The Effect of Student Engagement on Student Success at a Binational Hispanic Serving Institution

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THE EFFECT OF STUDENT ENGAGEMENT ON STUDENT SUCCESS
AT A BINATIONAL HISPANIC SERVING INSTITUTION

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Dedication

This dissertation is dedicated to my family, Scott, Chris, and Brenda, the three most important people in my life.

Scott Robert – you are one of the funniest people that I know. When you were born a friend told us you have the eyes of an old soul. I believe it. Your kind heart, warmth and gentle spirit inspire me daily. Thank you for all of the love and support you have shown to me.

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To all my brothers and sisters, cousins and in-laws – check it out!
THE EFFECT OF STUDENT ENGAGEMENT ON STUDENT SUCCESS
AT A BINATIONAL HISPANIC SERVING INSTITUTION

by

CHARLES E. GIBBENS, BA, MA

DISSERTATION

Presented to the Faculty of the Graduate School of
The University of Texas at El Paso
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of the Requirements
for the Degree of
DOCTOR OF EDUCATION

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Abstract

This purpose of this study was to examine student engagement practices at the University of Texas at El Paso (UTEP). This institution was chosen due to the unique location – in the city of El Paso on the U.S. Mexico border. It was also chosen due to the unique population served – majority of students are first generation and Hispanic.

The instrument used to gather student engagement practices was the National Survey of Student Engagement (NSSE) survey for 2006, 2007, & 2008. One section of the survey asks respondents to self identify their levels of engagement in 19 educationally purposeful activities. These questions were designed to identify activities and practices believed to promote student success. The NSSE survey is conducted each year during the spring semester to freshman and senior students.

The population for this study included all freshman respondents to the NSSE survey attending UTEP during the spring semesters of 2006, 2007, & 2008. Using a correlation matrix, factor analysis and path analysis, the responses to the 19 educationally purposeful activities were examined to determine if student success could be predicted.

A path analysis model was developed which identifies the relationship between the 19 educationally purposeful activities and the two dependent variables of retention and grade point average. Most of the findings in this study support current research on student engagement and student success. Several of the findings provide support to the need for more research on Hispanic, first generation students and the programs and practices that aid in their success.
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Chapter 1

Introduction

The United States education system is facing many challenges. Arguably, one of the most critical of these is responding to a rapidly changing global workforce. Following the example set by the United States, countries such as China, India, and South Korea have invested heavily in education and technology. These investments have enabled students from many developed nations to outperform United States students on international tests, particularly in math and science (U.S. Department of Education, 2006). Global competition in education is spreading at a rapid pace.

In the United States, a high school diploma, once considered desirable is now essential. In many cases a high school diploma is insufficient. The United States Department of Education (2006) recently reported that approximately 90 percent of the fastest growing jobs of the future will require some postsecondary education. In addition, if current trends continue, by 2012 over 40 percent of factory jobs will require postsecondary education.

The Department of Education (2006) also reports that approximately three out of every 10 high school freshman fail to graduate from high school. The number of black and Hispanic students is higher, approximately 5 out of 10. The overall number of students graduating from high school is abysmally low. If the United States intends to meet the growing challenges of a changing global workforce, it will be necessary to graduate students not only from high school, but to identify methods to ensure their success in higher education.

A high school graduate can expect to earn about $275,000 more over the course of their lifetime than high school dropouts (U.S. Department of Education, 2006). A college graduate can expect to earn approximately $1 million dollars more than high school graduates. In addition,
high school dropouts are three-and-a-half times more likely to be arrested than their educated counterparts. Encouraging at-risk and underrepresented students to complete their formal education is imperative to improve their quality of life. However, ensuring students attend college is just the beginning. To reap the benefits of a college education and acquire the desired learning outcomes, students must take full advantage of the learning opportunities present in college and persist to graduation (Kuh, Kinzie, Cruce, Shoup, & Gonyea, 2007).

*The U.S. Hispanic Population*

A 2008 U.S. Census press release proclaimed the Hispanic population as the fastest growing minority group in the United States. In addition to being the fastest growing segment of the population, Hispanics are also the largest minority group with a population of 45.5 million as of July 1, 2007 (U.S. Census Bureau, 2008). The Hispanic population comprises over 15 percent of the U.S. population of approximately 301 million people. Over 34 percent of Hispanics are under the age of 18 as compared to 25 percent of the total population (U.S. Census Bureau, 2008).

The majority of Hispanic children in the United States live in two-parent households. In 2006, 65 percent of Hispanic children lived in two-parent households (Santiago, 2006). This compares to 75 percent of white and 35 percent of black children living in two-parent households. Although both parents are in the home, many Hispanic children live in poverty.

In 2006, 27 percent of Hispanic families with children lived below the poverty level in the United States (Santiago, 2006). Black families with children experienced a higher incidence of poverty at 33 percent while white families were at 10 percent and Asian/Pacific Islander families living below the poverty level totaled 12 percent (Planty, Snyder, Provasnik, Kena,
Hispanic students were more likely to be first-generation college students than their peers. Approximately 29 percent of Hispanic students had a parent who had earned a bachelor’s degree or higher as compared to 41 percent for all undergraduates (Santiago, 2007).

Hispanics in Higher Education

Higher education as an institution saw a dramatic increase in overall enrollment from 1994 to 2004. At four year institutions alone, Hispanic enrollment soared by 73 percent (Padilla, 2007). According to the U.S. Census (2008), college undergraduate enrollment grew from 14.4 million in 2000 to 17.1 million in 2006. In 2005, Hispanic students made up 11 percent of the total student enrollment in higher education (National Center for Education Statistics, 2007, Table 210). This is almost double the six percent of Hispanic students present in American higher education in 1990. Although the Hispanic population is entering higher education at greater rates, they are still sorely underrepresented and lag behind their counterparts. Sixty-one percent of white high school graduates enter college compared to only 45 percent of the Hispanic population of this age (U.S. Census, 2008). The National Center for Education Statistics (NCES) (2007) reported that only 25 percent of college-age Latinos (18-24 year-olds) were enrolled in college, compared to approximately 42 percent whites, 32 percent of blacks, and about 60 percent of Asian/Pacific Islanders (NCES, Table 184). Retention in higher education, of the students in these underrepresented groups, is disparagingly poor as well.

Although there is considerable growth in the Latino community and their representation continues to increase in higher education, as a population, they still suffer chronic lower retention rates in higher education. Eighty-five percent of the youth aged 16 to 21 who were
enrolled in higher education in 2005 remained enrolled in October 2006 (U.S. Census, 2008). Enrollment levels vary by race and ethnicity. Seventy-nine percent of Asian high school graduates were enrolled in college compared with 61 percent of the white student population. The Hispanic population in this same age range lagged far behind with only 45 percent of the high school graduates enrolling in college.

In his report, *Camino De La Universidad*, to the Lumina Foundation (2007), author Ray Padilla paints a very dire portrait for Hispanic youth in the various segments of our education system. According to Padilla (2007, p. 2):

- For every 100 Latino elementary school students, 48 drop out of high school and 52 graduate from high school.
- Of the 52 who graduate from high school, 31 enroll in college.
- Of the 31 total that enroll in college, 20 go to community college and 11 go to a four-year institution.
- Of the 20 who go to a community college, 2 transfer to a four-year college.
- Of the 31 who enrolled in college, 10 graduate from college.
- Of the 10 who graduate from college, 4 earn a graduate degree and less than 1 earns a doctorate.

According to Allen (1999), Hispanic students had one of the lowest participation rates in higher education while maintaining the highest propensity to drop out of college. Hispanic students are much more likely to drop out than their white counterparts. Hispanic students are also less likely to attain a postsecondary credential within the “traditional” time frame. The traditional time frame is identified as enrolling in college within one year of high school graduation and completing the college credential within six years of the start date (Santiago, 2007). Only four percent of Hispanic students complete college in this traditional time frame compared to 15 percent of whites and 23 percent of Asians.
Hispanic Serving Institutions

Very little research currently exists on Hispanic Serving Institutions (HSI’s) due to their relatively recent inception (Santiago, 2006). In 1986, the Hispanic Association of Colleges and Universities (HACU) was created to unite and represent institutions with significant Hispanic populations (Santiago, 2006). The term “Hispanic Serving Institutions” was coined at the first HACU conference. HACU was formed in 1986 by predominantly Hispanic education and business leaders to call national attention to higher education institutions serving high numbers of Hispanics (Laden, 2001).

The first discussions of “Hispanic Institutions” at federal levels occurred during Congressional hearings held in Texas, Illinois and Puerto Rico in 1983 (Santiago, 2006). Two major themes emanated from these hearings. First, Hispanic students lacked access to higher education and the few that had begun degree programs often failed to complete them. Second, Hispanic students were concentrated at higher education institutions that received limited state, or federal, financial support to improve the quality of education offered.

The criteria for HSI’s have evolved over the past two decades. According to Benitez (1998) the only statutory reference to Hispanic Serving Institutions can be found in Title III of the Higher Education Act of 1965, which after amendments entitles HSI’s to government funding. In order to be eligible for Title III aid an institution must meet the following criteria:

- The institution must be non-profit.
- The institution must offer at least two-year academic programs that lead to a degree.
- The institution must be accredited by an accrediting agency or organization which is recognized by the secretary of education.
- The institution must have a high enrollment of “needy” students.
The institution must have low to average education expenditures.

In addition to the above criteria, for an institution to be recognized as an HSI it must meet these additional criteria:

- The institution must have at least 25 percent Hispanic undergraduate full-time-equivalent (FTE) student enrollment.
- The institution must provide assurances that no less than 50 percent of its Hispanic students are low-income individuals and first-generation college students.

In the 1998 reauthorization of the Higher Education Act, Congressman Rubèn Hinojosa (D-TX) proposed significant changes, which were enacted, to the Developing Institutions Program for HSI’s. The most notable of these changes was the elimination of the “first-generation” requirement and the additional proof that 25 percent of Hispanic students were low-income (Santiago, 2006).

It is important to note that most HSI’s were not created to educate Hispanic students. Rather, these institutions evolved into this role due to their close geographic proximity to Hispanic populations (Laden, 2001). Historically Black Colleges and Universities (HBCU’s) were created in the 1800’s to educate black students. Tribal Colleges were formed in the last 30 years with the intent to educate Native American students. HSI’s are defined by their undergraduate student enrollment rather than their institutional mission (Santiago, 2006).

It is also important to note the tremendous educational responsibilities that HSI’s possess. According to Laden (2001) approximately six percent of the higher education institutions in the United States qualify as HSI’s. The primary factor used to classify an institution as an HSI is a Hispanic student full time enrollment (FTE) of 25 percent or more. The number of institutions currently categorized as HSI’s comprise six percent of the total institutions in the United States.
Yet these institutions educate nearly 50 percent of all Hispanic college students and another 20 percent of students from other ethnic backgrounds (Laden, 2001).

**Purpose of the Study**

The purpose of this study is to determine the relationship between student engagement and student success at the University of Texas at El Paso (UTEP). At the time of this study, the University of Texas at El Paso was a participating institution in the National Survey of Student Engagement (NSSE) program. UTEP students were asked to complete the freshman and senior surveys in the NSSE program. This study examines the responses provided by freshman students on the educationally purposeful activities portion of the NSSE survey (Appendix A). This study compares the freshman student’s responses with their actual student success indicators which included their term grade point average and whether or not they were retained at UTEP for the next fall semester.

The data set used for this study was provided by the NSSE survey and the University of Texas at El Paso, Center for Institutional Evaluation Research and Planning office. The data set included student success indicators such as grade point average (GPA), age, gender, ethnicity, and whether or not the student identified themselves as a first-generation student. In addition, the data set also included the student’s responses to the 19 educationally purposeful activities.

The University of Texas at El Paso possesses numerous unique characteristics making it appropriate for such a study. The first is the fact that 98 percent of the student population commutes to school daily (UTEP Facts Brochure, 2008). This study examined the correlation between student engagement activities and actual success indicators for a predominantly commuter student population. Second, 75 percent of the students attending UTEP are Hispanic (UTEP Facts Brochure, 2009). Third, over 50 percent of the UTEP student population self
reports as first generation students. Finally, the location of UTEP in the city of El Paso which together with Ciudad Juarez creates the largest binational border community in the world, presents a rich opportunity to focus research on a dynamic and thriving population. This unique population presented a great opportunity to expand the literature relative to this under-researched segment of students. This study identified which of the educationally purposeful practices which were self-reported by this historically underrepresented population of students helped them to be successful. In addition, a predictive model was developed to assist administrators with the allocation of resources to ensure future success.

**Research Questions**

The following research questions were devised to guide the study and address the aforementioned issues specific to the retention of UTEP students:

1. Do the NSSE identified educationally purposeful activities predict student success for UTEP students?
2. Which of the educationally purposeful activities have a greater impact on student success at UTEP?
3. What is the impact of various socio-economic and background factors as identified by the NSSE survey on student success at UTEP?
4. What are the institutional factors as identified by the NSSE survey that influence student success at UTEP?
5. Is there a difference between the freshman students that persist to the next fall semester and those that do not in how they answered the educationally purposeful activities section of the NSSE survey?
6. Can the factors from the NSSE survey educationally purposeful activities section be arrayed in a theoretically compelling and empirically identifiable means?

**Significance of the Study**

The primary rationale or significance of this study was to determine which educationally purposeful activities identified on the NSSE survey are most important for the predominantly Hispanic, first generation college students attending UTEP. This study also identified the strength of correlation between the variables which were utilized to develop a predictive model of student success for the unique population of students attending UTEP. Most major research in the area of student success and engagement is based on student populations that do not include the typically non-traditional students attending UTEP.

This study contributes to the current body of knowledge by providing insight into areas and services where UTEP should focus more resources to increase student success. This line of inquiry could have further implications for the reallocation of resources for the purpose of increasing student success.

**Limitations**

The ability to generalize the findings from this study to other campuses will be limited for several reasons. First, the study was focused on a unique campus that has a very unique student body which is detailed in Chapter 3. Second, all of the participants self-selected to complete the survey. Gall, Gall and Borg (2003) reported that there are definite biases between volunteer and non-volunteers in every random sample selected for study. For this reason, the results may not be generalizable to the whole student body. Another limitation to this study involves the use of correlational statistics. This research design allows the researcher to identify relationships between variables but stops short of providing a cause and effect relationship.
Perhaps the most obvious limitation to this study is the fact that the results represent a “snapshot” in time. In addition, the study did not take into account detailed background characteristics of the survey respondents because the survey did not collect this information. Nor did the study seek to evaluate or take into consideration student success/engagement services currently provided on the UTEP campus.

**Delimitations**

One apparent delimitation for this study is that it investigates student engagement, a very complex topic, by taking a “snapshot” in time. This study is intended to be a launching pad to provide insight to help students be successful. It is definitely the beginning rather than the culmination of my research on student success as a student affairs practitioner and as a student advocate.

**Organization of the Remainder of Study**

The remainder of this study is organized in the following manner:

Chapter two contains a review of relevant literature related to student success including the various theoretical perspectives used to identify various factors of student success. The primary factors that help to construct a foundation for student success are discussed as well as the crucial elements of student engagement. Chapter 3 presents the methodology and procedures that were used to gather and analyze the data for this study. The results of analysis and findings from this study are present in Chapter 4. Chapter 5 provides a summary of the study as well as recommendations for future practices aimed at increasing student success for this cross section of students.
Chapter 2

Review of Selected Research and Literature

This literature review begins with a review of the primary theorists currently at the forefront of research on student success and student engagement. In addition, a description of the shortcomings for each theory in describing student success for the unique population present at UTEP is provided.

The first theorist presented is Vincent Tinto and his studies of student departure/dropout beginning in the early 1970’s. Tinto’s study of student departure/dropout focused on traditional aged students at predominantly residential campuses. Next, Bean and Metzner (1985) built upon Tinto’s model to look at nontraditional students and the reasons why they left school. Expanding his earlier research, Tinto (1993, 1988) developed his student departure model stating that student success was dependent upon students completing a series of phases or a rite of passage. In 1999, Alexander Astin published his student involvement theory. In an attempt to clear up confusion around student development theory, Astin’s student involvement theory “elucidates” decades of research on student development theory. Laura Rendón (2002, 1994) developed her theory of validation to more closely apply student involvement theory to culturally diverse students. Gary Edens (2007) researched student involvement at UTEP and identified specific reasons specific groups of students chose to get involved on campus. The final theorist examined will be George Kuh. In 2006, Kuh published a vast literature review on student success research. A summary of Kuh’s literature review is presented.

Tinto’s Student Integration Model

Tinto (1975) was concerned that previous literature on dropouts failed to distinguish the differences between students failing academically, thus being forced to leave school and students
voluntarily leaving of their own accord. Failure to differentiate between these two circumstances can have a significant impact on policies for higher education. It is important to understand the various aspects and processes that influence a student’s decision to leave school. In an effort to explain how these processes interact to produce attrition, Tinto (1975) developed his Student Integration Model (SIM).

Tinto’s Student Integration Model has its roots in Durkheim’s theory of suicide. Based on the premise that people were more likely to commit suicide if they were insufficiently integrated into society, Tinto (1975) wrote “one can reasonably expect, that social conditions affecting dropout from the social system of the college would resemble those resulting in suicide in the wider society,” (p. 91). Tinto (1975) believed that lack of integration into the social system of the college would lead to low commitment to the college and ultimately increase the probability that the student would leave school. At the heart of the model is the level to which the student is integrated into the social and academic systems of the institution.

Tinto (1975) believed that a student’s integration into the academic and social systems of the college most directly relate to their continuance in that college. It is important for the student to have balance within the academic and social systems. It is, however, possible for a student to achieve integration in one area but not the other thus leading to departure from the school (Tinto, 1975). Tinto (1975) did find that “other things being equal, social integration should increase the likelihood that the person will remain in college,” (p. 107).

One primary flaw of the SIM model is that it only applies to traditional residential type students (McCubbin, 2003). McCubbin (2003) does not believe the SIM model is generalizeable beyond students living on or near campus or students who enter college right after high school.
Another gap in Tinto’s SIM theory is the absence of an explanation of the role of external factors in shaping student’s perceptions, commitments and preferences (Cabrera, Nora and Castaneda, 1993). These factors play an integral role in student success as evidenced by institutional commitment to the creation of programs and policies to address them. These programs and policies will be explained in detail further in this review.

**Student Attrition/Retention History**

Bean and Metzner (1985) developed a model of student attrition, which identified why older, nontraditional students leave school. They identified four major areas which influenced student’s decisions to leave (1) academic performance, (2) intent to leave, (3) previous performance and educational goals, and (4) environmental variables. Bean and Metzner (1985) identified environmental variables as finances, hours of employment, outside encouragement, family responsibilities and opportunities to transfer. The researchers believed environmental variables played larger roles on decisions for leaving than academic variables. Academic variables included study habits, academic advising, absenteeism, major certainty, and course availability. The Bean and Metzner model suggested that assisting students in dealing with the environmental variables could make up for shortcomings in the academic variables.

One significant shortcoming of the Bean and Metzner model of student attrition is that it perceived student attrition as analogous to organizational turnover. In this context, behavioral intentions are a process where beliefs help shape attitudes and attitudes shape the student’s intent to leave (Cabrera et al. 1993). Cabrera et al. (1993) believed that this attempt at defining student retention gave too much consideration to external factors while slighting the student’s academic integration into the University.
Issues of student retention have long been of great concern to higher education institutions. According to Tinto (1993), more students dropout of their college or university prior to degree completion than are retained to graduation. The national rate of student departure from colleges and universities has remained constant at 45 percent for over one hundred years (Tinto, 1988). Historically, approximately one-half of all traditional freshmen entering college ultimately graduate. In an attempt to understand reasons students do not persist, Vincent Tinto developed his Theory on Student Departure.

Student Departure Theory

Vincent Tinto (1988) believed that students must progress through a rite of passage in order to be retained at an institution of higher education. He identified three distinct phases that make up this right of passage. The three phases are identified as separation, transition, and incorporation. Tinto believes each of these phases must be manifested in order for a student to successfully complete their degree program.

The first phase relates to separation. Tinto (1988) believed the stage of separation requires students to disassociate themselves, in varying degrees, from membership in past communities, most typically those associated with their local high school and personal residence. The separation phase may be either a simple process or a difficult transition depending on the student. Tinto (1988) did state that all separations entail some form of parting from past habits and patterns of affiliation. For separation to occur, students must disassociate themselves physically as well as socially from the communities of the past.

Tinto (1988) believed that separation may not be as difficult for students living at home while attending college. These students may not be pressured to disassociate themselves from local communities in order to establish membership in the new communities of college they are
attending, but they also may not be able to fully integrate into the social and intellectual life of the college if they do not make the separation. While persistence may be easier initially for students living at home, Tinto believed it may be measurably more difficult over the long run.

The second stage of the college student’s career, transition, is the period of passage from the old to the new (Tinto, 1988). In a very real sense this stage can feel as a sort of limbo for the student. Although they have begun the process of separating from the past, students have not yet acquired the necessary norms and patterns of behavior deemed appropriate for integration into the communities within the college setting. Without these norms and behaviors they are not fully community members and thus are not strongly tied to communities from their past nor are they fully committed to the college they are attending.

Many students experience a sense of loss and bewilderment during their first year of college. Though most students are able to adjust, many find the transition measurably more difficult and without assistance many withdraw from college very early in the academic year (Tinto, 1988). Without assistance, they often flounder and withdraw without making a serious attempt to adjust to the life of a college student. Tinto (1988) stated that problems associated with both the separation and transition stages are conditions that although stressful, do not need to force student departure from the college.

Students that are most likely to have difficulty with these first two stages are those that have not been adequately prepared for their new college experiences. Some examples might include persons of minority backgrounds, first-generation students, students from lower socioeconomic categories, older students and persons from very small or rural communities. Tinto (1988) stated the same may also apply to persons who reside at home during college. Wanting to avoid the discomfort of separation, these students may fail to perceive the need to
adjust to the new demands of college and the need to become involved in its ongoing intellectual and social life. One dire consequence of this poor perception is the conscious or semi-conscious act of limiting the amount of time spent on campus by the student. This time limitation restricts and inhibits the student’s interaction with other members of the college community thus hampering the learning of important norms and patterns of behavior required for the third phase, which Tinto identified as incorporation.

The incorporation stage involves the “taking on” of new patterns of interaction with members of the new group and establishing competent membership in that group as a participant member (Tinto, 1988). Full membership is typically marked by special ceremonies such as convocations and induction programs which announce the rewards and responsibilities afforded to new members. Although the new members may still interact with past groups, Tinto (1988) believes they do so as a member of the new group. Programs and activities identified by Tinto (1988), which help students incorporate into the institution, include fraternities, sororities, student dormitory associations, student government associations, extracurricular programs and intramural athletics. These programs assist with the incorporation phase by providing opportunities to establish repetitive contact with other members of the institution. These repetitive contacts help reinforce acceptable and expected behaviors and norms for institutional members.

Many times, new students are left to make their own way through the maze of institutional life (Tinto, 1988). Many generations of students have been forced to find their own way or “learn the ropes” of college life. Frequently, this can have a disastrous result on a college student’s success. Many individuals recently removed from the in-grained and comfortable confines of family life and their local high school communities do not have the capacity to
integrate on their own (Tinto, 1988). As a result, they fail to incorporate into the life of the college and end up leaving.

Tinto’s theory on student departure enjoys near “paradigmatic stature” in the study of college student departure (Braxton, 2000). This standing is evidenced by the nearly 400 citations and almost 170 dissertations dedicated to this topic. Even with this stature, many researchers are critical of Tinto’s student departure postulates.

**Critics of Student Departure Theory**

According to Tierney (1992), viewing college participation as a “rite of passage” is fundamentally flawed. Tierney believes Tinto misinterpreted Van Gennep’s anthropological rites of passages and that this misinterpretation may “hold potentially harmful consequences for racial and ethnic minorities” (1992, p. 603). In addition, Tinto’s model relied on information from only traditional age students, which prevents the results from being generalizable to other populations. Tierney (1992) postulates the importance of uncovering the rituals of higher education. In the case of American higher education, colleges and universities reflect the culture of the dominant society (Tierney, 1992). In the United States, the dominant culture is white.

Tierney does note that although Tinto’s theory is not generalizable to all student populations, it does “hold up well” when comparing student populations in some widely-held assumptions. Some of these assumptions include: a residential campus with an active social life is more likely to retain students than urban commuter institutions, full-time students are more likely to graduate from a four-year institution than part-time students, and traditional aged students are more likely to graduate than non-traditional aged students.
Student Involvement Theory

Astin’s (1999) theory of student involvement was in his words, “an attempt to clear up confusion and considerable research on student development theory” (p. 518). Astin’s student involvement theory is comprised of five basic postulates. First, involvement refers to the amount of physical and psychological energy a student focuses on educational endeavors. Second, regardless of the specific endeavor, involvement occurs on a continuum. Third, involvement can be measured both quantitatively and qualitatively. Fourth, student learning and personal development is directly proportional to the quality and quantity of student involvement in the program or endeavor. Finally, the effectiveness of any educational policy or practice is directly related to the capacity of the program or practice to increase student involvement.

Astin (1999) believes his student involvement theory provides a crucial link between input variables such as subject matter, and resources, and the all important student outcomes such as grades and retention. This theory encourages educators to focus less on what they do and more on what the student does. Involvement theory also “suggests that the most precious institutional resource may be student time,” (Astin, 1999, p. 522). The way in which the student utilizes their time is critical to determining their success at an institution.

One major flaw in Astin’s involvement theory focuses on the race/ethnicity of the researcher and the subjects. Rendon, Jalomo and Nora (2000) stated that much of the research on student involvement to this point has been completed by predominantly white researchers on student body’s that are populated with very few minority students. Currently, college campuses are experiencing a stronger enrollment of culturally diverse students, yet the prevailing research on student involvement is based on a predominantly white male subject base. The major flaw is that involvement theory lulls institutions into believing that, “getting students involved is a
relatively easy task since they also assume that all students, regardless of background, are ready, willing, and able to get involved,” (Rendon et al., 2000, p. 145). In fact, many non-traditional students find it very difficult to get involved.

Theory of Validation

Rendon et al. (2000) defined traditional students as coming from middle- to upper-class predominantly white families where at least one if not both parents have attended college and the expectation of their children attending college is well established. In contrast, nontraditional students tend to come from working class families, are older, work part-time and are predominantly minority and first generation students (Rendon, 1995). Rendon (1995) believed validation rather than strictly involvement is what assists culturally diverse students and has a profound impact on student success.

Rendon’s (1995) theory of validation is an enabling, confirming, and supportive process initiated by in- and out-of-class agents that fosters academic and interpersonal development. The theory of validation is composed of the following six elements. First, institutional agents must initiate contact with students. Second, when validation is present, students will feel capable of learning as well as a sense of self worth. Third, validation is a prerequisite to student development just like involvement theory. Fourth, validation can occur in and out of the classroom with faculty, staff, family friends, children and partners. Any person with a close relationship to the student can play a role in the validation process. Fifth, validation is a developmental process as opposed to an end result. Finally, validation is crucial early in a student’s college experience. Rendon (1995) believed it to be critical for a student to experience validation efforts during the first year of college and preferably during the first few weeks of attending class.
The primary difference between validation theory and student involvement theory lies in who is responsible for taking the first step. Student involvement theory promotes the responsibility of the student to play an active role in their education thus taking the initiative to get involved. The theory of validation requires college administrators to be proactive not only in “promoting involvement but in affirming students as knowers and valuable members of the college learning community,” (Rendon, 2000, p. 645). For many culturally diverse students, the process of institutional agents promoting involvement is how they perceive student involvement to work (Rendon et al., 2000).

Rendon et al. (2000) stated that the main emphasis should not be on attempting to determine which theories work for minority students. Rather, the emphasis should be placed on determining the “theoretical foundations and methodologies that are needed to fully understand and facilitate the retention process for the increasing numbers of minority students in the ever growing complex and multiracial campuses administrators are working with” (Rendon et al., 2000, p. 131).

Edens’ study (2007) utilized Rendon’s (1994) theory of validation as a conceptual framework for studying student involvement at UTEP. The results of this study were consistent with Rendon’s (1994) finding of culturally diverse student’s needs for validating agents.

*Student Involvement at UTEP*

The unique population present at UTEP has spawned research in an attempt to quantify and qualify these student’s experiences. The topic of Edens’ (2007) research was student involvement at UTEP. Specifically, this research was conducted to gain insight on the involvement experiences of UTEP students.
Edens (2007) identified three distinct groups of students that were prominent, numerically on the campus. They included Mexican-American, Anglo-American, and Mexican-National. Edens (2007) researched the motivation for these students to get involved in campus life, the student’s perceived benefits for getting involved, and the student’s perceptions of their experiences at a border institution.

According to Edens (2007) the motivation for each of these groups to get involved varied tremendously. The Mexican-National students utilized terms like networking, building one’s resume and preparing for the work force as reasons they got involved on campus. Students identified as Anglo-American stated they got involved at UTEP because they had positive experiences being involved during high school. The Mexican-American students reported the desire to be a well rounded student and wanting the opportunity to give back or make a difference as their primary reasons for getting involved on campus.

Although the reasons for wanting to get involved on campus were varied between the three groups, the perceived benefits of getting involved were similarly reported by each of the groups. Edens (2007) reported all three groups indicated personal growth and the opportunities to meet people from diverse backgrounds as major benefits to being involved in campus activities. All three groups also identified a stronger sense of community and an increase pride in the university as by products of being involved.

Edens (2007) also identified the impact that living and studying on the Mexican/American border had on each of the groups. Students in the Mexican-American group reported being conflicted about their own identity (Edens, 2007). This group expressed much consternation about being pulled between the American culture they lived in and their Mexican heritage. Students in the Mexican-National group were actually very comforted with the amount
of Spanish spoken both at the University and in El Paso. These students reported this as a
tremendous help in their transition to an American university. Anglo-American students
expressed a sense of isolation from other populations at UTEP (Edens, 2007). Although the
Anglo-American students had all lived in El Paso for many years, none were fluent in Spanish
and all recited this as the primary reason for their feelings of “sticking out” (Edens, 2007, p. 82).

Edens (2007) concluded several important findings from this study. First, students
perceived their involvement in campus activities as greatly enhancing their time management
skills. Their enhanced time management skills were credited with assisting them in balancing the
demands of their coursework, thus increasing their academic success. Second, the overwhelming
majority of students involved in this research declared they had become involved due to the
direct result of an intervention on the part of a UTEP agent that “took an interest in them as an
individual,” (Edens, 2007, p. 118). The students in this study reported being doubtful that they
would have taken the initiative to get involved without this intervention. Lastly, Edens (2007)
reported that involvement breeds involvement. The students involved in this study reported how
becoming involved in one activity or organization helped to open the doors to more involvement
opportunities.

Eden’s study examined student’s perceptions of involvement and the resulting benefits. It
did not identify specific involvement activities on the part of the students. This study also did not
identify institutional factors that may or may not be credited with aiding in the success of these
students.

In an attempt to incorporate all of the major research conducted on student departure,
retention, involvement, and validation, the broader concept of student success was formed. The
next section of this review will focus on the specific areas within the concept of student success.
Theories on Student Success

Tinto’s theory of student departure is one of the foundational pillars of the broader concept of student success. Student success is the term commonly used to describe all theories aimed at helping students persist through admission to graduation from an institution. In 2006, Kuh, Kinzie, Buckley, Bridges & Hayek, published the commissioned report *What Matters to Student Success: A Review of the Literature* for the National Postsecondary Education Cooperative. This report represents a comprehensive review of the theoretical perspectives as well as the foundational elements of student success. The next section of this literature review provides a summary of the Kuh research team’s comprehensive review. It will begin with a definition of student success as well as a review of the theoretical perspectives as identified by Kuh et al. (2006). Next a description of the core foundation components is included.

Defining Student Success

The concept of student success is open to many interpretations and assumptions (Stengel, 1981). While many consider degree attainment to be the definitive measure of student success, there are many other quantifiable measures such as enrollment in post-secondary education, grades earned, grade point average (GPA), persistence to the sophomore year, length of time to degree and graduation (Kuh et al., 2006). Many educational administrators, political officials, parents and students consider degree attainment as the definitive indicator of student success (Kuh et al., 2006).

Student success has also been linked with many desired student and personal development outcomes, which have a positive impact on the student and the greater society. Some outcomes include becoming proficient in writing, critical thinking, speaking, and scientific literacy. In addition, student success is linked with more highly developed levels of personal
functioning as represented by self-awareness, self-confidence, self-worth, social competence and a sense of purpose (Kuh et al., 2006).

Student success indicators must be broadened further to make certain they pertain to different categories of students, including nontraditional students, and first generation students (Kuh et al., 2006). Rendon (1995) identified different indicators of Latino student success such as believing in one’s capacity as a learner, being excited about the learning process, and feeling valued as a student and a person. Kuh et al. (2006) believed it is important for all students to transform from being a repository for information to becoming a self-directed, lifelong learner, especially those students who have been historically underserved by higher education.

In their report, the Kuh team members summarized five theoretical perspectives they believe represent a holistic approach to studying the concept of student success. These perspectives include sociological, organizational, psychological, cultural and economic.

Sociological Perspective

The Kuh team identifies Tinto’s interactionalist theory as the dominant sociological perspective. As discussed previously, Tinto believed that students who leave college were unable to effectively distance themselves from their family or community of origin, and adopt the values and the behavioral patterns that typify the environment of the institution they are attending (Tinto, 1993).

Tinto believed academic and social integration into an institution are complementary but independent processes that students must progress through to effectively adjust to college life (Kuh, et al., 2006). Academic integration refers to student compliance with both explicit norms and normative academic values of the institution. An explicit norm could include earning passing grades whereas an example of a normative value might include a research institution that values
science over art. Social integration refers to the extent to which a student finds the social environment at an institution to be compatible with their personal preferences.

Tinto proposed that increased levels of academic and social integration lead to higher levels of commitment to the institution which in turn increases the likelihood the student will persist and graduate (Kuh, et al., 2006). According to Kuh et al., this is consistent with status attainment theory and literature on first-generation students.

Social networks also play a major role in a student’s success in college. Interpersonal relationships both on and off campus can play a role in shaping a student’s success. It is necessary to examine the values and norms of on-campus relationships as well as those at home (Kuh, et al., 2006). Researchers agree that it is important for students to make connections with peers and faculty members early during their college careers (Berger and Milem, 1999; Attinasi, 1989).

Although researchers disagree on any best ways to operationalize Tinto’s model, most agree that student success depends heavily on the student’s ability to negotiate foreign environments and interact effectively with strangers (Kuh and Love, 2000). Skahill (2002) found that commuter students typically had fewer friends in college and were less likely to persist to graduation. In contrast, students living in on-campus residences made more new friends, were better connected with the institution and subsequently persisted at higher rates than their commuting counterparts. Kenny and Stryker (1996) found that social adjustment for ethnically diverse students was primarily a function of their family support networks, but for white students their social adjustment depended heavily on their college friendship networks.

Social networks have been likened to psychological safety nets for students (Pescosolido, 1994). Although the intent is to provide support, there can be little flexibility to these
psychological safety nets. Balance and moderation is important for these safety nets to function effectively and provide support rather than allowing students to slip through the cracks. Chamberlin (2005) believes that social networks help explain why some students struggle with social integration while family support plays such an integral role in the same process.

**Organizational Perspective**

Theories on student success based on organizational perspectives examine institutional structures and processes that are believed to affect student performance. Some of these items might include institutional size, selectivity, resources available to students, and faculty-student ratios. One of the most cited organizational perspectives is Bean’s (1983) industrial model of student attrition. This conceptual framework posits that beliefs shape attitudes, attitudes shape behaviors, and behaviors signal intents. A student’s beliefs are affected by their experiences at an institution. These experience shaped beliefs then shape the students attitudes about the institutions. These attitudes help determine the student’s sense of belonging or “fit” within the institution (Bean, 1983).

**Psychological Perspective**

Theories centered on the psychological perspective of student success focus on personal cognitive development. Bean and Eaton’s (2000) use of attitude-behavior theory emphasizes the important role student characteristics, such as self-efficacy, play in a student’s success in college. Students with a strong, more developed self-concept are more likely to be successful due to their higher confidence levels in their abilities. Students with lower levels of self-confidence are more likely to flounder and give up when encountering difficult situations.

Dweck (2000) believed similarly that most students tend to cling to either an entity view or an incremental view of their abilities. A student with an entity view believes that their
intelligence level is fixed. It cannot be expanded. Students with an incremental view believe their intelligence can be expanded through continued learning and experience. Dweck did discover that student’s views of their abilities can be altered somewhat by “starting with what they are good at” when studying a new subject. Kuh et al. (2006) pointed out that these viewpoints have powerful implications for historically underserved students and first generation students who tend to doubt their abilities to complete college level work and persist through coursework to graduation.

Cultural Perspective

Cultural perspectives of student success theorized that students from historically underrepresented groups encounter obstacles which make it difficult for them to take advantage of their institutions resources for learning and personal development (Kuh et al., 2006). Student’s perceptions of the institutions dominant values and norms influence how a student thinks and spends their time. One point of contention is whether a student needs to or should be expected to conform to the prevailing institutional norms and mores if they conflict with the student’s personal values (Tierney, 1992).

Economic Perspective

If a student perceives the costs of going to college outweigh the benefits they are likely to depart early. Braxton (2003) identified the tangible costs of staying in school as tuition and lost wages. He also pointed out the less tangible costs of obtaining more knowledge and skills and enjoying a higher overall quality of life. It is important for colleges to help students understand the benefits they will receive from the enhanced knowledge, developed critical thinking skills, and lifelong learning principles they will obtain in college. It is equally as important for
institutions to inform students how these benefits increase their chances of securing a better job and ultimately living a more satisfying lifestyle (Kuh et al., 2006).

**Foundations for Student Success**

Once the major theoretical perspectives on student success in college were identified and summarized in their literature review, the Kuh research team identified four foundational areas perceived to have the most impact on a student’s success. These four areas include: (1) the student’s background and pre-college experiences, (2) the student’s post high school activities that emphasize engagement in educationally purposeful activities, (3) higher education institutional conditions that foster student success, and (4) the desired outcomes of college and post-college indicators of success (Kuh, et al. 2006). The next section of this literature review summarizes the student success foundation components as identified in the Kuh report.

**Student’s Background and Pre-college Experiences**

Whether or not a student will be successful at college depends largely on who they are and what they do prior to starting their post-secondary education. Where and how they choose to attend college can have a tremendous impact on their overall success and persistence in college. This next section will review the student background characteristics and pre-college experiences that the Kuh team identified as important. These background characteristics include gender, race and ethnicity, academic preparation in high school, family educational background, persistence, educational aspirations and family support, socioeconomic status, financial aid, pre-college encouragement programs, enrollment patterns, and the number of institutions a student attends.

**Gender**

The number of male and female students attending college has changed dramatically over the past century. From 1900 to 1930 the numbers of female and male students attending college
were roughly equal. After World War II and as a result of the GI Bill, the number of males attending college increased drastically which led to males outnumbering females 2.3 to 1 by 1947 (Goldin, Katz, and Kuziemko, 2006). Since that time, the number of women enrolling in higher education has increased dramatically. Between 1952 and 2002, the college participation rate for women grew from 39 percent to 68 percent while the male college participation rate grew from 54 to 62 percent (Goldin et al., 2006). During this same period the percentage of women high school graduates grew more than their male counterparts. In addition, the majority of bachelor’s degrees were awarded to women in 2001 as compared to the majority being awarded to men in 1970. Goldin et al. (2006) believe that overall changing societal attitudes towards women in the workplace and the greater economic benefits of attending college for women are the primary reasons for the tremendous growth of the number of females attending higher education.

*Race and Ethnicity*

There are large differences between blacks and whites, and whites and Latinos in terms of academic preparation for college (Braswell, Lutkus, Grigg, Santapau, Tay-Lim, and Johnson, 2001). These differences are most profound when comparing socioeconomic status (SES). In its 2006 report, the American College Testing (ACT) Program revealed that 67 percent of Hispanics and 67 percent of students from families with annual incomes below $30,000 are not prepared for college-level work with college-level reading skills. Among students in lower SES standings, men were less likely to immediately enroll in college than their female counterparts. There is also disparaging differences between high school graduation rates between these three groups. African American students completed high school at a rate of 77 percent. Latino students completed high school at a rate of 57 percent. While white students completed high school at a
rate of 82 percent. Similarly, African American and Latino college participation was equal at 35 percent but trailed that of white students at 43 percent (Carter and Wilson, 1997). Students coming from lower SES backgrounds are less likely to pursue a post-secondary education.

**High School Academic Preparation**

The overall quality and rigor in the high school curriculum is one of the best determinants of success in postsecondary education. Past success is a strong indicator of future success. Researchers believe that students best prepared coming out of high school are most likely to be able to succeed in college (Gladieux and Swail, 1998). College admissions offices have long utilized high school grades as a standard for admission. High school grades have proven to be a consistent and strong predictor of first-year college grades (Pike and Saupe, 2002).

About 90 percent of students who complete four years of math, science, and English in high school are likely to persist in college to graduation. This compares to roughly 60 percent of the students not completing this coursework (Adelman, 1999). Adelman also found that completion of high-level mathematics courses in high school such as algebra II, precalculus, trigonometry, and calculus is the single best high school predictor of good academic performance in college. Unfortunately, the opportunity to take advanced level classes is not distributed equally for all high school students. Many students from lower SES categories are likely to attend schools where advanced math classes are not offered.

**Family Educational Background**

Approximately 33 percent of all college students come from families where neither parent has completed their college education (NSSE, 2005). Nuñez and Cuccaro-Alamin (1998) identify first-generation students as predominantly female, older, with lower incomes, married, and with dependents. These characteristics unfortunately serve as inhibitors to success in college.
Just as high school grades can serve as a predictor of college student success, various factors confronting first-generation college students can serve as major obstacles to their success. First-generation students are less knowledgeable about how to apply for college and financial aid, tend to have lower grades in high school, are less engaged overall in high school and are less likely to have completed advanced math classes (High School Survey of Student Engagement 2005; Terenzini, Yaeger, Pascarella, and Nora, 1996).

Although a rigorous high school curriculum can help to level the playing field for first-generation students, the odds are still against them succeeding in college. Kuh et al. (2006) reported that after controlling for socioeconomic status, institution type, and enrollment patterns, the status of being a first-generation college student still has a negative impact on persistence to graduation. Pascarella and Terenzini (2005) stated emphatically that “students whose parents held a bachelor’s degree or higher were five times more likely to earn a bachelor’s degree than were first-generation students (50 percent to 11 percent)” (p. 590).

Given the overall life situations facing first-generation students, many tend to have different priorities for college than traditional students (Kuh et al. 2006). For many first-generation students, their choice of educational institutions to attend is highly influenced by the amount of financial aid awarded, the ability to work while taking classes, and the possibility of living at home while attending school. For many first-generation students, working is not a “choice” but a means of survival (Kuh et al. 2006). As a result, these students are less likely to complete their degree within a five-year time frame, if they are able to complete it at all. First-generation students are more likely to stop out or drop out than their counterparts.
Persistence

According to Kuh et al. (2006) persistence studies tend to focus on programs that promote continuous student enrollment. Persistence to graduation can be challenging for first-generation students because they earn fewer credits their first year, are more likely to take remedial courses and are more likely to have to repeat a course. Persistence is also believed to be more challenging when the student does not live on campus (Pike and Kuh 2005). Ultimately, Swail (2003) perceives the challenges of persistence to be similar for all students and can be categorized as academic preparedness, the acceptance within the campus climate to diversity, the students’ commitment to their academic goals, social and academic integration, and the availability of financial aid.

Educational Aspirations and Family Support

An overwhelming majority of students (97 percent) of all races reported having aspirations of attending some form of post secondary education (NCES, 2003). The problem is that many do not follow through on their initial intent, and fail to pursue their education after high school. Kuh et al. (2006) reports that high school teachers may diminish some of these students’ aspirations by having lower expectations for their students than the students’ or their parents’ possess.

Perna and Titus (2005) believe that student aspirations and strong family support can portend student success. Early planning for college, on-going discussions with parents and school counselors, and activities like college visits can have a positive impact on a students’ decision to attend college. Parents and peers can influence both enrollment and persistence for students. Typically, underrepresented students perform better when their parents and peers affirm
their decision to attend college and encourage them to persist and stay the course to graduation (Perna and Titus, 2005).

**Socioeconomic Status**

Having sufficient economic resources can increase the likelihood of student success (Kuh et al., 2006). The level of a families’ SES determines the kind of school and classroom environment to which a student has access (Coleman, 1988). The kind of school and the type of classroom directly influence the academic rigor and preparation a student can obtain from high school.

According to Choy (1999) high school graduates from the bottom 20 percent SES were less likely to attend a two or four year college immediately after high school. Students from lower SES families attended college immediately after high school 49 percent of the time as compared to 63 percent of the students from middle income and 78 percent of students from high income families (Choy, 1999).

**Financial Aid**

The number of students attending college with unmet financial need has increased dramatically over the past two decades (National Center for Public Policy and Higher Education 2002). Since 1958, the tuition inflation rate has hovered between 6 percent and 9 percent per year (Krantowitz, 2009). During this time frame, the tuition inflation rate has consistently been higher then the general inflation rate. An eight percent college inflation rate means that the cost of college doubles every nine years (Krantowitz, 2009).

Federally funded financial aid should foster student success because student’s calculated financial needs increase as the families’ ability to pay decreases (Kuh et al., 2006). The federal
need based financial aid program is also intended to increase choice for the student by increasing
the calculated need as the price of attendance increases as well.

Financial aid in the form of grants can have a strong effect on low-income students (Kuh
et al., 2006). According to the National Center for Education Statistics (2000) low-income
students facing financial problems were less likely to earn a degree than their “not-low-income”
counterparts.

Many students are forced to work to help defray the costs attending college. Unmet
financial need and insufficient amounts of institutional aid provided to students may force
students to work a considerable amount of hours to make ends meet (Kuh et al., 2006). Astin
(1993) found a negative correlation between students working at a job off-campus and retention.
One reason offered for this negative relationship is that working off-campus takes away from the
time the student has to spend integrating on campus.

Pre-college Encouragement Programs

Kuh et al. (2006) pointed out that recent research has determined that many students,
especially those from underserved backgrounds, lack accurate information about postsecondary
options. Much of this confusion comes in the areas of actual tuition costs, expectations for
postsecondary academic work and the content contained on college entrance and placement
exams.

In recent years, parental involvement and college outreach programs appear to be
reducing some of this confusion (Kuh et al., 2006). Two examples of these types of programs are
the Parent Institute for Quality Education and the Puente Project. These California based
programs are designed to bring together Latino families, students, teachers, and counselors to
learn about postsecondary offerings and how to work through the financial aid process (Chrispeels and Rivero 2001).

There are many promising precollege encouragement programs currently operating. Some of these include Upward Bound, Upward Bound Math/Science, Student Support Services, Talent Search, Educational Opportunity Center, and McNair Program (Pathways to College Network, 2004). These initiatives comprise the TRIO programs which are funded under Title IV of the Higher Education Act. Students participating in the TRIO programs are twice as likely to graduate from college as students who do not participate but come from similar backgrounds (Kuh et al., 2006).

Enrollment Patterns

Kuh et al. (2006) point out that enrollment patterns are important because it matters where and when students start college. Choosing between two-year and four-year schools or choosing to begin immediately after high school or taking time off can be the difference between success and departure. All research on enrollment patterns shows that delaying postsecondary enrollment greatly reduces the chances that a student will persist to graduation (Adelman, 2006).

Number of Institutions Attended

Adelman (2006) identified a common pattern of enrollment for students. It is becoming increasingly popular for students to attend two or more institutions on the road to a degree. This meandering between institutions can include co-enrollment (attending two institutions simultaneously, also known as overlapping enrollment or dual enrollment) or attending one institution without transferring officially from the first institution (Adelman, 2006).

The process of moving from one institution to another has also been called “swirl”. It is important to understand the dynamics and consequences of swirling. According to Kuh et al.
nearly sixty percent of students from the 1992 high school graduating class who earned an undergraduate degree by December 2002 attended more than one institution. Adelman (2006) also identified that approximately 47 percent of students who earned a bachelor’s degree in 1999-2000 had attended more than one institution during the course of their education.

Student background characteristics and precollege experiences play a major role in determining whether a student will enroll and be successful in college. While all students face challenges during their pre-college experiences, students from at-risk populations face additional challenges as previously discussed. Some of these challenges can be diminished with participation in one of the established programs. As discussed, the best predictor of college grades is comprised of a combination of a student’s academic preparation, high school grades, and educational aspirations and motivations (Kuh et al., 2006). Once a student starts college the amount of engagement they demonstrate plays a major role in their success. The next section will discuss the second foundation identified by Kuh et al. (2006) which describes behaviors, activities, and experiences in college that predict success.

Behaviors, Activities, and Experiences that Predict Student Success

The second foundation of student success identified by Kuh et al. (2006) focused on student’s engagement in educationally purposeful activities after high school. Student engagement is broadly defined as the extent to which students participate in educationally effective practices (Kuh et al. 2006). “What students do during college counts more for what they learn and whether they will persist in college than who they are or even where they go to college” (Kuh et al., 2006). The amount of time students spend on educationally purposeful activities is perhaps one of the best indicators of their learning and personal development which translates into student success. Kuh et al. (2006) defined student engagement as the intersection
of student behaviors and institutional conditions. These are two areas that institutions have some control over unlike the level of preparedness or pre-college characteristics that students possess. There is a large body of research demonstrating the more students engage in educationally effective practices, the more they learn and the more likely they are to persist through to graduation from college (Astin 1993; Kuh et al. 2006; Pascarella and Terenzini 2005; NSSE 2005).

The different areas of student engagement identified by Kuh et al. (2006) include: expectations for college, college activities, faculty-student contact, peer interactions, experiences with diversity, cocurricular activities, and student satisfaction. Kuh and his research team believed it was also important to identify characteristics of engagement for various groups of students. Next a summary of the areas of engagement are presented.

*Expectations for College*

It is crucial to understand what students expect from their college experience and critical for faculty members to utilize instructional practices to help students become “intentional learners (Association of American Colleges and Universities, 2002). It is also important for an institution to craft practices and policies that are able to effectively address students’ learning needs (Miller, Kuh, Paine, and Associates, 2005). When a students’ reality on campus is appropriately aligned with their expectations and their experiences the outcome is typically a win-win situation for the student and the university. This situation results in higher student satisfaction which typically translates into persistence through to graduation.

Another reason it is important to understand the degree to which college expectations and experiences are congruent is because more first-generation students are arriving on campus with less knowledge about what college is like (Kuh et al., 2006). If their perceptions are off, they will
be less prepared to deal with the challenging environment they face which translates into lower persistence to graduation.

Further research is needed to determine if students’ expectations are “well formed enough” to be reliable predictors of persistence and success to prove an empirical answer (Pascarella and Terenzini, 2005). Kuh et al. (2006) believed that students do have a fair understanding of many of the aspects they will face when they enter college. Although students seem to understand what they will face, often their perceptions are wrong when estimating what the campus environment will be like. According to Kuh et al. (2006) many students overestimate the educationally purposeful activities they will engage in and the diverse encounters they will have with other students. The expected and reported levels of engagement vary by student characteristics and by institution type (Astin, 1993). Students from smaller institutions report higher levels of engagement than students at larger schools. Women tend to expect higher levels of participation during their college experience than men.

College Activities

Kuh et al. (2006) suggest the College Student Expectations Questionnaire (CSEQ), the National Survey of Student Engagement (NSSE), and the Community College Survey of Student Engagement (CCSSE) all focus on students’ activities associated with desired learning outcomes, persistence, and student satisfaction. The Kuh et al. (2006) research team identified seven conclusions on student engagement from these studies that point to student success. The seven conclusions identified are:

1. Student engagement in educationally purposeful activities is positively related to both grades and persistence.
2. Though smaller schools generally engage students more effectively, colleges and universities of similar sizes can vary widely.

3. Student engagement varies more within any given school or institutional type than between schools or institutional types.

4. Student engagement in effective educational practice is unrelated to selectivity.

5. Some groups of students are typically somewhat more engaged than others.

6. Some single-mission institutions often confer engagement advantages to their students.

7. The single best predictor of student satisfaction with college is the degree to which they perceive the college environment to be supportive of their academic and social needs.

Faculty-Student Contact

There are many studies detailing the positive correlations between student success and student contact with their professors (Astin, 1993; Pascarella and Terenzini, 2005; Tinto, 1993). Astin (1993) further details that student interactions with faculty outside the classroom – like being a guest in a professor’s home, serving on committees with faculty, having lunch with a faculty member – are positively correlated with student learning and development.

Student success and persistence are positively correlated with interactions that students have with “supportive” adults on campus both in and out of classrooms (Pascarella and Terenzini, 2005). According to Kuh et al. (2006) “for most students most of the time,” (p. 72) high levels of faculty interaction have positive results.
**Peer Interactions**

Who students choose to spend time with is very important to their overall success. Astin (1993, p. 398) came to the following general conclusion, “the student’s peer group is the single most potent source of influence on growth and development during the undergraduate years.” Astin (1993) also identified a variety of activities between peers that have demonstrated a positive correlation on student development including: discussing course work, working on group projects, tutoring other students, participating in intramural sports, joining a fraternity or sorority, socializing with someone from a different ethnic group, discussing issues of diversity, being elected to a student office, and socializing in student clubs or organizations. Peer interactions play a major role in the social integration process for students.

**Experiences with Diversity**

As stated in the previous section, peer interactions play a major role in the overall development and growth of a student. Discussing issues of diversity with students from different races/ethnicities helps to enhance this development (Astin, 1993). The NSSE (2005) data identified that first year students were more likely to interact with students from different racial backgrounds than their upper classman counterparts. Kuh et al. (2006) believed this may be due to the fact that more first year students live in on-campus housing than do upper class students.

**Co-curricular Activities**

Co-curricular activities affect persistence in a positive manner. Pascarella and Terenzini (2005) identified the positive effects of these type of activities were stronger in first-year persistence for women than for men. Although involvement in these activities shows a strong positive correlation to desired student outcomes including persistence, over 40 percent of first-year students reported spending no time on these activities (Pascarella and Terenzini, 2005).
Student Satisfaction

Student satisfaction is an important component in the overall retention process as it signals a student’s sense of belonging to an institution (Lenning, Beal, and Sauer, 1980). Student satisfaction depends more on actual environmental experiences on the campus than on entering student characteristics (Astin, 1993). Astin (1993) also stated that student satisfaction is highest when the frequency of student to faculty, and student to student interactions are high as well. Student satisfaction has a positive association with undergraduate GPA and retention (Astin, 1993).

Some of the more difficult measures of student success come from attempts to identify the varying degrees to which students are satisfied with the experiences and the level of comfort they feel in their learning environment (Kuh et al., 2006). Together with the students’ perception of institutional quality and their willingness to attend the same institution again, general student satisfaction is the precursor to educational attainment and other dimensions of student success (Kuh et al., 2006).

Student Characteristics

As previously discussed, individual student characteristics shape the overall college experiences that each student encounters. For this reason, it is helpful to understand engagement patterns for the following groups of students.

First-Generation Students

As presented earlier in this review, first-generation students tend to have less knowledge of the activities and expectations present on a college campus. It is no surprise then that they also tend to be involved in fewer purposeful activities than their second generation counterparts (Kuh et al., 2006). First-generation students are unable to turn to their parents for help since the
parents typically lack knowledge of the activities present or the importance of their child’s involvement in engagement activities.

**Race and Ethnicity**

NSSE (2005) data reported that students from different racial and ethnic backgrounds are involved in educationally purposeful activities at comparable rates to all other groups. Latinos and whites report the overall highest satisfaction rates, while African American students tend to be the least satisfied (NSSE, 2005).

**International Students**

Kuh et al. (2006) reported that international students tend to be more involved in educationally purposeful activities than American students. These activities include interacting with faculty members and taking part in diversity related activities. These same students report spending less time socializing and relaxing.

**Transfer Students**

The transfer student category is divided into two groups, transfers from two-year colleges and transfers from four-year colleges. Transfers from two-year colleges reported interacting less with faculty and participating in fewer educationally purposeful activities (NSSE, 2005). Their four-year institution transfer counterparts reported more experiences participating in active and collaborative learning, even though overall they reported being less satisfied with their college experience. In general, transfer students reported lower rates of satisfaction than seniors who started their studies at the same institution they were currently attending.

**Fraternity and Sorority Members**

Overall, students participating in Greek letter organizations report high levels of engagement and subsequently student satisfaction for all segments of the student population
(Kuh et al., 2006). First year students living in Greek housing spent more time participating in cocurricular activities which are believed to have a strong positive relationship with higher levels of social integration. Astin (1993) however did find a negative correlation to being a member of a Greek community. Although the correlation was weak it was statistically significant.

**Student Athletes**

NSSE (2205) showed that athletes tend to participate in as many or more educationally purposeful activities than their non-athletic classmates. Student athletes report higher levels of satisfaction with their academic advising and are more likely to participate in community service projects. Student athletes also report greater gains in understanding people from different backgrounds than their own (NSSE, 2005). Student athletes also reported interacting with faculty more frequently discussing assignments and working on activities other than homework. As with students in general, student-athlete’s experiences vary between institutions and within them (Unbach and Kuh, 2004).

For student athletes and general students, student engagement is critical to the overall success and retention to graduation. For a student to succeed and get the most out of their college experience, they must actively participate in their education. As demonstrated, student engagement has a strong positive correlation with positive student outcomes such as persistence, grades, and overall satisfaction with their educational experiences (Kuh et al., 2006). In spite of this, research shows that some students are less engaged than others. First-generation students, males, transfer students and students living off-campus report lower levels of engagement. The next section of this literature review will discuss institutional conditions that are associated with increasing levels of engagement for students and promoting overall student success.
Institutional Conditions Associated with Student Success

Having demonstrated the importance of student engagement, the focus of this review now shifts to the policies, programs and practices that institutions must focus attention on to encourage student engagement. Kuh et al. (2006) summarized the literature across four broad and overlapping categories; structural and organizational characteristics, programs and practices, teaching and learning approaches, and student-centered campus cultures.

Structural and Organizational Characteristics

The structural characteristics of an institution refer to items such as size, mission, residential components, student-faculty ratios and diversity of the campus culture (Kuh et al., 2006). Pascarella and Terenzini (2005) determined that most of these features have little effect on student success when controlling for student characteristics. Kuh et al. (2006) reported that although these features have been determined to have little effect on student success, some structural characteristics appear to consistently be related to “traditional” measures of student success.

The institutional attribute of size is believed to have little if any affect on measures of student success (Astin, 1993). Titus (2004) tested Bean’s student attrition model and found the only institution-level variables that influenced student persistence were size and selectivity. Titus (2004) also concluded that differences between institutions were not as important as differences between students. Most importantly, Titus concluded that student persistence is impacted more by characteristics such as gender, SES, enrollment patterns, and engagement levels as opposed to the size of the institution.

Living on campus, while attending college has long been associated with persistence, success, and overall student satisfaction (Pascarella and Terenzini, 2005; Astin, 1993). Students
living on campus tend to take advantage of more opportunities to interact with faculty and other students. These students tend to report greater satisfaction levels with their undergraduate experiences.

Structural diversity on campus deals with many broad aspects surrounding the concepts of diversity. A diverse student body is associated with greater interaction between groups of students and more positive relations (Hurtado, Milem, Clayton-Pedersen and Allen, 1998). It is also good to increase the diversity of faculty and staff and provide appropriate support networks. Students who have more engagement with diverse practices report higher levels of personal and educational growth, more involvement in collaborative and active learning, and overall higher satisfaction levels with their college experience (Kuh et al., 2006). Persistence is also positively related to diverse campus experiences for ethnic/racial students as well as whites (Hurtado et al., 1998).

The organizational structure of an educational institution, which is defined as the patterns and processes of behaviors exhibited by administrators on campus, does have an impact on student learning (Kuh et al., 2006). Berger (2002) determined that the more an institution focuses on external connections and influences in organizational decision making the more likely these processes will have a negative effect on student learning. Berger (2002) believed this is so because these institutions are not able to focus on what is happening inside the campus particularly in the area of support for student learning.

Kuh, Kinzi, Schuh, Whitt, and Associates (2005, p. 25) state “the mission establishes the tone of a college and conveys its educational purposes.” The mission provides direction to all aspects of the institution including policies and practices that foster student success. Campuses that have an “enacted” mission committed to student success appear to have a positive
correlation with graduation rates, persistence, and student engagement then those with an espoused, written mission statement (Kuh et al., 2006). Kuh et al. (2006) state that minority students attending “special mission institutions” tend to have higher graduation rates than their counterparts at primary white institutions (PWI). In the case of Hispanic students, Laden (2001) proposes that Hispanic administrators in particular play a key role in facilitating academic success and social integration.

Programs and Practices

Kuh et al. (2005) identified acculturation and alignment as the primary means of providing “clear pathways to succeeding in college” (p. 109). Acculturation is the process of teaching the student what the institution values and how successful students are expected to perform. Alignment is the process of providing students “what they need when they need it,” (Kuh et al., 2005, p. 110). Providing clear pathways to student success also requires the institution to have responsive systems in place designed to support teaching, learning, and student success.

New Student Adjustment

To increase levels of student success, institutions must have a variety of programs in place to ease the student’s adjustment to the institution and help provide meaning to the student’s educational experiences (Kuh et al., 2005). Many of these “entering student programs” are designed to meet the needs of first time freshman on a college campus.

Orientation

Orientation programs have a high correlation to student success by assisting the students with social integration and helping them become committed to the institution (Kuh et al., 2006).
Typically, orientation programs are the first opportunity students have to interact with other students, faculty and staff.

**First-Year Seminars**

First-year seminars can range from an orientation-to-the-college type of course to a course taught from an academic discipline. The NSSE (2005) data revealed that 54 percent of all first-year students participated in a course designed to enhance their academic skills. Students participating in a first-year course reported higher instances of collaborative learning, being challenged academically, and interacted more frequently with faculty (NSSE, 2005).

**Advising**

The quality of advising is cited by NSSE (2005) as the single most powerful predictor of student satisfaction for students at 4-year institutions. Quality academic advising must address the needs of undecided students by helping them pick a major, and for first-generation students by helping them find their way through the collegiate maze. These types of advising sessions positively affect retention and graduation (Tinto, 2004).

**Early Warning Systems**

Early warning systems are crucial for students who are less likely to succeed such as first generation students and students not adequately prepared academically. Some early warning programs include midterm reports, course embedded assessments, and meetings with advisors (Kuh et al., 2005). Early warning systems enable the institution to identify struggling students and match them with programs designed to help them succeed.
Learning Communities

Learning communities are groups of classes that are clustered together, typically around a theme, and often involve a residential component. Learning communities have a positive correlation with persistence, GPA, and student satisfaction (Kuh et al., 2006).

Teaching and Learning Approaches

Pascarella and Terenzini (2005) identify the area of research that has received more attention over the past decade as effective pedagogical practices. These practices must be at the core of any program aimed at increasing student success. Kuh et al. (2006) identified a talent development philosophy with an “unshakeable” focus on student success as key components in helping students learn. A talent development philosophy simply stated means all students can learn under the right conditions. This view requires institutions to organize its resources and create conditions for teaching and learning based on educationally effective practices (Kuh et al., 2006, p. 66).

Student Centered Campus Cultures

The campus culture represents assumptions and beliefs that provide a measure of coherence to campus life (Kuh et al., 2005). The culture helps institutional members make meaning of events. Student success is promoted strongly when the culture values talent development, academic achievement, and respect for human differences. Learning environments like these do not happen; they are intentionally designed (Kuh et al., 2006).

Chapter Summary

This literature review has provided the relative grounding for this study. A detailed description of each of the major theorists in the area of student departure, success and engagement over the past quarter century was provided. In addition, an explanation of the gaps
between these theories which fails to explain how students at UTEP succeed, and are retained, was also provided.

A detailed explanation of student success and student engagement was listed. Specifically, detailed information outlining the positive correlation that student engagement has on overall student success was presented. The concept of student engagement is founded in student development theory and shown to play an integral role in persistence and graduation rates. The exploration of student engagement practices for underrepresented populations, while relatively young, represents a viable avenue of pursuit to increasing overall degree completion for these students.
Chapter 3

Methodology

This chapter describes the methodology used for this study. It is arranged in the following order: the research questions guiding the study are presented, next a description of UTEP and the population used for the study is provided, the NSSE survey instrument is presented as well as the data collection and analysis processes. To begin, a reiteration of the study’s purpose statement serves as a chapter prelude.

Purpose of the Study

The purpose of this study was to examine the relationship between student engagement and student success at the University of Texas at El Paso. UTEP is a participating institution in the National Survey of Student Engagement (NSSE) research program. Each year, UTEP students are randomly sampled to complete the freshman and senior NSSE surveys. This study examined the responses provided by students in the educationally purposeful activities section of the NSSE instrument on the freshman survey for the 2008, 2007 and 2006 administrations of the survey. The student’s responses were compared with their GPA to determine the correlation between student engagement and student success. Secondly, a detailed examination of the responses was conducted to determine which educationally activities were more beneficial for UTEP students. The student’s responses were also compared to their retention rates for the next fall semester. A number of research questions were developed to guide this research study.

Research Questions

1. Do the NSSE identified educationally purposeful activities predict student success for UTEP students?
2. Which of the educationally purposeful activities have the greatest impact on student success at UTEP?

3. What is the impact of various socio-economic and background factors as identified by the NSSE survey on student success at UTEP?

4. What are the institutional factors as identified by the NSSE survey that influence student success at UTEP?

5. Is there a difference between the freshman students that persist to the next fall semester and those that do not in how they answered the educationally purposeful activities section of the NSSE survey?

6. Can the factors from the NSSE survey educationally purposeful activities section be arrayed in a theoretically compelling and empirically identifiable means?

**UTEP Description/Study Population**

The students utilized for this study attended the University of Texas at El Paso during the spring 2008, spring 2007, and spring 2006 semesters when they completed the NSSE survey. UTEP is a state funded, 4-year, public institution located on the United States – Mexico border. With just over 20,000 students, roughly 2800 faculty and staff, and an aggressive research agenda, UTEP is a major educational institution within the region it serves and the state of Texas as a whole. The original mission of the university was to train mining engineers for the Mexican state of Chihuahua. Over the first ninety years of operation, the University has changed the emphasis of its educational role. Originally viewed as a small town mining school, the university has grown to be an expansive research institution with a diverse student body and almost as diverse faculty. The student body at UTEP is approximately 75 percent Hispanic with over 50 percent of the students claiming first-generation classification (UTEP Factbook, 2009).
Although UTEP has experienced major changes since its inception in the early 1900’s, arguably, no time frame has experienced more drastic changes then the past two decades. The one constant during this time frame has been the president of UTEP. Appointed in 1987, the president has pushed an aggressive and progressive agenda for change, focusing on items that were previously viewed as detrimental. The University’s location on the United States – Mexico border has been embraced in the University’s mission statement as the institution has shifted its focus to promote the education of historically underrepresented students including its Mexican neighbors to the south. The high numbers of Hispanic students enrolled at UTEP have been embraced as an asset, as UTEP has championed efforts to educate the people from this region of the United States and Mexico. UTEP has been so successful educating this unique population of students that the University achieved the ranking as one of the top ten universities in the United States in educating Hispanic students (Hispanic Outlook, 2006).

UTEP embodies the two primary goals within its mission of access and excellence. The institution firmly believes that all prospective students must be allowed the opportunity to attend the institution. At the same time, the institution refuses to compromise on the high quality of education that students receive from UTEP. The Vision of UTEP is “a university with unparalleled momentum to become one of the nation’s preeminent institutions of higher education,” (UTEP Factbook, 2009). To ensure the highest quality and standards for the students, UTEP has assessed engagement using the NSSE survey since 2000.

To participate in the NSSE survey, UTEP developed a population file of all first year students and seniors. The NSSE survey is administered during the spring semester. The students listed in the population file must have been enrolled at the institution the previous fall semester. NSSE protocol requires participating institutions to randomly sample first year and senior
students with the sample size based on the total number of undergraduate students enrolled (NSSE, 2008). Beginning in 2006, UTEP was selected to conduct the survey in a web-based administration format (D. Carrejo, personal communication, March 30, 2009). NSSE randomly selects approximately 1000 students from the UTEP supplied population file, for each freshman and senior class, totaling 2000 students in the sample for each year. The descriptive statistics for the population utilized for this study is provided in Chapter 4.

The NSSE research program utilizes “standardized survey administration procedures.” UTEP provides the population data to NSSE, who forwards it to an independent third party. This ensures that all students included in the population have an equal chance at being selected for participation. This method of administration prevents the corruption of results due to interference from either the institution or outside stakeholders (Kuh, 2001). The students in the population are sent the survey electronically by the independent third party. Upon completion, the student’s responses are sent back to the third party. The third party collects all responses from each institution and forwards the data to NSSE. The NSSE research team compiles each institution’s information into an individual report and forwards it in both hard copy and electronic format to the institution.

The NSSE project nationally includes a cross-section of institutions. Since the first administration, NSSE participating colleges and universities mirror all four-year institutions in terms of size, sector, Carnegie type, and region. In addition, participating schools have come from 49 states as well as the District of Columbia and Puerto Rico (Kuh, 2001).

NSSE Survey Instrument

Since its inception, over 1300 baccalaureate-granting institutions have utilized the NSSE survey to measure the extent to which students engage in effective educational practices that are
empirically linked with learning, personal development, persistence, and graduation (NSSE, 2008). The primary goal of the NSSE program has always been to “provide a snapshot of student participation in programs and activities that institutions provide for their learning and development” (Aaron, 2006). A copy of the NSSE 2008 survey is included in Appendix A.

In the first section, the NSSE survey asks students to report the frequency with which they engage or participate in a variety of different activities provided by the institution that have been determined to represent good educational practice such as opportunities for learning and development, curricular programs and utilizing the institutions resources both human and physical (Kuh, 2004). The questions in the first section are focused on identifying engagement practices in which students are involved. After answering questions about their involvement on campus, students are also asked to provide information about their background including age, gender, race or ethnicity, living situation, educational status, and major field.

The NSSE survey relies on self-reports. Kuh (2004) stated that not only are self-reports common practice, for many indicators of educational practice, self-reports are the only meaningful source of data. Kuh (2004) identified five general conditions under which self reports are considered valid. First, the information requested must be known to the respondent. Second, the questions must be phrased clearly and unambiguously. Third, the questions must refer to recent activities. Fourth, the questions must elicit a feeling in the respondent that the question merits a serious and thoughtful response. Finally, the respondent must believe that by answering the question they are not being threatened, embarrassed, sensing that their privacy is being violated, or that they must answer in a socially desirable manner. Most of the questions on the NSSE survey have been used in long-running, well regarded college student research programs such as the University of California, Los Angeles’ Cooperative Institutional Research Program.
and Indiana University’s College Student Experiences Questionnaire Research Program (Kuh, 2004).

According to Kuh (2004) student self-reports are also subject to the halo effect. This refers to the possibility that students may slightly inflate various aspects of their behavior or performance such as grades, amount of learning or growth they are experiencing or the level of effort they put forth. Kuh (2004, p. 3) believed that this effect is typically consistent across schools and “does not appear to advantage or disadvantage one institution or student group compared with another.”

**NSSE Survey Validity**

Kuh (2004) stated arguably the most important property of an assessment tool is its validity. Validity refers to how well the instrument measures what it is intended to measure. The NSSE design team ensured a high level of validity by making certain the items on the survey were “clearly worded, well defined, and had high face and content validity,” (Kuh, 2004, p.5). Validity is also demonstrated by the NSSE survey in the way that responses to survey items are approximately normally distributed.

**NSSE Survey Reliability**

Reliability refers to the degree to which an instrument consistently measures the same thing across respondents and institutional settings (Kuh, 2004). Stability, another measure of reliability, refers to the instrument’s ability to retrieve similar responses from students at different points in time. To demonstrate stability, the NSSE project has utilized three statistical methods including correlation of concordance, matched sample t-tests, and the process of test-retest analysis. The correlation of concordance was utilized to measure the strength of the association between scores from two time periods. The results of this analysis suggest that the NSSE data at
the institutional level are stable from year to year. The matched sample t-test process was utilized to determine if there was a difference in student responses within a two year period. This analysis found NSSE items were highly or moderately correlated with all coefficients being statistically significant ranging from .60 to .96 (Kuh, 2004). For the test-retest analysis NSSE used the Pearson product moment correlation which resulted in a reliability coefficient of .83. According to Kuh (2004) this indicates a fair degree of stability between student’s responses on the NSSE and other psychometric tools measuring attitude and experiences.

Overall, the NSSE survey has undergone psychometric analyses following each of its administrations. Taken together, the analyses performed by NSSE suggest that the NSSE survey appears to be reliable at measuring student engagement that it was designed to measure. In addition, Kuh (2004) stated the data aggregated at the institutional level on an annual basis should yield reliable results.

*Data Collection*

To retrieve the data for this study a written request was submitted to the UTEP Center for Institution Evaluation Research and Planning (CIERP). All NSSE data for the 2006, 2007, & 2008 administrations of the survey was requested. In addition, CIERP was able to add the student’s term GPA and cumulative GPA, their retention records for the next fall term and the student’s UTEP risk factor. The data was received in SPSS format.

In accordance with UTEP policy an Institutional Review Board application was prepared and submitted to the Office of Research and Sponsored Projects. Due to the fact that no student identifiers were used, the study was granted exempted status.
The University of Texas at El Paso’s Center for Institutional Evaluation, Research and Planning (CIERP) has conducted a series of analyses in an attempt to identify the factors that impact student success at UTEP. As a part of this process the CIERP research team has also established a method for identifying a risk score for each UTEP student. The risk score is intended to identify which student’s are at risk of departing before graduation. A brief explanation of the research conducted by CIERP will be presented followed by an explanation of the risk scores.

The first part of this study utilized a set of students’ demographic and first year academic performance data to identify significant factors that predict graduation within a six year time frame. Some of the variables examined included demographic information, data about students’ academic preparation, survey data about students’ expectations about UTEP, first semester academic performance, and first semester financial aid variables. All of these variables were expected to play a significant role in determining student success at UTEP. Interestingly, the CIERP research team was able to identify factors that did not play a significant role in predicting student success at UTEP. Variables which were identified as not playing a role in determining student success at UTEP included, the students’ ACT/SAT score, the educational level of the students’ parents, changing their major, and reading, writing, and English placement scores. The research team found that students with any one of these characteristics could be successful at UTEP. The most significant negative factor identified by the research team was failing a class in the first semester. Compared to students that did not fail a class, students who did were twice as likely to depart before graduation.
The result of this research ultimately led to the development of the identification of students by risk category at UTEP. Utilizing student characteristics available at the time of admission to the University, the CIERP research team used a Cox proportional hazards (PH) regression model to assign a risk score to each student. The model, which was developed by CIERP, identified the following four variables as having a significant effect on student departure: high school class rank percentile, mathematics placement, anticipated hours spent working, and direct matriculation from high school.

Students at UTEP can be classified into three groups that describe their risk as high, medium, or low. Students with a zero score are classified as low risk. These students possess the following four characteristics: 1) they ranked in the top quartile of their high school class, 2) placed in college level mathematics, 3) planned to work less than 19 hours per week, and 4) enrolled at UTEP immediately following high school.

Students scoring between zero and 1.15 were classified as medium risk. These students had a mixed profile meaning they had at least one risk factor.

Students with a score of 1.15 and above were classified as the high risk group. Students that ranked in the 2nd quartile of their high school class, intended to work at least 20 hours per week, placed below college level math or who delayed matriculation after graduating from high school were determined to be high risk.

CIERP was able to identify that 80 percent of the students in the high risk category departed within the first three years as compared to 33 percent of the students in the low risk category. The research team is currently working to identify factors or strategies that have allowed students in the various risk categories to be successful.
This research study did utilize the risk categories as identified by the UTEP CIERP research team. The various statistical analyses performed in this study were designed to determine a correlation between the NSSE educationally purposeful activities and the UTEP risk categories. In addition, the next fall semester retention rate was examined to determine a correlation for these risk factors.

Data Analysis

The data analysis process for this study follows a correlation research design. According to Gall et al. (2003) correlational research refers to studies investigating or discovering relationships between variables by utilizing correlational statistics. A primary advantage to this type of research design is that it enables the researcher to analyze the relationships among a large number of variables in a single study (Gall et al., 2003). The first part of this analysis included the development of a correlation matrix and a factor analysis. The second portion of the data analysis process consisted of a path analysis. The next section of this chapter provides greater detail of these processes.

The first phase of the data analysis included the development of a correlation matrix utilizing SPSS 16.0. A correlation is a single number that describes the degree of relationship between two variables (Trochim, 2006). Once a correlation value has been computed, the probability that the observed correlation occurred by chance is determined by conducting a significance test. A correlation matrix is the computation of the significance or relationship of many variables. Simply stated, a correlation matrix is an arrangement of rows and columns that makes it very easy to see how each variable correlates or relates to each of the other variables in the set (Gall et al., 2003).
The second statistical component of phase one consisted of a factor analysis. A factor analysis was used to determine which variables tended to clump together or were correlated with each other and not with other variables (Aron, Aron & Coups, 2005). Each clump or group of variables is called a factor. The correlation of an individual variable with a factor is called that variable’s factor loading. While variables have loadings on each factor, they usually will have high loadings on only one factor (Aron, et al., 2005). Factor loadings range from negative one (-1), a perfect negative association with the factor, through 0 or no relation, to a positive one (+1) or a perfect positive relation with the factor. Normally a variable is considered to contribute meaningfully to a factor if it has a loading of below -.3 or above +.3. The factor analysis process is particularly desirable in the exploratory stages of an investigation to provide an intelligible summary while providing future directions for model building (Bartholomew, 1980).

The second phase of the methodology included a reverse path analysis. Path models are widely used in the social sciences, to disentangle complex cause-and-effect relationships (Freedman, 1987). The intent of this path analysis was to provide a quantitative estimate of the impact of the engagement activities. The path analysis is not capable of deriving the causal theory from the data (Freedman, 1987). The path analysis consists of a diagram with arrows connecting the variables. The arrow or path shows what the researcher predicts to be the cause and effect connections between the variables. Rather than predicting cause and effect connections, my data allowed me to construct a path analysis between the variables and the interventions already set in the NSSE educationally purposeful activities.

The first step of the path analysis process is to determine the exogenous and endogenous variables. Exogenous variables have no explicit causes in the model. These variables lack hypothesized causes in the path analysis model (Gall et al., 2003). Endogenous variables are
connected by at least one hypothesized cause in the model. Once the variables have been categorized, the path coefficient is determined through a process which includes forms of multiple regressions. The result is a path coefficient which identifies the direct effect of one variable on another variable (Gall et al., 2003). The value of a path coefficient can range from -1.00 to +1.00. The larger the value, the stronger the association is between the two variables (Gall et al., 2003).

This analysis proved beneficial in developing a model to prescribe activities that UTEP students should be engaged in to increase their propensity to be successful. A reverse path process was utilized due to the variables already being provided by the survey and my inability to determine my own variables for the study. The variables in this study were already set by NSSE. Instead of attempting to determine a cause and effect relationship, this study utilized a reverse path analysis process to identify the degrees of relationship between the already identified engagement variables.

Chapter Summary

Chapter three provided an overview of the methodology used for this study. It began with a reiteration of the purpose of the study followed by the research questions used to provide direction for the study. A description of UTEP and the student population was written to provide an understanding of the study participants. The survey instrument utilized in the study was presented as well as detailed explanations of the validity and reliability of the instrument. The data collection process was explained as well as a description of the process for assigning risk categories to each UTEP student. Finally, the chapter ended with a description of the three processes, matrix correlation, factor analysis, and path analysis that were used to analyze the data. The next chapter will present a detailed description of the findings of this study.
Chapter 4

Results

This chapter presents the results of the data analysis. The chapter will begin with a reiteration of the purpose of the study. The data is presented next which includes the development of a model for student engagement at UTEP based on these findings. Also, the findings for each research question are presented. To aid with interpretation of the findings, both a mean score comparison and a mean GPA comparison are included. Finally, a summary of the chapter is presented.

The purpose of this study was to determine the effect student engagement has on student success among freshman students completing the NSSE survey at the University of Texas at El Paso. The data used to determine the effect of engagement on student success was collected using the NSSE surveys completed by freshman students during the spring 2008, 2007, and 2006 semesters.

Participants

The sample appears to be reasonably representative of the overall new freshman student population at UTEP. The UTEP 2007-2008 Facts Brochure indicates that 55 percent of the student body is female compared to 45 percent male. It also reports over 75 percent of the student body is Hispanic and over 50 percent of the students are the first in their family to attend college.

Before analyzing the data it is important to have a clear understanding of the demographics of the sample. For each of the three years studied, 1000 surveys were sent to freshman students. The number of samples returned for each year were, 268 in 2006, 166 in
2007, and 120 in 2008. The total number of surveys returned was 554 with an overall return rate was 18.4 percent. This return rate is addressed in Chapter 5.

Over 96 percent of the participants were 19 years of age or younger (see Table 1, Appendix B). The participants were comprised of 222 men who equal 41 percent and 332 women which represents 59 percent of the total (see Table 2, Appendix B).

Over 80 percent of the participants reported their ethnicity as “Mexican or Mexican American” and “Other Hispanic or Latino” (see Table 3). This does not include the categories of “multiracial,” “other,” or “I prefer not to respond.” Additionally, two participants did not report their ethnicity.

The survey question asking students to report the highest education level of their father and mother presents some challenges for interpretation. The participants have six choices for each parent beginning with “did not graduate high school” and ascending to “completed a doctoral degree.” For purposes of this study, the classification of first generation was identified as students whose parents had graduated from high school but had not attended college. The participants reported over 37 percent of the fathers met these criteria compared to nearly 42 percent of the mothers (see Table 4). In total, 53 percent of the participants responded as first generation college students. Neither parent has attended college for 53 percent of the participants in this study.

The overwhelming majority of participants reported attending UTEP on a full-time basis. Over 93 percent were enrolled full-time as compared to six percent taking classes on a part-time basis (see Table 5, Appendix B). It is also important to understand how the participants reported spending their free time and where they lived. Almost 95 percent were not involved in a
fraternity or sorority (see Table 6, Appendix B). Similarly, almost 95 percent commuted to
campus on a daily basis (see Table 7, Appendix B).

Table 3
Ethnic Identification

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency/Percent</th>
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<tbody>
<tr>
<td>American Indian or Other Native American</td>
<td>2 (0.4%)</td>
</tr>
<tr>
<td>Asian, Asian American or Pacific Islander</td>
<td>9 (1.6%)</td>
</tr>
<tr>
<td>Black or African American</td>
<td>8 (1.4%)</td>
</tr>
<tr>
<td>White (Non-Hispanic)</td>
<td>38 (6.9%)</td>
</tr>
<tr>
<td>Mexican or Mexican American</td>
<td>358 (64.6%)</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>5 (.9%)</td>
</tr>
<tr>
<td>Other Hispanic or Latino</td>
<td>86 (15.5%)</td>
</tr>
<tr>
<td>Multiracial</td>
<td>16 (2.9%)</td>
</tr>
<tr>
<td>Other</td>
<td>8 (1.4%)</td>
</tr>
<tr>
<td>I prefer not to respond</td>
<td>22 (4.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>554 (100%)</td>
</tr>
</tbody>
</table>

The final descriptive statistical data identified grades, retention rates and UTEP risk
categories. Over 77 percent of the participants reported earning mostly B’s or better up to the
point of completing the survey (see Table 8, Appendix B). Over 85 percent of the participants of
this survey were retained to the next consecutive fall semester (see Table 9, Appendix B).
Finally, the University identified 14.4 percent as high risk, 29.6 percent as medium risk, and 39.5 percent as low risk according to UTEP criteria (see Table 10, Appendix B). Over 16 percent of the participants were not classified at any of the three risk categories.

Table 4
Education Attainment of Parents

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Mother/Percent</th>
<th>Father/Percent</th>
</tr>
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<tbody>
<tr>
<td>Did not finish high school</td>
<td>101 (18.2%)</td>
<td>95 (17.1%)</td>
</tr>
<tr>
<td>Graduated from high school</td>
<td>129 (23.3%)</td>
<td>114 (20.6%)</td>
</tr>
<tr>
<td>Attended college but did not finish degree</td>
<td>116 (20.9%)</td>
<td>107 (19.3%)</td>
</tr>
<tr>
<td>Completed an associate’s degree (A.A., A.S., etc.)</td>
<td>55 (9.9%)</td>
<td>45 (8.1%)</td>
</tr>
<tr>
<td>Completed a bachelor’s degree (B.A., B.S., etc.)</td>
<td>108 (19.5%)</td>
<td>114 (20.6%)</td>
</tr>
<tr>
<td>Completed a master’s degree (M.A., M.S., etc.)</td>
<td>37 (6.7%)</td>
<td>53 (9.6%)</td>
</tr>
<tr>
<td>Completed a doctoral degree (Ph.D., J.D., M.D., Ed.D., etc.)</td>
<td>8 (1.4%)</td>
<td>19 (3.4%)</td>
</tr>
<tr>
<td>Missing Data</td>
<td>7 (1.3%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>554 (100.0%)</td>
<td>554 (100.0%)</td>
</tr>
</tbody>
</table>

Correlation Matrix

The data was analyzed using the SPSS program version 16.0. The first analysis process utilized included the development of a correlation matrix (see Table 11). The variable descriptions are included in Table 11B. This matrix proved beneficial for the study of how each
variable related to each of the other variables. An in depth review of the correlation matrix identified numerous variables from the list of nineteen educationally purposeful activities that had strong correlations and some that had very weak correlations.

A preliminary scan of the values did not produce any variables with a majority of values over 0.05. No values were found that were greater than 0.09. This preliminary scan helps to identify potential problems with singularity. Since none was found, the variables were determined to correlate fairly well which indicates that all questions on the survey are appropriately related.

One of the strongest correlations with a coefficient of .760 included the variable of students having serious conversations with students of a different race and the variable of students having conversations with someone with very different beliefs or values. Another strong correlation coefficient of .515 was identified between discussing grades with an instructor and using email to communicate with an instructor. Being a part of a listserv or other electronic medium and communicating with an instructor using email had a correlation coefficient of .449.

The largest negative correlation coefficient of -.093 identified the correlation between the two variables of completing two or more drafts of a paper and coming to class without completing readings or assignments. Another negative correlation with a -.074 coefficient exists between the two variables contributing to a class discussion and coming to class without completing readings or assignments.

All of the values present in the correlation matrix appear to be reasonable. After completing the review of the relationships between these various coefficients the next step of the data analysis process was to complete a factor analysis.
Table 11a – Correlation Matrix

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67
Table 11b

Correlation Matrix Variables

1. Asked questions in class or contributed to class discussions.
2. Made a class presentation.
3. Prepared two or more drafts of a paper or an assignment before turning it in.
4. Come to class without completing readings or assignments.
5. Worked with other students on projects during class.
6. Worked with classmates outside of class to prepare class assignments.
7. Tutored or taught other student (paid or voluntary).
8. Participated in a community-based project (e.g., service learning) as part of a regular course.
9. Used an electronic medium (listserv, chat group, internet, instant messaging, etc. to discuss or complete an assignment.
10. Used e-mail to communicate with an instructor.
11. Discussed grades or assignments with an instructor.
12. Talked about career plans with a faculty member or advisor.
13. Discussed ideas from your readings or classes with faculty members outside of class.
14. Received prompt written or oral feedback from faculty on your academic performance.
15. Worked harder than you though you could to meet an instructor’s standards or expectations.
16. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.).
17. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.).
18. Had serious conversations with students of a different race or ethnicity than your own.
19. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values.

Factor Analysis

The analytic technique of factor analysis was used as a method of dimension reduction. This technique requires a large sample size to stabilize correlations. The type of factor analysis used was a principal component analysis. A sample size of 500 is considered very good (UCLA Academic Technology Services, 2007). This sample size was N=540.

The descriptive statistics output from this process include the mean, standard deviation, and the sample size. These values can be found in Table 12.
Table 12

Factor Analysis Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Analysis N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asked questions in class or contributed to class discussions</td>
<td>2.59</td>
<td>.769</td>
<td>540</td>
</tr>
<tr>
<td>Made a class presentation</td>
<td>2.48</td>
<td>.739</td>
<td>540</td>
</tr>
<tr>
<td>Prepared two or more drafts of a paper or assignment before turning it in</td>
<td>3.08</td>
<td>.877</td>
<td>540</td>
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<tr>
<td>Come to class without completing readings or assignments</td>
<td>2.07</td>
<td>.749</td>
<td>540</td>
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<tr>
<td>Worked with other students on projects DURING CLASS</td>
<td>2.60</td>
<td>.866</td>
<td>540</td>
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<tr>
<td>Worked with classmates OUTSIDE OF CLASS to prepare class assignments</td>
<td>2.50</td>
<td>.882</td>
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<tr>
<td>Tutored or taught other students (paid or voluntary)</td>
<td>1.81</td>
<td>.888</td>
<td>540</td>
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<td>Participated in a community based project (e.g. service learning) as part of a regular course</td>
<td>1.63</td>
<td>.851</td>
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<td>Used an electronic medium (listserv, chat group, internet, instant messaging, etc.) to discuss or complete an assignment</td>
<td>2.88</td>
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<tr>
<td>Used e-mail to communicate with an instructor</td>
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<td>540</td>
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<td>Discussed grades or assignments with an instructor</td>
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<td>.911</td>
<td>540</td>
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<td>Talked about career plans with a faculty member or advisor</td>
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<td>Discussed ideas from your readings or classes with faculty members outside of class</td>
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<td>Received prompt written or oral feedback from faculty on your academic performance</td>
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<td>Worked harder than you thought you could to meet an instructor’s standards or expectations</td>
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<td>Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)</td>
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<td>Discussed ideas from your readings or classes with others outside of class (students, family members, coworkers, etc.)</td>
<td>2.77</td>
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<tr>
<td>Had serious conversations with students of a different race or ethnicity than your own</td>
<td>2.44</td>
<td>1.058</td>
<td>540</td>
</tr>
<tr>
<td>Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</td>
<td>2.52</td>
<td>1.018</td>
<td>540</td>
</tr>
</tbody>
</table>
The factor communalities are present in Table 13. Communalities represent the

<table>
<thead>
<tr>
<th></th>
<th>Raw Initial</th>
<th>Rescaled Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asked questions in class or contributed to class discussions</td>
<td>.591</td>
<td>.280</td>
</tr>
<tr>
<td>Made a class presentation</td>
<td>.547</td>
<td>.196</td>
</tr>
<tr>
<td>Prepared two or more drafts of a paper or assignment before turning it in</td>
<td>.769</td>
<td>.357</td>
</tr>
<tr>
<td>Come to class without completing readings or assignments</td>
<td>.561</td>
<td>.162</td>
</tr>
<tr>
<td>Worked with other students on projects DURING CLASS</td>
<td>.750</td>
<td>.326</td>
</tr>
<tr>
<td>Worked with classmates OUTSIDE OF CLASS to prepare class assignments</td>
<td>.777</td>
<td>.341</td>
</tr>
<tr>
<td>Tutored or taught other students (paid or voluntary)</td>
<td>.788</td>
<td>.469</td>
</tr>
<tr>
<td>Participated in a community- based project as part of a regular course</td>
<td>.723</td>
<td>.492</td>
</tr>
<tr>
<td>Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment</td>
<td>1.088</td>
<td>.851</td>
</tr>
<tr>
<td>Used e-mail to communicate with an instructor</td>
<td>.796</td>
<td>.610</td>
</tr>
<tr>
<td>Discussed grades or assignments with an instructor</td>
<td>.829</td>
<td>.543</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor</td>
<td>.797</td>
<td>.507</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class</td>
<td>.861</td>
<td>.579</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance</td>
<td>.796</td>
<td>.389</td>
</tr>
<tr>
<td>Worked harder than you thought you could to meet an instructor’s standards or expectations</td>
<td>.746</td>
<td>.418</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)</td>
<td>.713</td>
<td>.442</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)</td>
<td>.802</td>
<td>.411</td>
</tr>
<tr>
<td>Had serious conversations with students of a different race or ethnicity than your own</td>
<td>1.119</td>
<td>.851</td>
</tr>
<tr>
<td>Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</td>
<td>1.037</td>
<td>.843</td>
</tr>
</tbody>
</table>
proportion of each variable’s variance that can be explained by the factor.

The next SPSS output (Table 14) lists the initial eigenvalues associated with each linear component before and after extraction. Before extraction, the table displays eigenvalues for all 19 variables. The eigenvalues describe the percentage of variance for each variable. The first three factors define relatively large amounts of the variance. SPSS identifies eigenvalues greater than one to utilize for factor loading. In this study it was necessary to identify the top four eigenvalues in order to identify factors responsible for over 50 percent of the variance. The top four components account for 51.128 percent of the overall variance in this factor analysis. The fourth component has an eigenvalue of .842.

The next SPSS output (see Tables 15a and 15b) displays the factor analysis component matrix. SPSS extracted four factors. According to Field (2005), Kaiser’s criteria calls for the extraction of four components when the number of variables is less than 30 and communalities after extraction are greater than .07, or when the sample size exceeds 250 and the average communality is greater than .06. The average communality in this study is .477. Field (2005) states that although this may not be accurate per Kaiser’s rule, it is acceptable due to the large sample size (N=540) being used.
Table 14

Factor Analysis – Principal Component Analysis

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Rotation sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total % of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>2</td>
<td>1.502</td>
<td>9.954</td>
</tr>
<tr>
<td>3</td>
<td>1.014</td>
<td>6.720</td>
</tr>
<tr>
<td>4</td>
<td>.842</td>
<td>5.581</td>
</tr>
<tr>
<td>5</td>
<td>.776</td>
<td>5.142</td>
</tr>
<tr>
<td>6</td>
<td>.711</td>
<td>4.709</td>
</tr>
<tr>
<td>7</td>
<td>.636</td>
<td>4.216</td>
</tr>
<tr>
<td>8</td>
<td>.584</td>
<td>3.870</td>
</tr>
<tr>
<td>9</td>
<td>.561</td>
<td>3.720</td>
</tr>
<tr>
<td>10</td>
<td>.551</td>
<td>3.652</td>
</tr>
<tr>
<td>11</td>
<td>.526</td>
<td>3.487</td>
</tr>
<tr>
<td>12</td>
<td>.490</td>
<td>3.250</td>
</tr>
<tr>
<td>13</td>
<td>.437</td>
<td>2.898</td>
</tr>
<tr>
<td>14</td>
<td>.420</td>
<td>2.785</td>
</tr>
<tr>
<td>15</td>
<td>.399</td>
<td>2.645</td>
</tr>
<tr>
<td>16</td>
<td>.385</td>
<td>2.548</td>
</tr>
<tr>
<td>17</td>
<td>.326</td>
<td>2.162</td>
</tr>
<tr>
<td>18</td>
<td>.314</td>
<td>2.079</td>
</tr>
<tr>
<td>19</td>
<td>.244</td>
<td>1.619</td>
</tr>
</tbody>
</table>
Table 15a – Rotated Component Matrix\textsuperscript{a}

Component 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Raw Component</th>
<th>Rescaled Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Participated in a community-based project as part of a regular course</td>
<td>.574</td>
<td></td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)</td>
<td>.522</td>
<td></td>
</tr>
<tr>
<td>Tutored or taught other students (paid or voluntary)</td>
<td>.547</td>
<td></td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class</td>
<td>.572</td>
<td>.412</td>
</tr>
<tr>
<td>Worked with other students on projects DURING CLASS</td>
<td>.466</td>
<td></td>
</tr>
<tr>
<td>Worked with classmates OUTSIDE OF CLASS to prepare class assignments</td>
<td>.462</td>
<td></td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance</td>
<td>.402</td>
<td>.337</td>
</tr>
<tr>
<td>Made a class presentation</td>
<td>.292</td>
<td></td>
</tr>
<tr>
<td>Asked questions in class or contributed to class discussions</td>
<td>.288</td>
<td></td>
</tr>
</tbody>
</table>

The second half of the component matrix is contained in Table 15b. Table 15b contains the components identified as 2, 3 and 4.

SPSS was also utilized to produce a Scree plot (see Figure 1). The Scree plot is very useful to identify the area on the curve where the inflexion occurs. The area after the inflexion identifies, by way of a plateau or minimally decreasing line slope, the factors that do not have a strong effect on the variance in this study.
Table 15b – Rotated Component Matrix

Components 2, 3, 4

<table>
<thead>
<tr>
<th>Variables</th>
<th>Raw Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Rescaled Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had serious conversations with students of a different race or ethnicity than your own</td>
<td>.959</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.906</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</td>
<td>.909</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.893</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)</td>
<td>.461</td>
<td>.272</td>
<td></td>
<td></td>
<td></td>
<td>.515</td>
<td>.303</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepared two or more drafts of a paper or assignment before turning it in</td>
<td>.510</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.581</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor</td>
<td>.441</td>
<td>.448</td>
<td>.494</td>
<td></td>
<td></td>
<td>.502</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussed grades or assignments with an instructor</td>
<td>.353</td>
<td>.435</td>
<td>.351</td>
<td>.388</td>
<td></td>
<td>.477</td>
<td>.386</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worked harder than you thought you could to meet an instructor’s standards or expectations</td>
<td>.394</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.457</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Come to class without completing readings or assignments</td>
<td>-.264</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.353</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.935</td>
<td>.897</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Used e-mail to communicate with an instructor</td>
<td></td>
<td>.296</td>
<td>.598</td>
<td></td>
<td></td>
<td>.332</td>
<td>.670</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Due to the relatively large sample size (N=540), the number of components needed to explain over 50 percent of the variance, and the examination of the scree plot, the determination was made to identify four components for this analysis. The four components and their assigned titles are contained in Table 16.
Table 16 – Factor Components with Assigned Titles

Component 1: Collaborative Academic Engagement

- Participated in a community-based project (e.g., service learning) as part of a regular course
- Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)
- Tutored or taught other students (paid or voluntary)
- Discussed ideas from your readings or classes with faculty members outside of class
- Worked with other students on projects DURING CLASS
- Worked with classmates OUTSIDE OF CLASS to prepare class assignments
- Received prompt written or oral feedback from faculty on your academic performance
- Made a class presentation
- Asked questions in class or contributed to class discussions

Component 2: In-Depth Diverse Communications

- Had serious conversations with students of a different race or ethnicity than your own
- Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values
- Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)

Component 3: Academic Work Ethic

- Prepared two or more drafts of a paper or assignment before turning it in
- Talked about career plans with a faculty member or advisor
- Discussed grades or assignments with an instructor
- Worked harder than you thought you could to meet an instructor’s standards or expectations
- Came to class without completing readings or assignments

Component 4: Technological Communication

- Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment
- Used e-mail to communicate with an instructor
Path Analysis

Next a series of regressions were conducted to determine the impact the four components had on student success at UTEP. The use of multiple and logistic regressions identified the strength of relationship between background characteristics, the four factor analysis components and two dependent variables. The background characteristics included gender, first generation status, and the individual risk scores identified by UTEP. The four components were identified as collaborative academic engagement, in-depth diverse communications, academic work ethic, and technological communication. The two dependent variables were grade point average (GPA) and retention to the next fall semester. The results of these regressions were utilized to produce a path analysis in reverse. Rather than attempting to predict outcomes, this process was utilized to better understand current engagement practices. The path analysis is located in figure 2.

Findings

The results of the analysis do demonstrate that some of the items on the NSSE survey help to predict success for the participants in this sample. The specific results for each research question are presented next.

Using NSSE Data to Predict Student Success at UTEP

The results of the data show that the various components of NSSE variables did demonstrate correlations between background characteristics and the four components. In addition, positive regression correlations were identified between the four components and the dependent variables. Specific examples of these relationships are provided for the rest of the research questions.
Impact of NSSE Variables

Component one, collaborative academic engagement did not have a significant effect on either of the output variables. This indicates the participants’ responses for the variables in component one did not have a positive or negative impact on their GPA or retention to the next fall semester.

Component two, in-depth diverse communications has a positive logistic regression coefficient of 0.256 with student retention to the next fall semester. This indicates that the variables in this component contribute to student retention.
Component three, academic work ethic has a positive significant effect on GPA. The statistical significance is $B = 0.114$, $t = 2.683$, $p < .01$.

Component four, technological communication identified positive significant effect on both of the output variables. The statistical significance of the effect between component four and GPA is $B = .140$, $t = 3.290$, $p < .01$. In addition, a positive effect of .221 was shown between component four and student retention to the next fall. This indicates that component four also contributes to student retention.

These results demonstrate that NSSE data, which is used to identify student engagement activities, is positively correlated to student success for UTEP students. Further detailed descriptions of the findings, as compared to the background characteristics are provided in the next section.

Background Characteristics

This study was unable to predict success based on socio-economic variables. The NSSE survey does not collect this type of data. Other background characteristics that were studied included first generation status, gender, and risk factors as identified by UTEP.

First generation status had a negative regression coefficient of -0.247 with component two, in-depth diverse conversations. The statistical significance of this effect is $B = -0.247$, $t = -2.563$, $p < .01$. On the contrary, non first generation status had a positive coefficient with component two. This regression coefficient was +0.247 with a statistical significance of $B = 0.247$, $t = 2.563$, $p < .01$. This indicates that non first generation students have higher engagement levels with in-depth diverse communications than first generation students.
The background characteristic of gender did identify a relationship with component one, collaborative academic engagement. The category of female had a negative coefficient of -0.257 with component one. The statistical significance of this coefficient is $B = -0.257$, $t = -2.678$, $p < .01$. The male category identified a positive correlation of +0.257 with the same component. The statistical significance of this correlation is $B = 0.257$, $t = 2.678$, $p < .01$. This indicates that female students are participating in collaborative academic engagement at a lower level than male students.

The last background characteristic studied was the risk factor assigned to the participants by UTEP. This regression compared low risk students to medium risk students, and low risk students to high risk students.

When compared to medium risk students, low risk students had a positive coefficient of +0.223 to component four, technological communication. This coefficient has a statistical significance of $B = 0.223$, $t = 2.098$, $p < .01$. The medium risk students identified as having a negative coefficient of -0.223 with component four. The statistical significance of this coefficient is $B = -0.223$, $t = -2.098$, $p < .01$. This coefficient indicates that low risk students engage in technological communication practices at higher levels than their medium risk counterparts.

When compared to high risk students, low risk students identified a negative coefficient of -0.375 to component three, academic work ethic. This coefficient had a statistical significance of $B = -0.375$, $t = -2.483$, $p < .01$. The same comparison did identify a positive coefficient of +0.306 between low risk students and component four, technological communication. This positive coefficient has a statistical significance of $B = 0.306$, $t = 2.254$, $p < .01$. The first coefficient identifies low risk students as engaging in the academic work ethic component at a
lower level than high risk students. The second coefficient indicates a higher level of
group's engagement for low risk students in technological communication than the high risk students.

The high risk students demonstrated a positive coefficient of +0.0375 with component
three. The statistical significance for the regression coefficient between high risk students and
component three is $B = 0.375$, $t = 2.483$, $p < .01$. The high risk students demonstrated a negative
coefficient of -0.306 with component four. The statistical significance of the coefficient between
high risk students and component four is $B = -0.306$, $t = -2.254$, $p < .01$. These coefficients
indicate that high risk students have higher engagement levels with the academic work ethic
component and lower levels of engagement with the technological communication component
than their low risk counterparts.

NSSE Institutional Factors Effecting Student Success

No relationship was identified through the analyses between component one and the
output variables of GPA and retention. One way to interpret this lack of finding is that it does not
seem to matter how the participants in this study responded to the questions contained in
component one. Ultimately, this lack of finding means there is not a significant coefficient
between component one and the output variables.

Mean Score Comparison

In order to assist with interpretation of the findings, a mean comparison table was
developed (Table 17). This table allows for the review of each variable’s mean score identified
by each background characteristic. Both high risk and first generation students reported lower
scores of engagement on nearly all nineteen variables than the other categories of students.
<table>
<thead>
<tr>
<th>Activity</th>
<th>First Generation</th>
<th>Non First Generation</th>
<th>Male</th>
<th>Female</th>
<th>Low Risk</th>
<th>Medium Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asked questions in class or contributed to class discussions</td>
<td>2.53</td>
<td>2.61</td>
<td>2.67</td>
<td>2.49</td>
<td>2.57</td>
<td>2.57</td>
<td>2.55</td>
</tr>
<tr>
<td>Made a class presentation</td>
<td>2.52</td>
<td>2.49</td>
<td>2.54</td>
<td>2.49</td>
<td>2.54</td>
<td>2.54</td>
<td>2.36</td>
</tr>
<tr>
<td>Prepared two or more drafts of a paper or assignment before turning it in</td>
<td>3.07</td>
<td>3.02</td>
<td>3.06</td>
<td>3.04</td>
<td>2.95</td>
<td>3.15</td>
<td>3.08</td>
</tr>
<tr>
<td>Come to class without completing readings or assignments</td>
<td>2.10</td>
<td>2.09</td>
<td>2.12</td>
<td>2.09</td>
<td>2.14</td>
<td>2.05</td>
<td>2.08</td>
</tr>
<tr>
<td>Worked with other students on projects DURING CLASS</td>
<td>2.62</td>
<td>2.51</td>
<td>2.66</td>
<td>2.52</td>
<td>2.59</td>
<td>2.65</td>
<td>2.40</td>
</tr>
<tr>
<td>Worked with classmates OUTSIDE OF CLASS to prepare class assignments</td>
<td>2.50</td>
<td>2.53</td>
<td>2.57</td>
<td>2.48</td>
<td>2.51</td>
<td>2.45</td>
<td>2.29</td>
</tr>
<tr>
<td>Tutored or taught other students (paid or voluntary)</td>
<td>1.74</td>
<td>1.86</td>
<td>1.91</td>
<td>1.70</td>
<td>1.83</td>
<td>1.79</td>
<td>1.64</td>
</tr>
<tr>
<td>Participated in a community based project (e.g. service learning)</td>
<td>1.63</td>
<td>1.64</td>
<td>1.63</td>
<td>1.64</td>
<td>1.64</td>
<td>1.58</td>
<td>1.44</td>
</tr>
<tr>
<td>Used an electronic medium (listserv, chat group, internet, instant messaging, etc.) to discuss or complete an assignment</td>
<td>2.83</td>
<td>2.80</td>
<td>2.86</td>
<td>2.79</td>
<td>2.89</td>
<td>2.82</td>
<td>2.62</td>
</tr>
<tr>
<td>Used e-mail to communicate with an instructor</td>
<td>2.95</td>
<td>2.99</td>
<td>2.90</td>
<td>3.01</td>
<td>3.00</td>
<td>2.99</td>
<td>2.95</td>
</tr>
<tr>
<td>Discussed grades or assignments with an instructor</td>
<td>2.51</td>
<td>2.45</td>
<td>2.45</td>
<td>2.51</td>
<td>2.52</td>
<td>2.46</td>
<td>2.45</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor</td>
<td>2.24</td>
<td>2.23</td>
<td>2.21</td>
<td>2.25</td>
<td>2.14</td>
<td>2.31</td>
<td>2.33</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class</td>
<td>1.83</td>
<td>1.96</td>
<td>1.95</td>
<td>1.84</td>
<td>1.74</td>
<td>1.81</td>
<td>2.01</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance</td>
<td>2.41</td>
<td>2.40</td>
<td>2.45</td>
<td>2.37</td>
<td>2.41</td>
<td>2.41</td>
<td>2.40</td>
</tr>
<tr>
<td>Worked harder than you thought you could to meet an instructor’s standards or expectations</td>
<td>2.63</td>
<td>2.69</td>
<td>2.62</td>
<td>2.68</td>
<td>2.73</td>
<td>2.67</td>
<td>2.49</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)</td>
<td>1.53</td>
<td>1.61</td>
<td>1.61</td>
<td>1.53</td>
<td>1.60</td>
<td>1.61</td>
<td>1.58</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)</td>
<td>2.72</td>
<td>2.83</td>
<td>2.73</td>
<td>2.79</td>
<td>2.77</td>
<td>2.78</td>
<td>2.76</td>
</tr>
<tr>
<td>Had serious conversations with students of a different race or ethnicity than your own</td>
<td>2.44</td>
<td>2.62</td>
<td>2.49</td>
<td>2.53</td>
<td>2.47</td>
<td>2.62</td>
<td>2.41</td>
</tr>
<tr>
<td>Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</td>
<td>2.46</td>
<td>2.73</td>
<td>2.52</td>
<td>2.61</td>
<td>2.60</td>
<td>2.72</td>
<td>2.34</td>
</tr>
</tbody>
</table>
Mean GPA Comparison

Also to aid with interpretation of the findings, a mean GPA comparison was developed (Table 18). Female students scored higher than males. Non first generation students had a higher mean GPA than first generation students. Students in the low risk category earned a higher mean GPA than students in the medium risk category. Students in the medium risk category earned a higher mean GPA than students in the high risk category.

Table 18

Spring Term Mean GPA Comparison

<table>
<thead>
<tr>
<th>Classification</th>
<th>Mean GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Generation</td>
<td>2.70</td>
</tr>
<tr>
<td>Non First Generation</td>
<td>2.89</td>
</tr>
<tr>
<td>Female</td>
<td>2.84</td>
</tr>
<tr>
<td>Male</td>
<td>2.69</td>
</tr>
<tr>
<td>Low Risk</td>
<td>3.11</td>
</tr>
<tr>
<td>Medium Risk</td>
<td>2.61</td>
</tr>
<tr>
<td>High Risk</td>
<td>2.18</td>
</tr>
</tbody>
</table>

Summary

This study was designed to investigate the impact of student responses to the NSSE educationally purposeful questions. Specifically, this study compared background characteristics to clustered variables to determine the effect on the independent variables of GPA and retention. The research design incorporated a correlation matrix, factor analysis, and path analysis to answer the research questions. The results were found to have statistical significance and were
able to be arrayed in an empirically identifiable means. The next chapter will provide a summary, conclusions and discussion for the entire study.
Chapter 5

Summary and Conclusions

Attending college is an exciting process for most college students. The opportunities to grow, develop and achieve ones’ dreams can also prove to be overwhelming. For some students, this process is more than overwhelming, it is uninviting and intimidating. Examining policies, practices, processes and activities to help more students attend college and receive a formalized advanced education is crucial to the future of the United States.

Getting students engaged once they are attending a university is crucial to their personal development and ultimately to their retention through to graduation. The changing face of today’s college students continues to make engagement and retention policies and practices for administrators challenging. With college students coming to campus with very different background characteristics it is not acceptable, nor is it advisable for administrators to continue with a status quo mentality.

The evolution and progression of student success research from the days of student departure theory to student engagement, validation and success theories demonstrates the need to advance our understanding of how to retain all students. In addition to retaining students, we must continue to push the developmental bar as well.

The remainder of this chapter begins with an explanation of the findings and conclusions reached in this study. A discussion of how these conclusions relate to current research is presented next. Finally, the chapter concludes with recommendations for future research and professional practice.
Findings and Conclusions

The purpose of this study was to determine if data retrieved from the NSSE survey could be used to predict student success at the University of Texas at El Paso. After conducting the data analyses, five distinct conclusions were present in the findings.

The first conclusion is that first generation students engage in in-depth communications at lower rates than non-first generation students. In-depth diverse communications is composed of three variables from the original 19 educationally purposeful activities. Two of these variables address having serious conversations with students of a different race or with a very different mindset than you. The third question dealt with discussing ideas from readings or classes with others. Factor two also has a correlation with the output variable of student retention. Students in this study who engaged in these activities were more likely to be retained at UTEP.

The second finding is that female students participated in factor one, collaborative academic engagement at lower levels than their male counterparts. Factor one is the largest of the four factors identified in this study. It encompasses nine of the original 19 educationally purposeful activities. Included in this factor are participating in service learning as part of a course, working with faculty outside of coursework, tutoring other students, discussing ideas from readings with faculty outside of class, working with other students both during and outside of class, receiving prompt feedback from faculty on academic performance, making a class presentation, and asking questions or contributing to class discussions. The items in this factor all begin in, or are centered on activities from the classroom.

The third finding is that students identified by UTEP as being low risk, engaged in the educationally purposeful activities in factor four, technological communication, at higher rates than the students identified as medium risk. Technological communication is the smallest of the
four factors with only two variables. Both variables deal with the use of electronic mediums. The first variable identified the use of electronic mediums such as listservs, chat rooms or instant messaging to complete an assignment. The second variable involved the use of email to communicate with an instructor. Factor four was the only component to have a positive correlation with both of the output variables, GPA and retention. This indicates that students in this study who engaged in the activities identified in factor four were more likely to have higher GPA’s and be retained by UTEP.

The fourth finding is that high risk students had a higher rate of participation in factor three, academic work ethic, than low risk students did. Academic work ethic encompasses five educationally purposeful activities centrally focused on interacting with instructors or working to meet their expectations. The variables include preparing two or more drafts of a paper, discussing career plans with faculty or an advisor, discussing grades or assignments with an instructor, working harder than you thought you could to meet an instructor’s expectations, and coming to class unprepared. The academic work ethic factor was also found to have a positive correlation with the output variable GPA. This can be interpreted as the students from the low risk category that engaged in activities from factor three were more likely to have a higher GPA than their high risk counterparts who did not engage in these activities.

The final, and most surprising finding was that factor one, collaborative academic engagement, did not have any correlation to either of the output variables. This can be interpreted as not having a significant impact either positive or negative on the students in this study. How students answered the questions in this factor had no effect on their GPA or retention at UTEP.
Discussion

The finding that first generation students in this study engaged in diverse conversations at lower rates than non first generation students supports much of the previous research presented in the literature review in this study. First generation students tend to arrive on college with less knowledge about what college is like (Kuh et al., 2006). They tend to be less prepared to deal with the challenging environment and lack a general understanding of what is expected of them. Typically, first generation students come from minority backgrounds or lower SES categories. This can translate into the student having to work more hours to meet their college expenses and family obligations. One consequence of this is the limiting of time spent on campus by the student. This time limitation restricts and inhibits the interaction with other members of the college community (Tinto, 1988). This hampers the learning of important norms and patterns which according to Tinto (1988) are necessary to make the leap to the incorporation stage of student departure theory.

Many times students tend to play it safe and interact with people they know. This behavior can unknowingly prevent them from expanding their personal horizons and can hinder their retention at the university. This can be particularly true for a new freshman just trying to fit in, in a seminar class with 300 other freshman. Although, the NSSE (2005) data identified that first year students were more likely to interact with students from different racial backgrounds than their upper classman counterparts. Kuh et al. (2006) believed this may be due to the fact that more first year students live in on-campus housing than do upper class students. This does not hold true for UTEP students as less than 5 percent of them live on campus.

The finding that women participate in collaborative academic engagement activities at lower levels than men is not necessarily supported or rejected by the literature presented in this
study. Females have come a long way in claiming their place on college campuses since World War II (Goldin, Katz, and Kuziemko, 2006). Although more women are attending college, the playing field is still not level for them. Nuñez and Cuccaro-Alamin (1998) identify first-generation students as predominantly female, older, with lower incomes, married, and with dependents. These characteristics unfortunately serve as inhibitors to success in college (NSSE, 2005). Just as high school grades can serve as a predictor of college student success, various factors confronting first-generation college students can serve as major obstacles to their success. It is important to note that women participating in this study had a higher mean GPA score than the men participating in the study.

Most of the women in this study also self-identified as minority students. Without validation that they belong they may be less likely to engage or participate in educationally purposeful activities. The theory of validation encourages college administrators to be proactive not only in “promoting involvement but in affirming students as knowers and valuable members of the college learning community,” (Rendon, 2000, p. 645). For many culturally diverse students, the process of institutional agents promoting involvement is how they perceive student involvement to work (Rendon et al., 2000).

The finding that low risk students engaged in the activities of using electronic mediums to discuss or complete assignments and to communicate with their instructors is also well supported. It is important to remember which students are classified as low risk. Students with a zero score are classified as low risk. These students possess the following four characteristics: 1) they ranked in the top quartile of their high school class, 2) placed in college level mathematics, 3) planned to work less than 19 hours per week, and 4) enrolled at UTEP immediately following high school. Many of these students do not fit the norm for minority or first generation college
students. The students in the low risk category demonstrate a propensity to be successful at high school which is a clear indicator of success at college. The best predictor of college grades is comprised of a combination of a student’s academic preparation, high school grades, and educational aspirations and motivations (Kuh et al., 2006).

The finding that high risk students engaged in activities associated with academic work ethic, at higher rates than their low risk counterparts, can be explained by the number of intervention programs available at UTEP. While all students face challenges during their pre-college experiences, students from at-risk populations face additional challenges as previously discussed. Some of these challenges can be diminished with participation in one of the established programs. Some of the programs or interventions at UTEP designed to assist high risk students to be successful include the federally-funded trio programs of Gear Up, Student Support Services Program, Educational Talent Search and Upward Bound. Other student success intervention strategies include learning communities, first year seminars and a general overhaul of the academic advising process for undergraduates requiring students to be advised more frequently. It is not surprising that if the high risk students are participating in one of these programs that they would be required to engage in the educationally purposeful activities identified in the academic work ethic component.

The finding that collaborative academic engagement had no effect on the output variables of GPA and retention is both counter intuitive and is not supported by any of the previous literature presented in this study. “What a student does during college counts more for what they learn and whether they will persist in college than who they are or even where they go to college,” (Kuh et al., 2006). The amount of time students spend on educationally purposeful activities is perhaps one of the best indicators of learning and personal development which
translates into student success (Kuh et al., 2006). There is a large body of research demonstrating the more students engage in educationally effective practices, the more they learn and the more likely they are to persist through to graduation from college (Astin 1993; Kuh et al. 2006; Pascarella and Terenzini 2005; NSSE 2005).

The absence of association between collaborative academic engagement and GPA found in this study stimulates a search for meaningful explanation. While speculative, several explanations may be offered. One explanation is that the data reveal an accurate relationship, and indeed there is no relationship between academic engagement and the dependent variables. I believe this is highly unlikely. Another explanation is that the factor loadings identified in the study, while appearing to have face validity, are in some way failing to identify underlying relationships. Future research would help to uncover whether this is in fact the case. Finally, it might be useful to examine in greater detail, through qualitative research methods, the nature and types of student engagement and whether the anticipated benefits of such engagement are mediated and suppressed by some unidentified factors. Nevertheless, I am not yet willing to grant much credence to this finding.

The relationships identified in the reverse path analysis were only those determined to be statistically significant. Relationships did exist between the four factors and the two outcome variables but they were not statistically significant. This presents an area where further research is needed.

One other concern that must be addressed is the low return rate for the NSSE survey. The three year return rate for this study was 18.4 percent. More effort must be put into getting this return rate higher. A return rate as low as this one very possibly skews the data and prevents the researcher from being able to accurately identify the engagement practices that are occurring.
Recommendations for Future Research and Professional Practice

The purpose of this study was to identify student engagement practices at the University of Texas at El Paso and to explore the pathways to success for various student groups. The primary reason for doing this was to investigate ways to improve the overall success and ultimately retention rates for the students attending UTEP. UTEP is very successful at graduating students that come from underrepresented and sometimes invisible categories. UTEP is a leader in many areas of research and it is important that the institution continue to improve its understanding of student success for first generation and higher risk students according to national standards. With this in mind, several recommendations for future research and for professional practice are offered.

It is important for the University to continue to participate in surveys and data collection processes such as the NSSE. These processes provide insight into standards and practices around the country which is helpful for UTEP to use as a broad guide. It is equally important that institutions like UTEP begin to voice the need to include other information on surveys like NSSE. Information that would be beneficial to gather includes the student’s level of preparation before attending the institution, the student’s expectations from the institution, if the student has dependents, the level of support the student needs to provide to their family, and the marital status of the student. Information like this would be very beneficial for designing and defining activities and practices to aid in student success for students at UTEP. It would also be helpful to gather this information from other Hispanic Serving Institutions to determine if our students have similar needs.

In a similar vein, it is very important that the university continue to build upon Rendon’s (2000) theory of validation and its applicability to Hispanic students. It is crucial that we increase
our levels of understanding on the importance of validating student achievement and success. The promotion of student engagement as a top priority for the institution by focusing research resources and staff energy will surely benefit the students.

Further research is also necessary in the area of Hispanic student engagement. Perhaps some of the previously completed research can be brought to UTEP and replicated with the unique population that we serve. This will provide invaluable information on the successes and failures of various engagement practices currently underway.

In the area of professional practice, the University needs to promote the concept of validation more thoroughly across campus. Perhaps a validation committee could be convened similar to the UTEP customer service committee currently. This committee could work to identify current validation practices happening in and out of the classroom. Suggestions and or recommendations would be made by the committee to the president of the institution to further validation efforts across campus.

The validation committee could also be utilized to identify outstanding campus members that promote student validation. Perhaps a monthly award or some other type of compensation could be developed to enhance this program. The ultimate goal of this overall process is to develop a community of validation agents. People that understand the responsibility they have to get our students engaged.

Finally, current programs such as new student orientation, welcome scholar days, and freshman seminar courses must have validation and engagement components included in their mission and vision statements. These ideas must permeate the goals and directions of these operations. This approach allows staff members to have a better understanding through training of their role in the validation process. It also allows students to be exposed to validation
treatment early in their college career. The earlier the exposures to validation and engagement practices, the more likely the students are to persist to graduation. Helping students to succeed will certainly have intrinsic rewards for faculty and staff members as well.

The whole point behind this dissertation is to help identify policies, practices, and procedures that aid in the success and retention of students. It is important for research to continue to identify the emerging needs of our students so that we can change our programs to meet these needs. Failing to strive toward these ends means certain complacency and failure for the students served by UTEP.
References


Press.


Federal Register (2008). Department of health and human services: Annual update of the HHS


Washington, DC: The George Washington University, School of Education and Human Development.


NSSE has developed a web-based version of this survey. It contains the same questions spread over 27 computer screens.

### In your experience at your institution during the current school year, about how often have you done each of the following? Mark your answers in the boxes. Examples: ☐ or ☑

<table>
<thead>
<tr>
<th>Question</th>
<th>Very Often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Asked questions in class or contributed to class discussions</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>b. Made a class presentation</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>c. Prepared two or more drafts of a paper or assignment before turning it in</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>d. Worked on a paper or project that required integrating ideas or information from various sources</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>e. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>f. Come to class without completing readings or assignments</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>g. Worked with other students on projects during class</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>h. Worked with classmates outside of class to prepare class assignments</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>i. Put together ideas or concepts from different courses when completing assignments or during class discussions</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>j. Tutored or taught other students (paid or voluntary)</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>k. Participated in a community-based project (e.g., service learning) as part of a regular course</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>m. Used e-mail to communicate with an instructor</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>n. Discussed grades or assignments with an instructor</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>o. Talked about career plans with a faculty member or advisor</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>p. Discussed ideas from your readings or classes with faculty members outside of class</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>q. Received prompt written or oral feedback from faculty on your academic performance</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>r. Worked harder than you thought you could to meet an instructor's standards or expectations</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>u. Had serious conversations with students of a different race or ethnicity that your own</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

### During the current school year, how much has your coursework emphasized the following mental activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Very Much</th>
<th>Quite a Bit</th>
<th>Some</th>
<th>Very Little</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>b. Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>c. Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>d. Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>e. Applying theories or concepts to practical problems or in new situations</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>
3. During the current school year, about how much reading and writing have you done?
   a. Number of assigned textbooks, books, or book-length packs of course readings:
      - None
      - 1-4
      - 5-10
      - 11-20
      - More than 20
   b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment:
      - None
      - 1-4
      - 5-10
      - 11-20
      - More than 20
   c. Number of written papers or reports of 20 pages or more:
      - None
      - 1-4
      - 5-10
      - 11-20
      - More than 20
   d. Number of written papers or reports between 5 and 19 pages:
      - None
      - 1-4
      - 5-10
      - 11-20
      - More than 20
   e. Number of written papers or reports of fewer than 5 pages:
      - None
      - 1-4
      - 5-10
      - 11-20
      - More than 20

4. In a typical week, how many homework problem sets do you complete?
   None
   1-2
   3-4
   5-6
   More than 6

5. Mark the box that best represents the extent to which your examinations during the current school year have challenged you to do your best work.
   Very little
   Somewhat
   Very much

6. During the current school year, about how often have you done each of the following?
   Very often
   Often
   Sometimes
   Never

7. Which of the following have you done or do you plan to do before you graduate from your institution?
   a. Practicum, internship, field experience, co-op experience, or clinical assignment
   b. Community service or volunteer work
   c. Participate in a learning community or some other formal program where groups of students take two or more classes together
   d. Work on a research project with a faculty member outside of course or program requirements
   e. Foreign language coursework
   f. Study abroad
   a. Independent study or self-designed major
   b. Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)

8. Mark the box that best represents the quality of your relationships with people at your institution.
   a. Relationships with other students
      - Unfriendly, unsupportive, sense of alienation
      - Friendly, supportive, sense of belonging
   b. Relationships with faculty members
      - Unavailable, unhelpful, unsympathetic
      - Available, helpful, sympathetic
   c. Relationships with administrative personnel and offices
      - Unhelpful, inflexible
      - Helpful, considerate, flexible
9. About how many hours do you spend in a typical 7-day week doing each of the following?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing for class (studying, reading, writing, doing homework, lab work, analyzing data, rehearsing, and other academic activities)</td>
<td>0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30</td>
</tr>
<tr>
<td>Working for pay on campus</td>
<td>0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30</td>
</tr>
<tr>
<td>Working for pay off campus</td>
<td>0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30</td>
</tr>
<tr>
<td>Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)</td>
<td>0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30</td>
</tr>
<tr>
<td>Relieving and socializing (watching TV, partying, etc.)</td>
<td>0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30</td>
</tr>
<tr>
<td>Providing care for dependents living with you (parents, children, spouse, etc.)</td>
<td>0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30</td>
</tr>
<tr>
<td>Commuting to class (driving, walking, etc.)</td>
<td>0 1-5 6-10 11-15 16-20 21-25 26-30 More than 30</td>
</tr>
</tbody>
</table>

10. To what extent does your institution emphasize each of the following?

<table>
<thead>
<tr>
<th>Emphasis</th>
<th>Very much</th>
<th>Quite a bit</th>
<th>Some</th>
<th>Very little</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spending significant amounts of time studying and on academic work</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Providing the support you need to help you succeed academically</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouraging contact among students from different economic, social, and racial or ethnic backgrounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helping you cope with your non-academic responsibilities (work, family, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Providing the support you need to thrive socially</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using computers in academic work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

<table>
<thead>
<tr>
<th>Contribution</th>
<th>Very much</th>
<th>Quite a bit</th>
<th>Some</th>
<th>Very little</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring a broad general education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquiring job or work-related knowledge and skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing clearly and effectively</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking clearly and effectively</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking critically and analytically</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyzing quantitative problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using computing and information technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working effectively with others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voting in local, state, or national elections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning effectively on your own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding yourself</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solving complex real-world problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing a personal code of values and ethics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributing to the welfare of your community</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing a deepened sense of spirituality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Overall, how would you evaluate the quality of academic advising you have received at your institution?

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
</table>

13. How would you evaluate your entire educational experience at this institution?

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
</table>

14. If you could start over again, would you go to the same institution you are now attending?

<table>
<thead>
<tr>
<th>Response</th>
<th>Definitely yes</th>
<th>Probably yes</th>
<th>Probably no</th>
<th>Definitely no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Write in your year of birth:</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Your sex:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Male</td>
<td>☐ Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Are you an international student or foreign national?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Yes</td>
<td>☐ No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. What is your racial or ethnic identification? (Mark only one.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ American Indian or other Native American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Asian, Asian American, or Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Black or African American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ White (non-Hispanic)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Mexican or Mexican American</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Puerto Rican</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Other Hispanic or Latino</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Multiracial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ I prefer not to respond</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. What is your current classification in college?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Freshman/first-year</td>
<td>☐ Senior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Sophomore</td>
<td>☐ Unclassified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Junior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Did you begin college at your current institution or elsewhere?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Started here</td>
<td>☐ Started elsewhere</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Vocational or technical school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Community or junior college</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ 4-year college other than this one</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Thinking about this current academic term, how would you characterize your enrollment?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Full-time</td>
<td>☐ Less than full-time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Are you a member of a social fraternity or sorority?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Yes</td>
<td>☐ No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Are you a student-athlete on a team sponsored by your institution’s athletics department?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Yes</td>
<td>☐ No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▼ On what team(s) are you an athlete (e.g., football, swimming)? Please answer below:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. What have most of your grades been up to now at this institution?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ A</td>
<td>☐ B+</td>
<td>☐ C+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ A-</td>
<td>☐ B</td>
<td>☐ C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ B-</td>
<td>☐ C- or lower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Which of the following best describes where you are living now while attending college?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Dormitory or other campus housing (not fraternity/sorority house)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Residence (house, apartment, etc.) within walking distance of the institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Residence (house, apartment, etc.) within driving distance of the institution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Fraternity or sorority house</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. What is the highest level of education that your parent(s) completed? (Mark one box per column.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Did not finish high school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Graduated from high school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Attended college but did not complete degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed an associate's degree (A.A., A.S., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed a bachelor's degree (B.A., B.S., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed a master's degree (M.A., M.S., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed a doctoral degree (Ph.D., J.D., M.D., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Did not finish high school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Graduated from high school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Attended college but did not complete degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed an associate's degree (A.A., A.S., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed a bachelor's degree (B.A., B.S., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed a master's degree (M.A., M.S., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Completed a doctoral degree (Ph.D., J.D., M.D., etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**THANKS FOR SHARING YOUR RESPONSES!**

After completing the survey, please put it in the enclosed postage-paid envelope and deposit it in any U.S. Postal Service mailbox. Questions or comments? Contact the National Survey of Student Engagement, Indiana University, 1900 East Tenth Street, Eigenmann Hall Suite 418, Bloomington IN 47406-7512 or nsee@indiana.edu or www.nsee.iub.edu. Copyright © 2007 Indiana University.
Appendix B

Table 1

Participant Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 or Younger</td>
<td>533</td>
<td>96.2</td>
</tr>
<tr>
<td>20-23</td>
<td>9</td>
<td>1.6</td>
</tr>
<tr>
<td>24-29</td>
<td>7</td>
<td>1.3</td>
</tr>
<tr>
<td>30-39</td>
<td>3</td>
<td>.5</td>
</tr>
<tr>
<td>40-55</td>
<td>2</td>
<td>.4</td>
</tr>
<tr>
<td>Total</td>
<td>554</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 2

Participant Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>332</td>
<td>59.9</td>
</tr>
<tr>
<td>Male</td>
<td>222</td>
<td>40.1</td>
</tr>
<tr>
<td>Total</td>
<td>554</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appendix B

Table 5
Participant Enrollment Level

<table>
<thead>
<tr>
<th>Enrollment Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than full-time</td>
<td>34</td>
<td>6.1</td>
</tr>
<tr>
<td>Full-time</td>
<td>518</td>
<td>93.5</td>
</tr>
<tr>
<td>Total</td>
<td>552</td>
<td>99.6</td>
</tr>
</tbody>
</table>

Table 6
Participant Greek Membership

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>526</td>
<td>94.9</td>
</tr>
<tr>
<td>Yes</td>
<td>28</td>
<td>5.1</td>
</tr>
<tr>
<td>Total</td>
<td>554</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appendix B

Table 7

Participant Typical Grades Received to This Point

<table>
<thead>
<tr>
<th>Grade</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>C- or Lower</td>
<td>8</td>
<td>1.4</td>
</tr>
<tr>
<td>C</td>
<td>25</td>
<td>4.5</td>
</tr>
<tr>
<td>C+</td>
<td>33</td>
<td>6.0</td>
</tr>
<tr>
<td>B-</td>
<td>51</td>
<td>9.2</td>
</tr>
<tr>
<td>B</td>
<td>105</td>
<td>19.0</td>
</tr>
<tr>
<td>B+</td>
<td>106</td>
<td>19.1</td>
</tr>
<tr>
<td>A-</td>
<td>87</td>
<td>15.7</td>
</tr>
<tr>
<td>A</td>
<td>130</td>
<td>23.5</td>
</tr>
<tr>
<td>Total</td>
<td>545</td>
<td>98.4</td>
</tr>
</tbody>
</table>
Appendix B

Table 8

Participant Residence

<table>
<thead>
<tr>
<th>Residence Type</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Campus housing</td>
<td>25</td>
<td>4.5</td>
</tr>
<tr>
<td>Within walking distance of campus</td>
<td>21</td>
<td>3.8</td>
</tr>
<tr>
<td>Within driving distance of campus</td>
<td>505</td>
<td>91.2</td>
</tr>
<tr>
<td>Fraternity or sorority house</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>Total</td>
<td>552</td>
<td>99.6</td>
</tr>
</tbody>
</table>

Table 9

Participant Retention to Next Fall Semester

<table>
<thead>
<tr>
<th>Retention Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retained</td>
<td>473</td>
<td>85.4</td>
</tr>
<tr>
<td>Not Retained</td>
<td>81</td>
<td>14.6</td>
</tr>
<tr>
<td>Total</td>
<td>554</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appendix B

Table 10

UTEP Identification of Risk

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Risk - 1</td>
<td>80</td>
<td>14.4</td>
</tr>
<tr>
<td>Medium Risk - 2</td>
<td>164</td>
<td>29.6</td>
</tr>
<tr>
<td>Low Risk – 3</td>
<td>219</td>
<td>39.5</td>
</tr>
<tr>
<td>No Score</td>
<td>91</td>
<td>16.4</td>
</tr>
<tr>
<td>Total</td>
<td>554</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Appendix C – Institutional IRB Approval

THE UNIVERSITY OF TEXAS AT EL PASO
Office of the Vice President for Research and Sponsored Projects
Institutional Review Board
El Paso, Texas 79968-0587
phone: 915 747-8841 fax: 915 747-5931

DATE: March 12, 2009
TO: Charles Gibbens
FROM: University of Texas at El Paso IRB

STUDY TITLE: [111251-1] - The Effect of Student Engagement on Student Success at a Bicultural Hispanic Serving Institution
IRB REFERENCE #: 
SUBMISSION TYPE: New Project
ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: March 10, 2009

Thank you for your submission of New Project materials for this research study. University of Texas at El Paso IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office.

If you have any questions, please contact UTEP’s Institutional Review Board at (915) 747-8841 or irb.ofsp@utep.edu. Please include your study title and reference number in all correspondence with this office.
Curriculum Vita

Charles Gibbens was born in Denver, Colorado. He is one of six children born to Edwin and Mary Gibbens. He is the product of a very stable nuclear family. He was born and raised in Aurora, Colorado where he graduated from High School in 1982. After taking several years off, Charles enrolled as a first-generation college student at the University of Northern Colorado (UNC) located in Greeley, Colorado. He graduated from UNC in 1993 with a Bachelor of Art’s degree in Communications with a minor in Sociology. Charles began his work in Student Affairs while at UNC. He served in the capacity of Resident Advisor for one year and as an Assistant Hall Director for four years.

In 1993, Charles accepted his first professional position as the Resident Manager at the University of Missouri at Kansas City (UMKC). In 1996, Charles graduated from UMKC with a Master of Art’s degree in Higher Education Administration. Also in 1996, Charles moved to Pullman, Washington where he worked as a Hall Director for Washington State University for one year.

Charles’ next student affairs position came as the Assistant Director of Housing and Residence Life at Tarleton State University in Stephenville, Texas. After serving in this capacity for six months, he was promoted to the Director of Housing and Residence Life and served in this position for three and a half years. In 2002, Charles accepted the Assistant Director of Conferences and Events position at the University of Northern Colorado and began work on his doctorate in Higher Education Student Affairs Leadership. In 2004, Charles transferred to the University of Texas at El Paso to complete work on his doctorate in Educational Leadership and Foundations and served UTEP as the Director of Housing and Residence Life.
Over the years, Charles has been very active on the campuses where he has worked serving on various committees and task forces. Some of these include professional staff development committee (UTEP), student service fees committee (UTEP), campus climate task force (UTEP), campus safety task force (UTEP), charting the future initiative (UNC) and the technology service fee committee (TSU).

Charles has also been active in a number of professional organizations including the National Association of Student Personnel Administrators (NASPA), Association of College and University Housing Officers International (ACUHO-I), Texas Association of College and University Student Personnel Administrators (TACUSPA), and the Texas Residence Hall Association (TRHA). Charles has made numerous presentations at yearly meetings and conferences.

Charles is very passionate about serving as a student advocate.

Permanent Address: Charles E. Gibbens
808 Amsterdam Way
El Paso, Texas 79912