New York, NY: Oxford University Press Inc.

Ganadra, P., & Maxwell-Jolly, J. (1999). Priming the pump: Strategies for increasing minority and underrepresented students. *The College Board.* Retrieved from http://professionals.collegeboard.com/profdownload/pdf/primingthep_3949.pdf

Gansemer-Topf, A. M., & Wohlgemuth, D. R. (2009). Selecting, sampling, and soliciting subjects. In J. H. Schuh and Associates (Eds.), *Assessment methods for student affairs* (pp. 77-106). San Francisco, CA: Jossey-Bass.

Gay, L. R., Mills, G. E., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications* (8th ed.). Columbus, OH: Pearson-Merrill Prentice Hall.

Gordon, J., Ludlum, J., & Hoey, J. J. (2008). Validating NSSE against student outcomes: Are they related? *Research in Higher Education, 49*, 19-39. DOI: 10.1007/s11162-007-9061-8.

Goyles, S., & Gokey, T. C. (2005). Customer retention is not enough. *Journal of Consumer Marketing*, 22, 101-105. Retrieved from http://www.ingentaconnect.com/content/mcb/077/2005/00000022/00000002/art00006.

Green, S., & Salkind, N. (2005). *Using SPSS* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Groves, R. M., & Peytcheva, E., (2008). The impact of nonresponse rates on nonresponse bias: A meta-analysis. *Public Opinion Quarterly* 72, 167-189.

Gustafsson, A., Johnson, M. D., & Roos, I.(2005). The effects of customer satisfaction, relationship commitment dimensions, and triggers on customer retention. *Journal of Marketing, 69*, 210-218.

Hebel, S. (2010, March 14). State cuts are pushing state colleges into peril. *Chronicle of Higher Education*. Retrieved from http://chronicle.com.

Heller, D. (2001). *The states and public higher education policy: Affordability, access, and accountability*. Baltimore, MD: Johns Hopkins University Press.

Heller, D. (1997). Student price response in higher education: An update to Leslie and Brinkman. *The Journal of Higher Education 68*, 624-659. Retrieved from http://www.jstor.org/stable/2959966.

Henry, W. J. (2004). The contemporary student center: Challenges at metropolitan universities. *NASPA Journal, 41*, 500-517. Retrieved from http://journals.naspa.org/cgi/viewcontent.cgi?article=1358&context=jsarp.

Hicks, J. R. (1946). *Value and capital: An inquiry into some fundamental principles of economic theory* (2nd . ed.). New York, NY: Oxford Press.

Hurtado, S. (1994). The institutional climate for talented Latino students. *Research in Higher Education*, *35*, 210-241.

Hurtado, S., & Carter, D. F. (1996). Latino students' sense of belonging in the college community: Rethinking the concept of integration on campus. In *College students: The evolving nature of research*. Needham Heights, MA: Simon & Schuster Publishing.

Hurtado, S., Han, J. C., Saenz, V. B., Espinosa, L. L., Cabrera, N. L., & Cerna, O. S. (2007). Predicting transition and adjustment to college: Biomedical and behavioral science aspirants' and minority students' first year of college. *Research in Higher Education, 48*, 841-887. DOI: 10.1007/s11162-007-9051-x.

Johnson, N., Earnest, K., Huntley, H., Hensen, K., Reason, R., Saunders, K., & Schuh, J. H. (Eds.). (2004). Retention and persistence issues of historically underrepresented students. *Special Edition of Journal of College Student Retention: Research, Theory & Practice, 6*(1).

Kelderman, E. (2009, July 27). More cuts for colleges likely even after states pass budgets. *Chronicle of Higher Education.* Retrieved from http://chronicle.com/.

King Alexander, F. (2000). The changing face of accountability: Monitoring and assessing institutional performance in higher education. *Journal of Higher Education, 71,* 411-431.

Kuh, G. (2003). What we're learning about student engagement from NSSE. *Change, 35*(2): 24-32.

Kuh, G., Gonyea, R. M., & Palmer, M. (2001). The disengaged commuter student: Fact of fiction? *Commuter Perspectives, 27*(1), 2-5. Retrieved from http://74.125.155.132/scholar?q=cache:s-2aGEPX1XcJ:scholar.google.com/&hl=en&as_sdt=2000000000.

Kuh. G. D., & Hu, S. (2001). Learning productivity at research universities. *The Journal of Higher Education, 72,* 1-28. Retrieved from http://www.jstor.org/stable/pdfplus/2649131.pdf?acceptTC=true.

Kuh, G., Schuh, J., Whitt, E., & Associates (1991). *Involving colleges: Encouraging student learning and personal development through out-of-class experiences*. San Francisco, CA: Jossey-Bass Publishers.

LaNasa, S. M., Cabrera, A. F., & Trangsrud, H. (2007). The construct validity of student engagement: A confirmatory factor analysis approach. *Research in Higher Education, 50,* 315-332. DOI: 10.1007/s11162-009-9123-1.

Lau, L. (2003). Institutional factors affecting student retention. *Education, 124*(, 126-136.

Legan, L., Sumner, K., Zaft, K., & Jones, D. (2009, April). *Assessing the college union/student center: Multiple approaches to program improvement.* Presented at

the annual conference of the Association of College Unions International, Anaheim, CA.

Leslie, L. L., & Brinkman, P. T. (1987). Student price response in higher education. *Journal of Higher Education, 58,* 181-204. Retrieved from http://www.jstor.org/stable/1981241.

Locks, A. M., Hurtado, S., Bowman, N. A., & Oseguera, L. (2008). Extending notions of campus climate and diversity to students' transition to college. *The Review of Higher Education, 31*, 257-285. Retrieved from http://muse.jhu.edu/journals/review_of_higher_education/v031/31.3locks.html.

Mallinckrodt, B., & Sedlacek, W. E. (2009). Student retention and the use of campus facilities by race. *NASPA Journal, 46*, 566 – 572. Retrieved from http://journals.naspa.org/jsarp/vol46/iss4/art16/#page=18.

Meek, V. L., & Wood, F. Q. (1998). *Managing higher education diversity in a climate of public sector reform.* Canaberra, Australia: Evaluations and Investigations Programme, Department of Employment, Education, Training and Youth Affairs. Retrieved from http://dest.gov.au/archive/highered/eippubs/eip98-5/eip98-5.pdf.

Mertler, C. A., & Vannatta, R. A. (2005). *Advanced and multivariate statistical methods* (3rd ed.). Glendale, CA: Pyrczak Publishing.

Milani, T. E., Eakin, J. T., & Brattain, W. E. (1992, Summer). The role of the college union and the future. In M. J. Bar and M. L. Upcraft (Series Eds.) and T. E. Milani & J. W. Johnston (Vol Eds.), *New directions for student services: The college union in the year 2000* (no. 58, pp. 3-10). San Francisco, CA: Jossey-Bass Publishers.

Mironack, M. W. (2003). *Leadership behaviors among college union directors at doctoral-research universities.* (Doctoral dissertation, University of Florida, 2003). Retrieved from http://proquest.umi.com/.

Nora, A. (2001). The depiction of significant others in Tinto's "Rites of Passage": A reconceptualization of the influence of family and community in the persistence process. *Journal of College Student Retention: Research, theory and Practice, 3,* 41-40.

Oliver, R. L. (1999). Whence consumer loyalty?. *Journal of Marketing, 63,* 33-44.

Pace, C. (1969). *College and university environmental scales: Technical manual* (2d ed.). Princeton, NJ: Educational Testing Service.

Pace. C. (1984). *Measuring the quality of college student experiences.* Los Angeles, CA: UCLA-Higher Education Research Institute.

Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Perceived service quality as a customer-based performance measure: An empirical examination of organizational barriers using an extended service quality model. *Human Resource Management, 30,* 335-364.

Pascarella, E. (1980). Student-faculty informal contact and college outcomes. *Review of Educational Research, 50,* 545-595.

Pascarella, E., & Terenzini, P. (2005). *How college affects students: Findings and insights from twenty years of research.* San Francisco, CA: Jossey-Bass Publishers.

Pike, G., & Kuh, G. (2005). The typology of student engagement for American colleges and universities. *Research in Higher Education, 46),* 185-209.

Poole, M., Harman, E., Snell, W., Deden, A., & Murray, S. (2000). *ECU service 2000: A client-centered transformation of corporate services, 00/16*. Canberra, Australia: Evaluations and Investigations Programme, Higher Education Division, Department of Education, Training and Youth Affairs.

Porter, S. R., & Umbach, P. D. (2006). Student survey response rates across institutions: Why do they vary?. *Research in Higher Education, 47,* 229-247. DOI: 10.1007/s11162-005-8887-1.

Presinger, G. J., & Wilson, B. (1992, Summer). Preparing the college union and student activities profession for the year 2000. In M. J. Bar and M. L. Upcraft (Series Eds.) and T. E. Milani & J. W. Johnston (Vol Eds.), *New directions for student services: The college union in the year 2000* (no. 58, pp. 61-73). San Francisco, CA: Jossey-Bass Publishers.

Saenz, V. B., Ngai, H. N., & Hurtado, S. (2007). Factors influencing positive interactions across race for African American, Asian American, Latino, and White college students. *Research in Higher Education, 48,* 1-38. DOI: 10.1007/s11162-066-9026-3.

Saunders, K, & Cooper, R. M. (2009). Instrumentation. In J. H. Schuh and Associates (Ed.), *Assessment methods for student affairs* (pp. 77-106). San Francisco, CA: Jossey-Bass.

Seidman, A. (Ed.). (2007). *Minority student retention: The best of the Journal of College: Research theory, and practice*. New York, NY: Baywood Publishing.

Sheehan, K. B. (2001). E-mail survey response rate: A review. *Journal of Computer-Mediated Communication 6*, DOI: 10.1111/j.1083-6101.2001.tb00117.x.

St. John. E., Cabrera, A., Nora, A., & Asker, E. (2000). Economic influence on persistence reconsidered: How can finance research inform the reconceptualization of persistence models?. In J. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 29-47). Nashville, TN: Vanderbilt University Press.

St. John, E. P., & Starkey, J. B. (1995). An alternative to net price: Assessing the influence of prices and subsidies on within-year persistence. *Higher Education, 29,* 143-168.

Stampen, J. O., & Cabrera, A. O. (1986), Exploring the effects of student aid on attrition. *Journal of Student Aid, 16,* 28-40.

Terenzini. P. T. (1989). Assessment with open eyes: Pitfalls in studying student outcomes. *Journal of Higher Education, 9,* 347-366.

Terenzini, P. T. (1996). Making the transition to college. In Renges, R., Weimer, M., & Associates (Eds.), *Teaching on solid ground: Using scholarship to improve practice.* San Francisco, CA: Jossey-Bass Publishers.

Tierney, W. (2000). Power, identity, and the dilemma of college student departure. In J. Braxton (Ed.). *Reworking the student departure puzzle* (pp. 213-234). Nashville, TN: Vanderbilt University Press.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*, 89-125.

Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition.* Chicago, IL: University of Chicago Press.

Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of student leaving. *Journal of Higher Education, 59,* 438-455.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd Ed.). Chicago, IL: University of Chicago Press.

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education, 68*, 599 – 623.

Tinto, V. (2001). *Rethinking the first year of college*. Syracuse, NY: Higher Education Monograph Series, Syracuse University.

Tinto, V. (2006). Research and practice of student retention: What next? *Journal of College Student Retention, 8,* 1-19.

Tinto, V. (2010). From theory to action: Exploring the institutional conditions for student retention. *Higher Education: Handbook of Theory and Research. 25*, 51-89. DOI: 10.1007/978-90-481-8598-6_2.

Tinto, V., & Russo, P. (1994). Coordinated student programs: Their effect on student involvement at a community college. *Community College Review, 22*(2), 16-25.

Tinto, V., Russo, P., & Kadel, S. (1994). Constructing educational communities: Increasing retention in challenging circumstances. *Community College Journal, 64*, 26-30.

Torres, V. (2006). A mixed method study testing data-model fit of a retention model for Latino/a students and urban universities. *Journal of College Student Development, 47*, 299-318. Retrieved from http://muse.jhu.edu/journals/journal_of_college_student_development/v047/47.3torres.html.

Turnbull, W. W. (1986). Involvement: the key to retention. *Journal of Developmental Education, 20,* 6 – 11.

Upcraft, M. L., & Schuh, J. H. (1996). *Assessment in student affairs: A guide for practitioners.* San Francisco, CA: Jossey-Bass Publishers.

University of Nevada, Reno (2011). Retrieved from http://www.cis.unr.edu/IA_Web/enrl_comparison.aspx.

Vander Schee, B. A. (2010). The small college enrollment officer: Relationship marketing at work. *Journal of Marketing for Higher Education, 20*, 135-143. DOI: 10.1080/08841241003788177.

Veltri, S., Banning, J., & Davies. T. G. (2006). The community college classroom environment: Student perceptions. *College Student Journal, 40*, 517-527.

Voorhees, R. A. (1985). Financial aid and persistence: Do the federal campus-based aid programs make a difference? *Journal of Student Aid, 15,* 21-30.

Williams June, A. (2006, June 9). Facilities play a key role in student's enrollment decisions, study finds. *Chronicle of Higher Education.* Retrieved from http://chronicle.com.

Yates, M. C. (1992). The college union facility of the future. In M. J. Bar & M. L. Upcraft (Series Eds.) and T. E. Milani & J. W. Johnston (Vol. Eds.), *New directions for student services: The college union in the year 2000.* (no. 58, pp. 3-10). San Francisco, CA: Jossey-Bass Publishers.

Zumeta. W. (2000). Public university accountability to the state in the late twentieth century: Time for a rethinking? In R. Weissman (Ed.), *Democracy and the academy.* (pp. 93 – 122). Huntington, NY: Nova Science

Appendix A

ACUI/EBI COLLEGE UNION/STUDENT CENTER ASSESSMENT

ACUI/EBI College Union/Student Center Survey

What times do you usually visit the College Union building? (Select all that apply)

- Never
- Before 9 a.m.
- 9 a.m. to 2 p.m.
- 2 p.m. to 5 p.m.
- 5 p.m. to 7 p.m.
- After 7 p.m.

Academic class standing as of this semester/term:

- Freshman
- Sophomore
- Junior
- Senior
- Graduate student
- Non-degree student

Enrollment status:

- Full-time student
- Part-time student

Gender:

- Male
- Female
- Transgender
- Other

What is your ethnicity?

- Hispanic or Latino
- Not Hispanic or Latino

What is your race? (choose all that apply)

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White

On average, how often do you visit the College Union building?

- Once or twice a semester
- Once a month or less
- 2-3 times a month
- Once a week
- 2-3 times a week
- 4-5 times a week
- 6-7 times a week
- 8-9 times a week
- More than 9 times a week

Place of residence:

- Residence hall
- Fraternity/sorority
- On-campus apartment
- Off-campus apartment
- Living at home
- Other

How often do you participate in activities sponsored by the College Union?

- Never
- 1-2 times per semester or less
- 1-3 times per month
- Once per week
- 2-4 times per week
- Daily
- More than once a day

Are you involved in a College Union student organization?

- No
- Yes- an officer in at least one
- Yes- only as a member

Are you a member of a Greek SOCIAL fraternity or sorority?

- No
- Yes

The most likely reasons (specify top three) you visit the College Union:

- Eat
- Study
- Meet others
- Athletic activities
- Attend a program or event
- TV viewing
- Relax
- Game room
- Computer access (not email)
- Computer access (email)

- Information services
- Visit bookstore
- Postal services
- Movies
- Photocopy services
- Student organization meeting
- Other

Average number of hours per week you spend in outside the classroom course preparation (i.e., homework, studying, research, etc.) during the current term:

- 0-5 hours
- 6-10 hours
- 11-15 hours
- 16-20 hours
- 21-25 hours
- 26-30 hours
- More than 30 hours

Average number of hours worked per week during the past academic year:

- None
- 1-10 hours
- 11-20 hours
- 21-30 hours
- 31-40 hours
- More than 40 hours

Number of credit hours you are taking this term:

- Less than 12 semester/8 quarter hours
- 12-15 semester/8-10 quarter hours
- 16-18 semester/11-12 quarter hours
- More than 18 semester/12 quarter hours

Age:

- Less than 18 years old
- 18 years old
- 19 years old
- 20 years old
- 21 years old
- 22 years old
- 23 to 25 years old
- 26 to 30 years old
- 31 to 35 years old
- 36 to 40 years old
- Over 40 years old

What is your current employment status?

- Not employed
- Employed full-time, off campus
- Employed full-time, on campus
- Employed part-time, off campus
- Employed part-time, on campus

How satisfied are you with the extent to which the College Union:	Very dissatisfied 1	Moderately dissatisfied 2	Slightly dissatisfied 3	Neutral 4	Slightly satisfied 5	Moderately satisfied 6	Very satisfied 7	Not applicable
Publicizes opportunities to join student organizations								
Publicizes activities sponsored by the College Union								
Promotes a sense of community on campus								
Promotes programs of interest to students								
Involves students in the decisions about College Union activities								

To what extent do you agree or disagree with the following statements. The College Union:	Strongly disagree 1	Disagree 2	Slightly disagree 3	Neutral 4	Slightly agree 5	Agree 6	Strongly agree 7	Not applicable
Is an enjoyable place to spend time								
Is a safe place								
Is a place where I feel welcome								
Is a place to relax								
Is a place to study								
Is a source of information for learning about campus events								
Is a student-oriented facility								
Is open convenient hours								
Is a place to get involved in campus life								
Is a central meeting place for students								
Is a source for a wide variety of entertainment								
Is a source for reasonably priced entertainment								
Is a source for events I find interesting								
Provides a variety of services								

To what extent do College Union activities:	Not at all 1	2	3	Moderately 4	5	6	Extremely 7	Not applicable
Expand your understanding of others whose backgrounds differ from yours								

Expand your understanding of your role as a citizen of the college community								
Enhance your ability to interact socially								
Expose you to new and different ideas								
Provide leadership training								
Provide opportunities for you to assume a leadership role								
Enhance your appreciation of the arts								
Enhance your appreciation of the value of volunteerism								

How satisfied are you with the eating establishments in the College Union regarding:	Very dissatisfied 1	Moderately dissatisfied 2	Slightly dissatisfied 3	Neutral 4	Slightly satisfied 5	Moderately satisfied 6	Very satisfied 7	Not applicable
Variety of places to eat								
Food prices								
Food quality								
Customer service								
Dining room cleanliness								
Dining room atmosphere								
Dining room seating availability								
Courteousness of staff								
Hours of operation								

How satisfied are you with the College Union bookstore regarding:	Very dissatisfied 1	Moderately dissatisfied 2	Slightly dissatisfied 3	Neutral 4	Slightly satisfied 5	Moderately satisfied 6	Very satisfied 7	Not applicable
Availability of staff to assist you								
Courteousness of staff								
Availability of textbooks								
Textbook prices								
Variety of school supplies available								
School supply prices								
Availability of computer software								
Computer software prices								
College/university logo merchandise prices								

How satisfied are you with the quality of the following aspects of the College Union environment:	Very dissatisfied 1	Moderately dissatisfied 2	Slightly dissatisfied 3	Neutral 4	Slightly satisfied 5	Moderately satisfied 6	Very satisfied 7	Not applicable
Cleanliness of entrances								
Cleanliness of hallways								
Cleanliness of restrooms								
Atmosphere								

To what extent are College Union staff:	Not at all 1	2	3	Moderately 4	5	6	Extremely 7	Not applicable
Available								
Knowledgeable								
Courteous								

	Not at all 1	2	3	Moderately 4	5	6	Extremely 7
To what extent do College Union activities enhance your overall educational experience?							

	Very poor 1	Poor 2	Fair 3	Good 4	Very good 5	Excellent 6	Exceptional 7
When you compare the activity fees you pay to the quality of activities provided, how do you rate the value of the dollars spent?							

	Not at all 1	2	3	Moderately 4	5	6	Extremely 7
How well does the College Union fulfill its mission as the center of college community life?							

	Very dissatisfied 1	Moderately dissatisfied 2	Slightly dissatisfied 3	Neutral 4	Slightly satisfied 5	Moderately satisfied 6	Very satisfied 7
To what degree would you recommend the services and activities provided by the College Union to a close friend?							
Overall, how satisfied are you with the College Union?							

Non-Visitor Questions

Are you familiar with the services available in your College Union?

- Yes
- No
- Don't Know

Academic class standing as of this semester/term:

- Freshman
- Sophomore
- Junior
- Senior
- Graduate student
- Non-Degree student

Enrollment status:

- Full-time student
- Part-time student

Gender:

- Male
- Female
- Transgender
- Other

U.S. ethnic group or nationality: (For students at U.S. institutions only)

- Multiracial American
- African American
- Native American
- Asian American
- Hispanic American
- White American
- Non-U.S. citizen or Permanent resident
- Other

How long has it been since you visited the College Union??

- Less than 12 months ago
- 12 to 18 months ago
- 19 to 24 months ago
- 3 years ago
- 4 years ago
- 5 - 10 years ago
- More than 10 years ago
- I have never visited the college union

Place of residence:

- Residence hall
- Fraternity/sorority
- On-campus apartment
- Off-campus apartment
- Living at home
- Other

Are you a member of a Greek SOCIAL fraternity or sorority?

- No
- Yes

Average number of hours per week you spend in outside the classroom course preparation (i.e., homework, studying, research, etc.) during the current term:

- 0-5 hours
- 6-10 hours
- 11-15 hours
- 16-20 hours
- 21-25 hours
- 26-30 hours
- More than 30 hours

Average number of hours worked per week during the past academic year:

- None
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- More than 40 hours

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Age:

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- 19 years old
- 20 years old
- 21 years old
- 22 years old
- 23 to 25 years old
- 26 to 30 years old
- 31 to 35 years old
- 36 to 40 years old
- Over 40 years old

What is your current employment status?

- Not employed
- Employed full-time, off campus
- Employed full-time, on campus
- Employed part-time, off campus
- Employed part-time, on campus

To what degree do the following issues deter you from using College Union services:	Not at all 1	2	3	Moderately 4	5	6	Extremely 7	Not applicable
I don't need to use these services								
Services are provided during times that are inconvenient to me								
College Union does not have convenient parking								
College Union is not in my traffic pattern								

Are you familiar with the activities (entertainment, events, lectures, etc.) offered by your College Union?

- Yes
- No
- Don't Know

To what degree do the following issues deter you from participating in College Union activities:	Not at all 1	2	3	Moderately 4	5	6	Extremely 7	Not applicable
The College Union activities are not interesting to me								
My personal schedule is too busy to allow me to attend								
College Union does not have convenient parking								
College Union is not in my traffic pattern								

Are you familiar with the student organizations that are sponsored by your College Union?

- Yes
- No
- Don't Know

To what degree do the following issues deter you from participating in College Union organizations:	Not at all 1	2	3	Moderately 4	5	6	Extremely 7	Not applicable
The student organizations are not interesting to me								
My personal schedule is too busy to allow me to participate								
I can't relate to the people who participate in these organizations								

Does your union have eating establishments? (restaurants, fast food, etc.)

- Yes
- No
- Don't Know

To what degree do the following issues deter you from visiting College Union eating establishments:	Not at all 1	2	3	Moderately 4	5	6	Extremely 7	Not applicable
Not enough variety of food choices								
Not food options I prefer								
Food is too expensive								
Operating hours are inconvenient for me								
College Union does not have convenient Parking								
College Union is not in my traffic pattern								

Does your college union have a bookstore?

- Yes
- No
- Don't Know

To what degree do the following issues deter you from visiting the College Union bookstore:	Not at all 1	2	3	Moderately 4	5	6	Extremely 7	Not applicable
Not enough variety of merchandise								
Not merchandise I prefer								
Merchandise is too expensive								
Operating hours of the bookstore are inconvenient for me								
College Union does not have convenient parking								
College Union is not in my traffic pattern								

Please tell us the main reason why you choose not to visit the College Union.

What services or activities would motivate you to visit the College Union?

The Joe Crowley Student Union positively impacts the campus community.

Please Select ...

The student employees who work in the Joe Crowley Student Union provide a welcoming and inviting environment.

Please Select ...

The open late night hours of the Joe Crowley Student Union encourage me to spend more time on campus.

Please Select ...

The open weekend hours of the Joe Crowley Student Union encourage me to spend more time on campus.

Please Select ...

Which of the following types of information do you most frequently inquire about the Joe Crowley Student Union?

- Student Union Services
- Retail Specials
- Student Union Programs and Events
- Building Hours
- Employment Opportunities
- Other

Where are the top 3 places you look for information concerning the Joe Crowley Student Union?

Please list 3 retail options not currently in the Joe Crowley Student Union that you would support if they were made available in the Student Union. Retail may be food or non-food vendors/ concepts.

Appendix B

EMAIL TEXT FOR INITIAL SURVEY COMMUNICATION WITH PARTICIPANTS

Dear XXXX,

Your input is needed. The Joe Crowley Student Union is gathering information from students like you to help us develop our programs and services to meet your needs. You have been selected to take a quick online survey that will take no more than 15 minutes.

As a thank you for participating in this study, you will be entered into a random drawing of those that fill out the survey for the following items:

- A Silver Parking Pass
- $100 Gift Card to the ASUN Bookstore
- An I-Pod from the ASUN Bookstore
- Nevada gear from the ASUN Bookstore

We need your help to continuously improve our services and be the student union that you want and deserve. Your responses will be completely anonymous. Please click the following unique link to take the survey XXXXXX.

For questions about this survey, please contact Raquel DePuy Grafton at rgrafton@unr.edu or 775/784-6505.

Thank you in advance for taking a few moments to help make your student union a better place.

Sincerely,

Raquel DePuy Grafton
Associate Director, Joe Crowley Student Union
University of Nevada, Reno

To opt out of this survey and receive no further communications, please follow the following link XXXXXX.

Appendix C

ROTATED FACTOR MATRIX FOR EBI COMPARISON

Rotated Factor Matrix[a]

	Factor												*EBI Identified (Expected) Factors*
	1	2	3	4	5	6	7	8	9	10	11	12	
Q017	-.011	.137	-.005	.757	.001	.018	.112	-.013	.004	.039	.070	.055	Publicized Union and
Q018	.007	.152	.022	.876	-.009	.022	.086	-.007	.050	.004	-.018	.028	Promotes Campus
Q019	.006	.126	.112	.673	.009	.003	.139	-.022	.043	-.046	-.022	-.017	
Q020	.029	.141	-.020	.766	.019	.008	.237	.011	.059	.006	-.022	-.101	
Q021	.003	.138	-.028	.753	.044	.047	.159	.005	.042	.011	-.021	-.006	
Q022	-.052	.112	.535	.035	.041	.099	.050	.160	-.039	.040	-.049	-.027	Has Positive Environment
Q023	-.032	.023	.723	.120	-.074	-.050	.009	-.015	.039	-.003	.108	.034	
Q024	-.031	-.011	.871	-.021	-.028	-.011	.009	.040	-.008	.017	-.028	.053	
Q025	-.007	.060	.620	.072	.033	.078	.197	.062	-.040	-.029	-.049	-.302	
Q026	-.005	.030	.638	.101	.027	.023	.222	.130	-.043	-.010	-.067	-.347	
Q027	.034	.112	.317	.336	.039	-.007	.421	.217	.114	.014	.054	-.015	Student Oriented
Q028	.061	.022	.549	-.046	.037	.025	.126	.305	.056	.027	.046	-.023	
Q029	.142	-.020	.525	-.046	.026	.004	.052	.259	-.004	.020	.044	.213	
Q030	.104	.128	.211	.277	.013	-.034	.627	.156	.061	.007	.049	.020	
Q031	.225	-.008	.413	-.036	.031	.048	.136	.225	-.004	-.015	.036	.102	
Q032	.197	.160	.201	.236	-.050	.032	.713	.168	.111	.037	.019	-.038	Source of Entertainment
Q033	.088	.168	.173	.181	-.050	.059	.740	-.004	.026	.047	-.036	-.014	
Q034	.101	.233	.098	.256	-.018	.058	.668	.043	.006	.044	-.039	.029	
Q035	.327	.039	.475	-.103	.008	.002	.270	.238	-.021	.036	.049	.236	
Q036	.044	.890	.095	.098	.004	.063	.094	-.019	.056	.057	-.046	-.017	Enhances life and leadership
Q037	.050	.879	.035	.105	-.031	.057	.131	-.001	.056	.066	-.044	-.009	
Q038	.028	.848	.021	.088	-.043	.100	.138	.026	.010	.039	-.005	.008	
Q039	.062	.872	.020	.106	-.040	.078	.139	.090	.049	.007	.033	.027	
Q040	.052	.847	.018	.119	.019	.080	.032	.005	.006	.082	-.012	-.021	
Q041	.053	.903	.020	.110	-.018	.078	.025	.009	.015	.089	-.017	-.006	
Q042	.048	.866	.038	.121	-.032	.077	.078	.012	-.010	.012	.007	.006	
Q043	.079	.877	.029	.111	-.004	.111	.059	.062	.086	.006	.063	-.014	
Q044	.738	.000	.022	-.029	.114	.011	.040	.130	.249	.021	.004	-.011	Food Variety, Quality, and Price
Q045	.878	.069	-.002	-.055	.017	.007	.072	.061	.175	.025	-.020	.024	
Q046	.931	.042	.034	-.057	.021	.003	.049	.026	.155	.073	-.034	.154	
Q047	.841	.090	.033	-.063	.023	-.011	.058	.066	-.010	.022	.022	.107	
Q048	.868	.071	.032	.160	.002	-.005	.072	.106	-.049	-.002	.045	-.244	Aspects of Dining
Q049	.888	.065	.032	.152	.022	-.006	.057	.085	.066	.013	.014	-.277	
Q050	.805	.049	.049	.142	.005	-.016	.041	.040	.033	.037	.198	-.263	
Q051	.715	.057	.041	-.022	-.032	.023	.033	.012	.004	.060	.075	.161	
Q052	.861	.023	.039	-.055	.052	.006	.094	.066	.055	.048	-.003	.228	
Q053	.096	-.030	.036	.000	.052	.054	.001	.151	.244	.081	.743	.014	Bookstore Staff
Q054	.102	.000	.032	-.005	.028	.106	-.007	.106	.197	.083	.906	.018	
Q055	.086	.096	.018	.018	.017	-.040	.009	.117	.753	-.006	.088	-.137	Bookstore Items
Q056	.172	.031	.012	.016	.024	.008	-.017	.101	.796	-.052	.156	-.173	Variety and Price
Q057	.077	-.009	-.023	.159	.021	.168	.127	.032	.546	.143	.126	.281	
Q058	.153	.009	-.019	.153	.028	.186	.111	.012	.517	.126	.068	.275	
Q059	.111	.149	.045	.019	.022	.075	.019	.044	.093	.884	.079	.021	
Q060	.092	.142	.029	-.007	.034	.039	.081	.035	.079	.934	.069	.003	
Q061	.139	.199	-.035	-.016	.020	.026	.060	.034	.297	.179	.105	.100	
Q062	.163	.041	.338	-.050	.044	.118	.147	.796	.120	.040	.126	.052	Cleanliness
Q063	.122	.025	.237	-.035	.039	.088	.106	.830	.080	.023	.077	.016	
Q064	.073	.055	.269	-.012	.019	.026	-.004	.490	.053	.053	.061	.080	
Q065	.105	.025	.146	.087	.061	.039	.091	.645	.062	-.015	.029	-.151	
Q066	-.003	.168	.055	.029	-.033	.911	.041	.077	.094	.053	.051	.009	Union Staff
Q067	-.007	.263	.046	.010	-.047	.861	.007	.071	.074	.033	.044	.001	
Q068	.005	.162	.063	.052	-.010	.933	.046	.089	.026	.036	.064	.010	
Q069	.010	-.118	-.015	-.009	.745	-.044	-.064	.053	.007	-.018	.008	-.047	Overall effectiveness
Q070	.076	-.013	.022	.000	.774	-.016	.019	.025	.018	.011	-.006	.004	
Q071	.053	-.003	-.006	.030	.899	-.004	-.009	.023	-.006	-.002	.025	.022	
Q072	.031	-.010	-.003	.032	.922	-.026	.005	.009	.035	.028	.022	.003	
Q073	-.017	.036	.053	.015	.832	.016	-.010	.036	.032	.038	.028	.022	

Extraction Method: Unweighted Least Squares.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations.

Appendix D

ROTATED FACTOR MATRIX FOR FINAL FACTOR ANAYSIS

Rotated Factor Matrix[a]

	Factor				
	1	2	3	4	5
Q017	-.006	.109	-.051	.704	.025
Q018	.003	.115	-.051	.798	.014
Q019	-.005	.082	.038	.676	.014
Q020	.039	.102	-.035	.803	.031
Q021	.009	.113	-.055	.738	.060
Q022	-.083	.137	.519	.064	.020
Q023	-.062	.006	.541	.140	-.083
Q024	-.080	-.012	.679	.022	-.059
Q025	-.052	.061	.551	.192	-.013
Q026	-.044	.021	.595	.229	-.016
Q027	.076	.110	.444	.495	.035
Q028	.070	.046	.647	.015	.029
Q029	.134	-.004	.571	-.035	.014
Q030	.152	.118	.368	.522	-.014
Q031	.220	.009	.491	.014	.008
Q032	.252	.175	.394	.516	-.079
Q033	.119	.184	.291	.480	-.097
Q034	.132	.239	.229	.515	-.060
Q035	.329	.053	.569	.012	-.030
Q036	.053	.862	.021	.198	-.015
Q037	.067	.854	-.009	.215	-.046
Q038	.042	.837	.006	.189	-.058
Q039	.089	.852	.036	.203	-.047
Q040	.059	.828	-.039	.174	.009
Q041	.061	.883	-.041	.166	-.027
Q042	.050	.837	-.012	.197	-.048
Q043	.106	.866	.017	.175	-.004
Q044	.779	.005	.097	-.008	.103
Q045	.898	.060	.035	-.013	-.017
Q046	.939	.038	.041	-.034	-.017
Q047	.826	.066	.055	-.035	-.024
Q048	.825	.029	.060	.182	-.039
Q049	.863	.029	.049	.179	-.013
Q050	.790	.019	.056	.152	-.017
Q051	.706	.054	.041	-.022	-.064
Q052	.858	.018	.078	-.026	.009
Q053	.210	.038	.193	-.045	.121
Q054	.211	.075	.179	-.056	.099
Q055	.223	.125	.107	.059	.085
Q056	.303	.075	.106	.041	.092
Q057	.200	.102	.089	.148	.081
Q058	.257	.114	.071	.142	.076
Q059	.189	.261	.099	.000	.065
Q060	.176	.249	.096	.006	.070
Q061	.223	.244	.027	.010	.055
Q062	.245	.119	.725	-.035	.084
Q063	.200	.090	.631	-.037	.082
Q064	.114	.089	.472	-.046	.050
Q065	.159	.054	.453	.084	.092
Q066	.012	.390	.203	-.021	-.019
Q067	.002	.461	.175	-.039	-.034
Q068	.008	.381	.212	-.006	-.005
Q069	.027	-.129	.004	-.035	.743
Q070	.096	-.019	.035	.015	.757
Q071	.073	-.009	.005	.025	.882
Q072	.062	-.015	.004	.038	.912
Q073	.011	.045	.066	.012	.828

Extraction Method: Unweighted Least Squares.

a. Rotation converged in 6 iterations.