Self-determination, Success, and College Readiness of First Generation Students in A Higher Education Institution

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SELF-DETERMINATION, SUCCESS, AND COLLEGE READINESS OF FIRST

GENERATION STUDENTS IN A HIGHER EDUCATION INSTITUTION

A Dissertation

by

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ABSTRACT

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The purpose of the study was to describe and compare if self-determination factors differed in first and non-first generation college students and success levels. Additionally, comparisons of college readiness levels were measured, and finally a measure of factors that contribute to college success based in first and second semester grade point averages were investigated using multiple linear regression analysis.

Using a Self-Determination Theory framework of human motivation, helps identify a basic psychological need for autonomy as a central feature for understanding effective regulation and well-being (Moller, Ryan, & Deci, 2006).

The target population in this study was 1,586 returning students of the 2008 freshmen cohort for the University of Texas Pan American in the Fall of 2010. About 10% or 187 of the returning students completed the Academic Motivation Scale survey. However, after additional information were collected only 146 subjects had usable data for all variables. A number of group comparisons were made based on college generation, success as measured by first and second semester college grade point averages, and college readiness as measured by ACT composite scores. The comparisons yielded no differences in motivation with the exception of intrinsic motivation, to experience stimulation, where successful students showed higher motivation than less successful students. This phenomenon was only apparent the second

semester of college attendance, not the first semester. The overall descriptive analysis indicates that there are very few differences in intrinsic and extrinsic motivation in these groups of students. Multiple linear regression analyses revealed that external regulation (external motivation) contributed with 5.8 percent of the total variance in grade point average for the first semester, toward accomplishment (intrinsic motivation) contributed with 4.7 percent, and the ACT composite score contributed with an additional 3.9 percent of the total variance in first semester grade point average. The variables that explained the amount of variance in second semester grade point average were to know (internal motivation) with 2.7 percent, and external regulation (extrinsic motivation) with 3.6 percent.

DEDICATION

Completing my doctoral studies would not have been possible without the love and support of my family. My son, Joshua Jared Ochoa, wholeheartedly inspired, motivated and supported me to accomplish this degree. By every means I hope he will follow in my footsteps. Joshua: Thank you for your love and support. I also dedicate this accomplishment to my sister, Ana Maria Ochoa. She never had the opportunity to obtain an education due to her learning disability; and so, Ana Maria -- this is for you.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

"Should every student pursue higher education? Not necessarily. Should every student be

prepared for and have the choice to attend college or pursue other types of post-high-

school education? Absolutely" (Huebner & Corbett, 2007).

According to Martinez (2003), many researchers have confirmed that individuals who

come from an educated, middle class household are more likely to participate in post-secondary

education and be successful in that endeavor than first-generation students who come from

uneducated, low-income households. Nationally, 46% of all public institutions and 57% of two-

year institutions rank the academic preparation of entering students as fair or poor (El-Khawas &

Knopp, 1996). In the fall of 1995, 29% of first-time freshmen in postsecondary institutions and

41% of first time freshmen in public two-year institutions enrolled in at least one remedial course

(Lewis, Farris, & Greene, 1996). Additionally, due to their lower college readiness rates, Black

and Hispanic students are seriously underrepresented in the pool of minimally qualified college

applicants (Greene & Forster, 2003). While colleges, especially community colleges, have made

great progress in eliminating or minimizing financial barriers that have historically restricted

college access for Black and Hispanic students, the statistics support that low-income first-

generation students continue to graduate from high school unprepared to attend higher education.

According to the National Center for Educational Statistics (NCES), (2004), over 90% of the 2002 high school sophomore cohort was expected to attend college, with over 70% expecting to complete a four-year college degree. In actuality, only 62% of that 2002 cohort enrolled in college, and nearly half of them failed to return for a second year. Despite efforts to enhance access to and success in college by aligning and improving curricula, this study and others (see also NCES, 2005) revealed that students who do not achieve successful college outcomes are disproportionately minority, low income, and first-generation college students.

Greene and Forster (2003) reported that only 70% of all students in public high schools, graduate, and only 32% of all students leave high school qualified to attend four-year colleges. They went on to say that only 51% of all Black students and 52% of Hispanic students graduate from high school. Resulting in only 20% of all Black students and 16% of all Hispanic students leaving high school prepared for college work. According to the 2008 ACT College report, the percentages of ACT-tested 2008 high school graduates who met or surpassed ACT's College Readiness Benchmarks in math (43%), reading (53%), and science (28%) were unchanged compared to 2007 and were either the same or higher than they were in 2004 to 2006. The proportion of 2008 graduates who met the benchmark in English (68%) dropped by one percentage point compared to the last two years, but was equal to the percentage in 2004 and 2005.

One consequence of students not being college ready is an increase in the number of students enrolled in non-credit remedial courses. The 2004 report from the National Center for Education Statistics claimed that more students are taking at least one year of remedial coursework than students five years ago. It also reports that in the fall of 2002, more than

600,000 of the freshmen (or 29% of the total) were taking at least one remedial reading, writing or math class. The cost of these remedial classes to taxpayers was about $1 billion a year.

Trying to understand why college remediation is on the increase is a frustrating problem for policymakers and educators; understanding is made increasingly frustrating by the complexity of the causes behind it (McJunkin, 2005). According to Greene and Forster (2003) some individuals and groups blame the low rates of college readiness on the inability of the students to learn, rather than on the job public schools do of teaching those students. McJunkin (2005), however, points out that the literature in this area suggests a combination of factors contributes to students being placed in remedial instruction, including: 1) socioeconomic status, 2) English Language proficiency, and 3) high school preparation. Similarly, Martinez (2003) proffered that factors such as 1) being first-generation college students, 2) low-income, 3) demographically underrepresented, and 4) identified as having the need for additional academic support services for college level work, may influence the college success of these students.

Choy (2004) defined first-generation students as those that come from families in which neither parent has attended college. Gibbons and Shoffner (2004) cited empirical research that has helped to identify several unique characteristics of this population. They report on research by Horn and Nunez (2000) that found that first-generation students seem to differ in academic preparation with only 14% of prospective first-generation enrollees having taken Algebra in the eighth grade, compared to over one third of students with college graduate parents. These authors also reported that studies have shown these students perceived adapting to the stresses of the college environment as more difficult than other students. Additionally, Murphy and Hicks (2006) found that first-generation students are more likely to have lower first-semester grades and lower first year grade point averages than those whose parents attended college.

This accumulation of research generally indicates that students whose parents did not attend college are more likely than their non-first-generation counterparts to be less academically prepared for college, to have less knowledge of how to apply for college and for financial assistance, and to have more difficulty in acclimating themselves to college once they enroll. These students are also more at risk of not completing a degree because they are more likely to delay enrollment after high school, to enroll in postsecondary education part-time, and/or to work full-time while enrolled. While all students face many barriers during their first year of college, this study of self-determination factors, success levels, and college readiness of first-generation and non-first generation students was designed to help explain and compare the differences between and among these students.

Statement of the Problem

There are many first-generation students who are not prepared for college (Conley, 2003) and, if enrolled, are unable to successfully complete college courses because of various barriers. These barriers include: the inability to learn, low levels of English Language proficiency, a lack of high school preparation, low family income, a lack of support at home or in the school due to low grades, being a member of under-represented groups, and insufficient academic support service for college level work. Conversely, other students who have the support at home and/or live with their parents do succeed in the completion of their courses (Conley, 2003). Because student retention is a growing concern for many institutions of higher learning, ongoing empirical research is needed to identify ''which types of students in which types of settings'' would most benefit from strategies to reduce the incidence of attrition (Tinto, 1982, p. 699).

According to Moore (2003), students in higher education can be motivated to learn through experiences. Learning development is a lifelong process and one of the most significant

4

findings from research about learning is that when students learn something naturally (as distinct from being taught in a formal way) they are highly self-directing (Moore, 2003). Furthermore, what students learn on their initiative is learned more deeply and permanently than what they are taught through traditional educational methods (Moore, 2003). This can be a problem since first generation students have less chance of success because of their social-economic status and the barriers they face; because of these barriers students are not motivated to succeed. The main problem investigated in this study is to compare self-determination factors based on academic success, and college readiness of first and non- first-generation college students (at a southern higher education institution where the student population is predominantly Latino).

Purpose and Significance of the Study

The purpose of the study was to describe and compare whether self-determination factors differed in first and non-first-generation college students, success levels during the first and second semester at a university, and success levels by college generation. Additionally, self-determination factors were compared based on college generation, college readiness levels and college generation by college readiness levels. Moreover, a measure of factors that contribute to college success based in first and second semester grade point averages were investigated.

The significance of the findings related to self-determination, college success, college readiness, and college generation of students may be used by university personnel as they work towards improving retention or prevent attrition, and recruit students, such as first generation college students, or as they develop specific strategies in this endeavor.

Need of the Study

Information is needed to guide universities with a high enrollment of first-generation college students with regards to college readiness and success as it relates to self-determination

motivation. Although a number of studies have been conducted on self-determination motivation (e.g., Shim & Ryan, 2005), few, if any, studies have utilized a college student population of various levels of generations (Balduf, 2009), college readiness (Conley, 2005) and college success (Hsieh, Sullivan & Guerra, 2007) in combination. Shim and Ryan (2005) found that students who valued mastery – mastering the content regardless of the academic gain – had higher motivation; while performance-avoidance – shying away from challenge and situations that could result in failure – related to lower motivation.

Of those studies reported, none have investigated these variables in combination (Preckel, Holling, & Vock, 2006; Balduf, 2009). This study may provide direction for strategic planning or policy development to universities with a large number of first-generation college students; it may also identify what may be needed to decrease the problem previously described. This study may also provide information related to college student development and academics.

Research Questions

The following research questions guided the study:

(1) What is the difference in self-directed motivational factors among first-generation and non-first-generation freshman college students, first semester college success levels, and first-generation and non-first-generation freshman college students by success levels the first semester?

(2) What is the difference in self-directed motivational factors among first-generation and non-first-generation freshman college students, second semester college success levels, and first-generation and non-first-generation freshman college students by success levels the second semester?

(3) What is the difference in self-directed motivational factors among first-generation and non-first-generation freshman college students, college readiness groups, and college generation by college readiness groups?

Additional research questions were generated to measure the amount of variance in academic success explained by several predictor variables.

(4) What amount of the total variance in academic performance the first semester in college may be contributed by college generation, ACT composite scores, intrinsic motivation, extrinsic motivation, and amotiovation?

(5) What amount of the total variance in academic performance the second semester in college may be contributed by college generation, ACT composite scores, intrinsic motivation, extrinsic motivation, and amotiovation?

These guiding research questions were further converted into specific hypothetical constructs that will be presented in the methodology section of this dissertation.

Theoretical or Conceptual Framework

Proposed by Deci and Ryan (2000), Self-determination Theory (SDT), when applied to education primarily relates to students' confidence in their own capacities and attributes, how much they value the education, (or learning) that is taking place, and also their interest in learning the topic at hand. Self-determination theory looks at what engages a student in an activity, or causes some action to be performed. It separates actions that are entered into by the student freely of their own choice versus actions that are compelled by an outside source.

The SDT approach to motivation differentiates between autonomous or truly volitional actions and heteronomous actions that are controlled by forces experienced as external to the self (Moller, Ryan, et al., 2006). To be autonomously motivated involves feeling a sense of choice

and volition as a person fully endorses his or her own actions or decisions (Ryan & Deci, 2000). The self-determination theory identifies a basic psychological need for autonomy as a central feature for understanding effective regulation and well-being (Moller, Ryan, et al., 2006). People are autonomous when they do something they find interesting or personally important (Moller, Ryan, & Deci, 2006). In contrast, to be controlled is to act because there is pressure to do so (Moller, Ryan, et al., 2006). Once the student is autonomously motivated, the student is able to focus on the action and decisions the student needs to make.

The concepts of autonomous and controlled motivation evolved from a prior distinction between intrinsic and extrinsic motivation (Ryan & Deci, 2000). *Intrinsic motivation* means doing something because the activity itself is interesting, spontaneously enjoyable, and satisfying. For example, leisure pursuits are frequently intrinsically motivated. Because such behaviors are fully endorsed and volitional, intrinsically motivated behaviors are fully endorsed and volitional; intrinsically motivated behaviors are the prototype of autonomous motivation (Moller, Ryan, et al., 2006). In contrast, *extrinsic motivation* means doing something because it is instrumental to some separable consequence (Moller, Ryan, et al., 2006). Behaving to forestall a threatened punishment or to achieve a self-directed long term goal are examples of extrinsic motivation (Moller, Ryan, et al., 2006). It is important to recognize that extrinsically motivated behaviors vary widely in the level of autonomy that accompanies them; some extrinsic motives are relatively controlled, and others are relatively autonomous (Ryan & Connell, 1989). The least autonomous form of extrinsic motivation is "external regulation," in which case a person's behavior is motivated by external and punishment contingencies. For example, the worker whose only motivation for work is to get a paycheck on Friday is externally regulated (Moller, Ryan, et al., 2006). Somewhat more autonomous is "introjected regulation," in which

internal, self-esteemed based contingencies drive behavior; people feel proud or worthwhile when they behave in accordance with an introjected value or standard, but they feel self-derogating, guilty, or ashamed when they do not (Moller, Ryan, et al., 2006). Thus, introjects are motivations that are within the person, but their operation is primarily controlled rather than autonomous (Moller, Ryan, et al., 2006).

However, if one is interested in the phenomenology of everyday life, regardless of its origins, there is much to be contemplated. The authors propose trying to create a world in which people will experience competence in what they do and the opportunity for action without perceived external constraint. In their view, primary among the changes needed to produce such a social context is elimination of coercion through consequences. They hold that behavior maintained by feedback that identifies competence will be better sustained in the absence of social contingencies than is behavior that was generated by competition for resources used to control people's choices.

Definition of Terms

The terms defined in this section of the dissertation have a special meaning and are important in understanding how the researcher uses the terms.

American College Test (**ACT**). The American College Test (ACT) assesses high school students' general educational development and their ability or aptitude to complete college-level work at the undergraduate level.

First Generation Students. First generation college going students come from families in which neither parent has attended college (Choy, 2001), whereas, non-first generation students are those in which, at least, one parent has attended and completed college.

Grade Point Average Scale. The participating university calculates the grade point average as follows: The grade point average (GPA) is computed by dividing the total grade points earned by the total hours attempted. The Cumulative Grade Point Average is calculated using all coursework (excluding repeated courses) attempted. The current semester grade point average is calculated using only coursework attempted within a specific semester. The University of Texas Pan American (UTPA) uses a 4.0 system.

College Ready. A college student who is enrolled in college credit courses without being required to enroll in developmental education classes is considered to be college ready.

The Texas Success Initiative (TSI). The Texas Legislature under the *Texas Administrative Code, Title 19, Part 1, Chapter 4, subchapter C* (Texas Education Agency, 2007) replaced the Texas Academic Skills Program (TASP) with the Texas Success Initiative (TSI). This legislation also replaced the TASP exam with the THEA (Texas Higher Education Assessment), and the ASSET, is the student success system a testing program by ACT, COMPASS, an untimed computerized test and ACCUPLACER , a computerized accurate student test. Under the new legislation TSI requires all students to be assessed (tested) prior to enrolling in college level coursework in the areas of reading, math and writing, and for all students to prepare an academic plan for success with an advisor. Under the TSI students who do not qualify for college credit courses are required to enroll in *Developmental classes*. These developmental classes extend and improve the students' reading, writing, and math skills.

<div align="center">**Summary**</div>

This chapter presented an introduction to the study that discussed the following: (1) statement of the problem, (2) the purpose and significance of the study, (3) the need of the study, (4) the research questions, (5) the theoretical or conceptual framework, and (6) the definitions of

terms used throughout this dissertation. The next chapter will present a review of literature that

discusses national reform efforts and state mandates, Texas mandates, first generation college

students, American College Test, college ready preparation, motivation, and research using the

self-determination theory.

CHAPTER II

REVIEW OF LITERATURE

For this review of literature sources were gathered from institutional websites, state agency websites, various books, journals, and databases. In order to organize the review for the reader, an overview of national educational reform efforts and state mandates by the Texas Education Agency and the Texas Higher Education Coordinating Board is presented first. The remaining literature is organized into the following subsections: first-generation college students, ACT, and college ready preparation, and motivation, a brief review of studies using the Self-determination Theory.

National Educational Reform Efforts and State Mandates

The U.S. Department of Education's National Commission on Excellence in Education (1983) published the report, *A Nation at Risk*. This document is often cited as the origin of current reform efforts. The report stated its conclusions in brief but dramatic terms:

> If an unfriendly power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. We have even squandered the gains in achievement made in the wake of the Sputnik challenge. Moreover, we have dismantled essential support systems which helped make those gains possible. We have, in effect, been committing an act of unthinking, unilateral educational disarmament.

The Commission advanced the following recommendations: Graduation

requirements should be strengthened so that all students establish a foundation in

five new basics:

- English, mathematics, science, social studies, and computer science.

- Schools and colleges should adopt higher and measurable standards
  for academic performance.

- The amount of time students spend engaged in learning should be
  significantly increased.

- The teaching profession should be strengthened through higher
  standards for preparation and professional growth (p. 5).

A variety of reports, books, reform initiatives and legislation came about as a result of the

publication of this report. Pulliam and Van Pattern (2007) claimed more than thirty examinations

of public education following the publication of *A Nation at Risk (NAR)*. Guthrie and Springer

(2004) report that, "In response to the report, state after state launched Blue Ribbon

Commissions, Task Forces, and Policy Working Groups to examine and recommend changes to

their respective education systems" (p. 13). They went to assert that "*NAR* spurred more

commotion, controversy, and change to America's schools than any other public statement

issued after the U.S. Supreme Court's 1954 declarations regarding de jure racially segregated

schools in *Brown v. Brown of Education*" (p. 14).

The Texas Education Agency (TEA) and the Texas Higher Education Coordinating

Board (THECB) are two from among the various state entities that have particular influence on

the standards and expectations for students exiting high school and those entering post-secondary

education. Both entities have generated initiatives in the last decade that require students to

demonstrate their mastery of specific learning objectives through performance on specific assessments.

Texas Education Agency's testing for high school graduation

The Texas Education Agency (TEA) is the state level agency responsible for the organization and administration of the state's primary and secondary public education. The Texas Education Agency's mission calls for providing leadership, guidance and resources to help schools meet the educational needs of all students in the state. The chief executive officer for TEA is the Commission of Education, appointed by the Governor and approved by the legislature. TEA is a multi-level, multi-unit organization (TEA, 2011a).

Among the various duties, the Texas Education Agency has important responsibilities related to assessing public school students on what they have learned and determining district and school accountability ratings. TEA provides an array of reports based on the results of student testing and other assessments. In accompanying this, the Texas Education Agency (TEA) requires high school students, prior to graduating, to demonstrate mastery of a number of objectives that the state of Texas has identified as the Texas Essential of Knowledge Skills (TEKS). The required knowledge and skills from these objectives were up to 2011 assessed using the Texas Assessment of Knowledge Skills (TAKS) and are now replaced by the State of Texas Assessment of Academic Readiness (STAAR). The TAKS was a state mandated exit exam in which a student must demonstrate that he or she has mastered certain cognitive skills in the areas of math, English, science and reading. If a student demonstrates mastery of these skills by passing the exit TAKS assessment, the student receives a high school diploma. According to the Destination College Planning Guide (2008) there is no declaration by the TEA, that mastery on the TAKS demonstrates college readiness.

The Texas Higher Education Coordinating Board's (THECB) college readiness requirements

While TEA has responsibility for elementary and secondary high school, the Texas Higher Education Coordinating Board (THECB, 2003) works to provide leadership for and coordination of the Texas higher education system. The Texas Legislature created the THECB in 1965 and since that time has sought to achieve excellence for the college education of Texas students.

The Texas Higher Education Coordinating Board (2000) seeks to help the state achieve its goals for higher education through its plan, *Closing the Gaps by 2015*. Achievement of this plan is intended to provide the widest access possible to high quality higher education and to do so in the most efficient way. The THECB works with the state legislature, the governor, higher education institutions in the state and other entities to encourage and promote access to higher education throughout Texas.

In March of 1999, the THECB decided to develop and adopt a new higher education plan that would concentrate on critical goals and provide a means for measuring the progress toward and achievement of those goals. As a result, a planning committee made up of individuals from the Coordinating Board, business community, community leaders, and former higher education governing board members from around the state. A process for actively seeking input from various stakeholder groups was implemented including public hearings, joint meetings with task forces for other groups, and contracted studies. The draft plan was disseminated to 1,500 individuals, higher education representatives, and professional association officials. Based on the input from these groups and individuals along with information secured through a variety of other processes, the THECB approved a plan they named, *Closing the Gaps Higher Education, in October 2000.* Among the strategies included in the plan for Closing the Gaps in higher

15

education are a recommended high school program, post-secondary readiness standards, the Texas Success Initiative (TSI), uniform grade point average, P-16 collaborative, financial aid, college admission criteria and developmental education. Of particular importance, to this study is the adoption and implementation of the Texas Success Initiative (TSI). The Texas Success Initiative (TSI) became state law in 2003. TSI addresses assessment, advising, developmental education, and student support services intended to make sure that entering college students have the skills they need to be successful.

The Texas Higher Education Coordinating Board (THECB) requires students to be college ready before entering a four-year institution. Under the Texas Success Initiative, students are assessed to determine their academic skills for each entering undergraduate freshmen and each student's readiness to enroll in freshmen level academic coursework. The student must have the minimum passing standards, which must be attained in reading, writing, and mathematics that indicates the students' readiness to enroll in freshmen level academic course work.

In the state of Texas, most four-year institutions, require students to test on the Texas Higher Education Assessment (THEA) and a college entrance exam, Scholastic Assessment Test (SAT) or the American College Test (ACT) and meet the minimum required scores to enter the institution. The ACT assesses high school student's general educational development and their ability to complete college-level work. The ACT is one of several college entrance exams used nationwide. In 2008 the University of Texas Pan American (UTPA) required students to score a 16 or above on the ACT to enter the university (UTPA Admissions Office, 2008). The Texas Higher Education Assessment (THEA) provides assessment of skills in reading, writing, and mathematics before entering public colleges, universities, and educator preparation program in public and private institutions. The THEA was approved by the Texas Higher Education

Coordinating Board, under Senate Bill 286, *Texas Education Code, and Section 51.3062*. The

Texas Success Initiative for use by Texas institutions of higher education was used to evaluate

incoming freshmen students. It provides the diagnostic data required by this legislation; its

content is the same as that of the former TASP test. The THEA is the only assessment developed

specifically to evaluate the readiness of students for college-level coursework in Texas. The

Pearson Evaluation Systems group developed the THEA through a rigorous review and approval

process supported by skilled and experienced Texas educators.

Committees of Texas educators reviewed all THEA test questions. This was done to

ensure content accuracy and prevent potential bias. If a student is not college ready as indicated

by THEA scores, he or she is required to enroll in developmental classes. These classes are non-

credit course work, which a student must first master in order to move to academic college

course classes in some subject areas. These are the mandates by the state in order for a student to

enter a four-year institution. College readiness may be a factor in student success at the college

level, but are there other factors that have an impact on student achievement in higher education?

Studies in socioeconomic status, first-generation status, and motivation have been researched

because they may be factors in student achievement success in higher education.

First Generation College Students

First-generation college students, defined as those students whose parents have not

completed a college education, are one type of student for whom the statistics on retention are

particularly alarming (Pascarella, Wolniak, Pierson & Terenzini, 2004; Prospero, 2007).

According to Engle and Tinto (2008), for most of the 4.5 million low-income, first-generation

students enrolled in post-secondary education today (approximately 24% of the under graduate

population), the path to the bachelor's degree will be long, indirect, and uncertain. For many, the

journey will end where it begins. Data from the National Center for Education Statistics'

Beginning Post-secondary Study (2004), established that low-income, first-generation students

experience less success than their peers right from the start. The following conclusions were

drawn based on information across all institution types:

- Low-income, first-generation students were nearly four times more likely, 26% to 27%,

  to leave higher education after the first year than students who had neither of these risk

  factors.

- Six years later, nearly half (43%) of low-income, first-generation students had left college

  without earning their degrees. Among those who left, nearly two-thirds (60%) did so after

  their first year.

Hertel (2002) discussed the difficulties first-generation students have adjusting to college

compared to non-first-generation students. In his study there were 130 first year students who

returned surveys at one large Midwestern public university, and the research indicated that

students learn by becoming involved in college life. Researchers found that one of the most

important predictors of persistence among college students was the educational levels of their

parents (Choy, 2001; Nunez & Cuccaro-Alamin, 1998). For example, Choy (2001) found that

even after controlling for income, educational expectations, academic preparation, parental

involvement, and peer influence, parents' education is importantly associated with students

gaining access to college, persistence towards educational goals, and attainment of a bachelor's

degree at four-year institutions.

Prospero (2007) showed the increase in the diversity among undergraduate students

included many first-generation students (FGS). Prospero defined a first-generation student as

someone whose parents had not completed a college degree program. Since 1995, first-

generation students have comprised 34% of the students in four-year institutions and 53% in two-year colleges (Choy, 2001). It comes as no surprise to learn that many first-generation students tend to be older, lower income, female Hispanics who are employed full-time. Prospero (2007) pointed out that numerous studies have investigated first-generation students and their differences when compared to their non-first-generation student (NFGS) counterparts. Compared to First- Generation Students, Non-First-Generation Students are more likely to: a) have higher ACT or SAT scores; b) have higher GPAs; c) have taken more rigorous high school courses; d) are White; e) have higher family incomes; f) have taken fewer remedial courses; and g) are less likely to be employed full-time.

According to Yazedjian and Toews (2006), adjusting to college is a major transition in a young adult's life. Unfortunately a large percentage of students are unsuccessful in navigating this transition. More colleges are becoming ethnically diverse. In addition, the population of Hispanics enrolled in college increased by 68% between 1990 and 1999 (U.S. Department of Education, 2003). Hispanic parents who did not attend school in the U.S. may be unfamiliar with the requirements for acceptance into American colleges and universities and thus unable to guide their children in that process (Torres, 2004). One study found that many Hispanic parents assumed high school counselors were making appropriate decisions regarding college preparation courses; however, most students were unable to meet the basic requirements for college eligibility (Torres, 2004).

Francis and Miller (2008) explored that communication apprehension of first-generation students in a two year case study at a community college. A survey was sent out to 2,040 students identified as first-generation students. A total of 161 responses were received from students. The data were analyzed using descriptive statistics and a thematic analysis. First-

generation two-year college students had a communication apprehension profile similar to reported levels for national norms. Students used elements of communication-orientation motivation, interpersonal communication, guided visualization, skills training, and a combination approach to managing their own comprehension. Strategies for helping first-generation college students manage their communication apprehension were suggested.

Magna Publications (2005) found in the results of a fall 2005 survey of the incoming first year class that numerous differences between first-generation students and other students existed, particularly in how they decided which school to attend and in what they assumed would be necessary financially to afford to stay. The results indicated that encouragement from adults appeared to be slightly more important to first generation students. Twenty-one percent (21%) of first generation students said mentor encouragement was a very important reason they decided to go to college, compared to 15% of other students. The results also indicated that 47% of first-generation students said parental encouragement was a very important reason for attending college, compared to 43% of other students. The report also showed the differences followed the students into enrollment. Nearly 37% of first generation students indicated there was a decent chance that they would work full time while in college compared to 25% of other students. Also, nearly 31% of first-generation students say they would live off campus in their first year of college compared to only 16% of other students. The survey also found differences between men's and women's motivations for attending college. Men noted more frequently than women that they were attending college to be able to earn a higher income (74% versus 69%). Women more frequently indicated that learning more about things interested them (81%), and that getting training for a particular career (73%) was their top motivation for attending college.

Olive (2008) conducted a phenomenological examination of the desire to attend college among first-generation Hispanic students participating in an academic support program. One hour taped interviews were conducted with three volunteer participants enrolled in the Student Support Services program at Sul Ross State University. The phenomenological analysis resulted in two structures that addressed the effectiveness of academic outreach programming and identified the roles of self-efficacy, successful experiences in high school, a desire for improved socioeconomic status, a need to contribute to the well-being of others, a break with tradition, and the influence of respected role models in facilitating a desire for higher education in first-generation Hispanic college students. Olive (2008) identified 50% of the total student body as Hispanic enrolled at Sul Ross State University, and almost 70% of the total student population was first-generation college students. This study contributed to the literature of first-generation Hispanic college students by providing such an examination. Further, it offered an original contribution by addressing the avoidance of perceived familial mistakes within the desire for higher education. She stated that both the ambivalence regarding familial tradition, as well as the pursuit of success within a society may not embrace the educated individual and offered insights into the phenomenon and direction for future research (Olive, 2008).

It is estimated that 35% of the population of the state of Texas are Hispanic; people of Hispanic origin are the nation's largest ethnic majority, as well as the fastest growing minority group (U.S. Census Bureau, 2006). According to Gibbons and Shoffner (2004), first-generation students, or students whose parents did not attend college, represented 27% of all graduating high school students. They have unique needs that separate them from other students and that must be addressed in counseling. Gibbons and Shoffner (2004) examined the ways school and career counselors can help these students through the use of Social Cognitive Career Theory.

This theory and its focus on self-efficacy, outcome expectations, barriers, and goals can help with career and academic decision making.

Inman and Mayes (1999) stated that one of the challenges a state community colleges need to meet was the diverse community of people. The one group of students in particular, they mentioned were first-generation students. According to the authors, first-generations students are important for two primary reasons: they represent a large segment of the community and they are unique populations with distinct goals, motivations and constraints. The authors examined the differences between first-generation students and non-first-generation students and the results indicated that first-generation students were more likely to be females and older and first-generation students were more likely to have fewer people in their household, but more financial dependents. The study included a student survey in which ten items concerning goals for enrolling and ten questions concerning motivations for entering a community college. The items specifically addressed factors directly influencing students' decisions and were intended to provide data that could be used by administrators in designing courses, creating course schedules, and recruiting new students.

Conley (2003) pointed out some of the barriers which include: the inability to learn, low levels of English Language proficiency, a lack of high school preparation, low family income, a lack of support at home or in the school due to low grades, being a member of under-represented groups, and insufficient academic support service for college level work. Statistical data indicates that 57% of the female college student population is first-generation college students while the school population, as a whole, is 51% non-first-generation. First-generation students differ in academic preparation (Conley, 2003). College is more difficult and stressful than school work in secondary level and first-generation students tend to have lower first semester grades

which gives them a lower grade point average (GPA) (Conley, 2003). While there are many barriers for first-generation student to be successful in academic achievement student self-determination is a factor in success.

American College Test (ACT)

The American College Test (ACT) is used in many higher education institutions as an indicator of college preparation and it is also used to accept or reject students into a four-year institution. The ACT show colleges if you are smart because it measures the student's capability. The University of Texas Pan American is one of many four-year institutions that use the ACT as a requirement to enter the university. The score a student is required to score at UTPA is 16 and as of 2009 the score will increase one point every year. On the other hand, at Brigham Young University, Daynes (2005) asked thousands of first year students about their expectations for higher education. These students have been among the most successful high school students in America. Their average high school GPA was 3.75, their average ACT composite score was 27, placing them in the 90th percentile of students taking the ACT.

According to *American School Board Journal* (2006) the ACT test seeks to predict how current high school students will perform in courses commonly taken by those new to college. Also indicated was that the Educational Testing Service (ETS) offers standardized tests that measure key college learning outcomes like critical thinking and writing. The data gathered for the study in Student Preparation, College Readiness and Achievement in College, stated the following about how faculty feel across the nation on college readiness: 36% of full-time faculty agree that students are well prepared academically; and 56% of faculty state that it is stressful to work with students who are underprepared; and 41% state that most students lack basic skills for college level work.

The *American School Board Journal* (2006) indicated that more than half of the students who took the American College Test (ACT), the college entrance examination, did not meet college-readiness benchmarks in math and science. Of the 1.2 million students who took the 2006 ACT test, 58% of the test-takers did not meet college readiness benchmarks on the math test, while 73% did not meet the benchmarks for the science test. Only 21% of students met or exceeded college readiness benchmark scores on each of the four ACT exams: English, math, reading and science. The report also indicated that only 54% of these students took the recommended core curriculum in high school: four years of English and three years of math, science and social studies. Students who took the core curriculum earned an average ACT score of 22, while those who took fewer courses averaged a 19.7. According to this article the Secretary of Education, Margaret Spellings, said:

> . . . the ACT findings clearly point to the need for high schools to require a rigorous, four-year core curriculum and to offer advanced placement classes so that graduates are prepared to compete and succeed in both college and workforce (p. 26).

Magna Publications (2005) stated that on the annual report from ACT, only about a quarter of the students who graduated from high school were adequately prepared for college level work in English, math, science and reading. The article also included, in the ACT report, that a student who obtained the college skill levels and is considered prepared has a 70% chance of earning a "C" or better in a first year college course. This report also indicated that of 1.2 million test takers who graduated in 2005, only 51% did so in reading comprehension, and students did even worse in math and science, and 41% and 25% respectively made the preparedness benchmarks. Again, 54% of 2005 test-takers had completed the core curriculum recommended for students that were college bound.

Russo and Checketts (2001) studied three sets of ordered variables and their association to the American College Test Scores. According to this study, the researchers indicated that a decline in the last ten years on ACT scores in English, Math, and Social Studies had occurred. These researchers had been interested in variables associated with scores on college entrance examinations. Also of interest was predicting college entrance examination scores without any particular regard to the way in which variables might be placed in "contexts" or sets so as to improve prediction and explanation of variables associated with college entrance examination scores. According to the researchers variables they and educators speculate may be associated with SAT or ACT scores are 1) school-related variables, 2) student-related variables, and 3) family student variables. School related variables included the size of the school, the average number of students in academic classrooms and, the quantity of schooling for the particular school. Other student specific variables associated with college entrance exams are: student absentee rate, educational aspirations of the student and, traditional academic course taking among students. The third sets of variables had to do with family characteristics which were: the birth order of the student within the nuclear family, the number of siblings of the student and, the closeness in the age of the siblings in the immediate family of the students. A stepwise multiple regression analysis was performed on all the variables. The variables were ordered in sets as to their proximity to the dependent variable, composite ACT scores. Final results were that students today are less well prepared in academic knowledge necessary to perform well on the ACT; and if it could be further assumed that this knowledge is important for them to acquire in order to do well in college.

In a multivariate assessment of ACT composite scores of disadvantaged and regular freshmen students, the researchers, Pedrini and Pedrini (1988) investigated univariate and

multivariate assessment of general achievement and aptitude. In terms of the data that was collected and collated, one problem was noted. The ACT scores of Blacks were restricted in the standard deviation as compared to the ACT scores of Whites. More importantly the ACT scores of Blacks were restricted as compared to the ACT standardization population. First, product moment correlations were computed. The correlation between the trends implied that race was very closely associated with general achievement. Second, stepwise multiple regression analysis were computed. Corrections for multiple regressions and for standard efforts were required because of the relatively large number of assessor variables employed with small samples. The separate multiple correlations were not necessarily independent of each other. The assessment of general achievement revealed that 37 out of 55 corrected multiple correlations were significant. Considering grades and general achievement/aptitude for the population and for non-experimental freshmen, higher ACT scores prevailed for subjects with lower grade and for subjects with higher grades. However, the former had a greater proportion of below average ACT scores than the latter.

Orchowski, (2005) noted there were more graduating high school students of Hispanic heritage that are planning to go to college and who are taking college entrance and aptitude tests more than other students. However, it did not show that there was an increase in Hispanic test scores overall. Beyond using high school course titles to define college readiness, a more direct approach was to test students on a set of knowledge that they presumed to need to know to succeed in entry-level college courses (Conley, 2008). ACT defined college readiness by establishing College Readiness Benchmarks representing the minimum ACT test scores required for students to have a high probability of success in corresponding credit-bearing first year college course (Conley, 2008).

College Ready Preparation

At the college level, underachievement stems from either underprepared students or students who do not perform to expected standards (Balduf, 2009). Many students are not academically prepared for college and a considerable number of students who either voluntarily or involuntarily left a four year college before graduating have, at some point, been on academic probation (Balduf, 2009). In addition, Grayson (1996) found that underachieving freshmen that spent their time outside of class in academically related extracurricular activities (e.g., attending non-required lectures, speaking with the professor outside of class) were more likely to see an increase in their grade point averages than those students who pursued socially related activities (e.g., clubs, sports, cultural events).

In previous studies of collegiate underachievers, both motivation and goal valuation were key factors in determining why students were not succeeding (Balduf, 2009). In a more recent study, Hsieh, et al. (2007) found that students whose GPA put them on academic probation (below 2.0) had goals that were counterproductive to academic success. According to Balduf (2009), these poorer performing students were less likely to search out assistance in reversing their underachievement. Shim and Ryan (2005) found that students who valued mastery – mastering the content regardless of the academic gain – had higher motivation, while performance-avoidance – shying away from challenge and situations that could result in failure – related to lower motivation. Underachievers tended to have lower motivation and difficulties dealing with stressful situations and challenges (Preckel, et al., 2006; Balduf, 2009).

In *Improving College Readiness and Success for All Students*, Conley (2007) noted that often the transition to college includes an element of culture shock for students; this culture shock is more severe for students from some communities than for others. Students recently out

of high school assume a college course will be like a similarly named high school class they had taken. What they find, however is that expectations for college course are fundamentally different than the expectations for high school courses (Conley, 2007). According to Conley (2007), college instructors are more likely to emphasize a series of key thinking skills that students typically did not develop extensively in high school. They expect students to make inferences, interpret results, analyze conflicting explanations of phenomena, support arguments with evidence, solve complex problems that have no obvious answers, draw conclusions, offer explanations, conduct research, engage in the exchange of ideas, and generally think deeply about what they are being taught (Conley, 2007). Conley also reported on the results of a new ACT (2008) study: The study provided empirical evidence that, whether planning to enter college or workforce training programs after graduation, high school students need to be educated to a comparable level of college readiness in reading and mathematics. Consequently, he admonished that high school graduates need this level of readiness if they are to succeed in college-level courses without remediation or to enter workforce training program ready to learn job-specific skills.

Conley (2007) stated that college instructors' demands are usually nonnegotiable, and their expectations can alienate the youngsters. He stated that the lecture format, large classes, and scant personalization found in many traditional classes in college did not coincide with the student centered experiences with which students were familiar (Conley, 2007). Furthermore, he stated that while missing classes usually meant a failing grade for a college student, the students in his study were accustomed to missing assignments, receiving time for revision, and being allowed second chances for their courses in high school. In short, according to Conley, (2007) the performance expectations in high school and in college were significantly different. As a

result, students must be prepared to draw upon a different array of learning strategies and coping skills than those they developed and honed in high school if they were to be successful in college. Unfortunately, Conley (2007) claimed that most students are leaving high school without the rigorous academic preparation necessary for success in college.

Most underserved students attend community colleges; these numbers are increasing as the nation experiences demographic shifts in the general population that have produced a college-going population that is more racially and ethnically diverse than ever before (Green, 2006). Yet in spite of the increased number of underserved students attending community college, these students do not share the same level of success as their White and higher-income counterparts (Green, 2006). Lower income students lack access to social capital, which Bourdieu (2001) define as: "a set of durable, deliberate, institutionalized relationships and the benefits that accrue to individuals as a result of the existence of such social bonds."(Bourdieu, 2001 p. 6). Conley (2008) define college readiness as, ". . . the level of preparation a student needs to enroll and succeed – without remediation – in a credit bearing general education course at a postsecondary institution that offers a baccalaureate program" (p. 5). The college ready student envisioned by this definition is able to; a) understand what is expected in a college course, b) cope with the content knowledge that is presented, and c) take away from the course the key intellectual lessons and dispositions the course was designed to convey and develop (Conley, 2008). Additionally, in order to get the most out of the college experience Conley (2008), believes that students must have a thorough understanding of a) the culture and structure of postsecondary education, b) the ways of knowing, and c) the intellectual norms that prevail in this academic and the social environment. Obviously, college readiness involves multiple factors

that contribute to the intellectual, emotional, and financial wherewithal required to attend and succeed in higher education (Conley, 2008).

Motivation

According to the Howey (2008), academic motivation continues to be a challenge for institutions of higher education throughout the nation. Motivation is an important factor for students who enter college. In some cases students from different backgrounds who have barriers that have already been identified have it harder. First-generation students, because they often come from a less social economic status, are perceived to have higher challenges in post-secondary education because they are less motivated and have no goals planned. However, there are many motivating factors that make a student successful in post-secondary education.

Intrinsic and extrinsic motivation

Motivation can be intrinsic or extrinsic. The concept of motivation has been studied from several perspectives (Freud, 1923; Hull, 1943; Skinner, 1953). One perspective that has proven useful over the past 20 years suggested that behavior can be seen as intrinsically or extrinsically motivated (deCharms, 1968). Husman and Lens (1999) stated;

> Students are intrinsically motivated when learning or performing at school is a goal in itself and are extrinsically motivated when the activity is done for the sake of material or other rewards that are not intrinsically related to school learning (p. 115).

The researchers pointed out that learning and doing well on exams were then instrumental activities to earn those rewards. Parents and teachers used many different types of extrinsic rewards and other controlling measures to increase the strength of the total motivation to study. For students without any intrinsic interest in school, these artificial incentives are the only reasons for studying. Research on student motivation focused predominantly on the different types of intrinsic motivation.

According to Howey (2008), educators nationwide are frustrated with the lack of college readiness of more and more entering freshmen and are unable to find ways to increase their motivation. The article also stated that such students often exhibit maladaptive behavior such as tardiness, hostility towards authority, and unrealistic aspirations. Hurtado, Engberg, Ponjuan and Landerman (2002) indicated that representatives from participating campuses, have explored how colleges build bridges across multiple social divisions in practice, to provide important student learning opportunities in interaction with members of diverse communities, and demonstrated growth in their students' cognitive and social skills and democratic sensibilities.

But what about developmental education students, who are often under prepared for college? Motivation-based behavior such as class attendance and course engagement, which often do predict the academic success of developmental education students (Cote & Levine, 2000; Bandura, 1986; Pintrich & DeGroot, 1990; Ley & Young, 1998; VanZile-Tamsen & Livingston, 1999), cannot be measured until well after classes begin, at which time, problems were often difficult to remedy. Although research has proven to be of great value, it often excludes a comparison of academic preparedness and the impact it may have on motivation (Lavender, 2005). Lavender (2005) compared academic motivation between academically prepared and academically unprepared community college students. In addition, the researcher collected data to determine whether a relationship existed between academic motivation level and academic achievement as defined by grade point average. She surveyed students using the Academic Motivation Scale along a continuum as described by Deci and Ryan's (1985) Self-Determination Theory. Deci and Ryan (2000) found that monetary rewards undermined people's intrinsic motivation leading to a level of post reward behavior that was below baseline. Additionally, Deci, Koestner, and Ryan (1999) indicated that:

. . . people feel less like origins of their behavior and thus display less intrinsic

motivation. Although this phenomenon remains controversial, it has been firmly

established and widely replicated. Indeed, a recent meta-analysis of 128 studies spanning

three decades confirmed that not only monetary rewards, but also all contingent tangible

rewards significantly undermined intrinsic motivation (Deci, Koestner, & Ryan, 1999, p.

656).

According to Deci and Ryan (2000), there is recent intrinsic motivation studies that show

the mediating role of perceived autonomy. For example, an experiment by Reeve and Deci

(1996) examined the effects of competition within a controlling versus non-controlling setting on

participants' intrinsic motivation for puzzle solving. Results indicated not only that pressuring

people to win by establishing a competition within a controlling context led to less intrinsic

motivation than competition within a non-controlling context, but also that participants

perceptions of their own autonomy mediated this effect. Yet, in another field study of schools

and work organizations the experiments show that real-world settings which provide: autonomy

support, relative to control is linked to positive outcomes, including greater intrinsic motivation,

increased satisfaction, and enhanced well-being (Deci, Connell & Ryan, 1989). In this same

study Deci, et al. (1989) discussed how extrinsic motivation was a key motivator for students

who wanted to be successful and these external forces were driving forces to be successful, the

researchers indicated that external regulation is the classic case of extrinsic motivation in which

people's behavior is controlled by specific external contingencies. People behave to attain a

desired consequence such as tangible rewards or to avoid a threatened punishment. This, in

essence, is the only type of regulation recognized in operant theory (Skinner, 1953), and it is a

type of extrinsic motivation that has been extensively examined and found to be undermining of

intrinsic motivation (Deci, Koestner, and Ryan (1999). In SDT, external regulation was

considered controlling, and externally regulated behaviors were predicted to be contingent

dependent in that they showed poor maintenance and transfer once contingencies were

withdrawn (Deci & Ryan, 1985).

Some college students appeared to have greater drive to succeed than other students.

According to Choy (2001), motivation was the "heart" of why students pursue education and was

often absent when discussing how to improve learning. Lavender (2005) noted the importance of

studying motivation and its relationship to student learning and conceded that motivation was an

internal concept that was sometimes difficult to assess. According to Lavender, studies

performed on university campuses across the nation had applied different motivational theories

as an explanation of why students pursue higher education and what moves them to be successful

or unsuccessful. Many researchers ascertained that academic problems of developmental

education students often resulted from motivational rather than cognitive deficiencies and that

academic motivation influenced how effectively a student learns and applies new information

and skills (Langley, Wamback, Brothen, & Madyun, 2004).

Income

Leonard (2002) focused on the motivational aspects of low income African American

college students and their persistence to graduation. The study consisted of all participants being

low-income and first-generation African American college students. According to Leonard, there

was an increase of low-income students enrolling in college, yet persistence to graduation had

not increased. In 1992, 50% of low-income students enrolled in college, while 90% of high

income students did as well (Gladieux & Swail, 1998). Also, of those enrolled, only 6% of

students were in the bottom quartile of income, $25,000.00 or less would complete a bachelor's

33

degree as compared to over 50% of students in the top quartile of family income, $75,000.00. As Leonard (2002) indicated in her research, when race and income were factored together, the chances of success in completing a college-degree were significantly lowered. Also in her research, she indicated that if the education field was to become leveled, whereby all students have equal access to education and a college degree, it was necessary to better understand the underlying causes of this problem.

Associationist theorists

According to Deci and Ryan (2004), several decades of American psychology was dominated by Associationist theories. Associationist theorists assumed that behavior was controlled by peripheral mechanisms. This theory held that the initiation of behavior function of stimulus inputs such; as external contingencies of reinforcement (Skinner, 1953) or internal drive stimulations (Hull, 1943) and these behaviors were a function of associated bonds between inputs and behaviors that developed through reinforcement processes. With this general perspective, the central processing of information was not part of the explanatory system, so concepts such as intention were considered irrelevant to the determination of behavior (Deci & Ryan, 1987). They also stated that during the 1950s and 1960s, Associationist theories gave way to cognitive theories in which the processing of information was assumed to have played an important role in the determination of behavior. On the basis of this assumption, the initiation of behavior was theorized to be a function of expectations about behavior-outcome contingencies and of the psychological value of outcomes (Atkinson, 1964), and the regulation of behavior was seen as a process of comparing one's current state to a standard (i.e., the desired outcome) and then action to reduce the discrepancy (e.g., Kanfer, 1975; Miller, Galanter, & Pribram, 1960).

Thus, the cognitive perspective shifted the focus of analysis from the effects of past

consequences of behavior to expectations about future consequences of behavior.

Huitt and Cain (2005) discussed that psychology was traditionally identified and studied

in three components of the mind; cognition, affect, and conation, and they refer to conation as

the connection of knowledge and affect to behavior which was associated with the issue of

"why." It is the personal, intentional, planned, deliberate, goal-oriented, or striving component of

motivation, the proactive (as opposed to reactive or habitual) aspect of behavior. These state that

choices about what to do was an essential element of voluntary human behavior, and human

behavior cannot be explained fully without it and suggested that human beings should be viewed

primarily as agents who possess a power to "get things done" (p. 15), to transform themselves

and/or their environments in conflict to behavioral resistance from their own conditioning or

environmental resistance. One critical factor in the successful use of volition, conation, or self-

regulation is to realize that one had the ability and the freedom to choose and control one's

thoughts and behavior (Kivinen, 1997). Research identified at least five separate components of

the directing aspect of conation: (1) defining one's purpose; (2) identifying human needs; (3)

aspirations, visions, and dreams of one's possible futures; (4) making choices and setting goals;

and (5) developing an action plan (Kivinen, 1997, p. 4).

Goal setting

From a cognitive perspective, "motivation is the process whereby goal-directed activity is

instigated and sustained" (Pintrich and Schunk, 1996, p. 4). To know what motivated students,

researchers and educators observed their behavior and made inferences about their motivation.

One type of inference that could be made about students' motivation was the goals they adopted.

Goals provided students with direction and a purpose to engage in an activity (Pintrich &

Schunk, 1996). Some educational psychologists thought that motivation to achieve in school could be understood in terms of the different goals students brought to the situation (Ames, 1992; Dweck and Legget, 1988; Elliot and Dweck, 1988). The theory posited that students would have either performance goals or mastery goals. The two goals were seen as generating two distinct frameworks for processing information. Mastery goals allowed individuals to seek opportunities to increase their competence and master new challenges (Dweck, 2000). Students who pursued mastery goals were concerned with developing their ability over time and acquiring the skills needed to master a particular task. When individuals with mastery goals experienced failure they interpreted the event as providing information regarding their effort in that particular situation and attributed failure to a lack of effort or ineffective strategy use (Dweck. 2000; Elliot & Dweck, 1988).

Mattern (2005), focused on the importance of having goals in order for a student to be successful. She stated that "motivation is where by goals are instigated and sustained" (p. 27). She examined student motivation was critical to goal setting which led to success. Researchers have determined that students who pursued mastery goals tended to seek more challenges, had higher effective learning strategies, meta-cognitive strategies, more positive attitudes towards school, and higher levels of self-efficacy (belief in one's ability to succeed in a given situation) than individuals who pursued performance goals (Ames, 1992; Ames & Archer, 1988; Elliot and Dweck, 1988; Mattern, 2005; Middletown and Midgley, 1997; Pintrich, 2000; Wolters, 2004).

Performance goals encouraged individuals to seek and maintain a positive image of their ability. Students achieved this end by pursuing one of two types of performance goals. Initially performance goals (as a whole) were seen as being maladaptive for learning. However, recently researchers have posited that the outcomes related to performance goals categorized as

36

demonstrating ability were different than outcomes related to performance goals categorized as being avoidance or demonstrating lack of ability (Church, Elliot, and Gable, 2001; Elliot and Harackiewicz, 1996). For example, performance approach goals were related to more positive outcomes, such as use of cognitive strategies (Pintrich, 2000; Wolters, Yu, & Pintrich, 1996). Course achievement (while performance avoidance goals are related to negative outcomes, superficial learning strategies, lower performance, self-handicapping behavior, undermined intrinsic motivation (Elliot and Church, 1997).

Midgley, Kaplan, and Middleton (2001) suggested that more studies needed to be done to explore the effects of adopting performance-approach goals before confirming that they are related to positive learning behaviors and beliefs. Midgley et al. (2001) determined that;

Goals seem to be beneficial for certain types of individuals (e.g., boys, older students), under certain types of conditions (e.g., competitive environments, situations where mastery goals are also present), and come at some cost (e.g., cheating, reluctance to cooperate with others, use of avoidance strategies) (Midgley, et al., 2001, p. 80).

Mattern (2005) discussed how performance goals were important because students in the classrooms performed at a high level to get a high GPA. However, instructors in the classrooms set high expectations for students to comprehend the material. This created multiple performance goals for the students and it seemed like a relevant context in which to test the multiple goal orientation (Mattern, 2005, p. 30.)

<div align="center">**Research Using the Self-determination Theory**</div>

The self-determination theory (SDT) approach to motivation differentiates between autonomous or truly volitional actions and heteronomous actions that are controlled by forces experienced as external to the self (Moller, et al., 2006). To be autonomously motivated

<div align="center">37</div>

involves feeling a sense of choice and volition as a person fully endorses his or her own actions or decisions (Ryan & Deci, 2000). The self-determination theory identifies a basic psychological need for autonomy as a central feature for understanding effective regulation and well-being (Moller, et al., 2006). People are autonomous when they do something they find interesting or personally important (Moller, et al., 2006). In contrast, to be controlled is to act because there is pressure to do so (Moller, et al., 2006). Once the student is autonomously motivated, the student is able to focus on the action and decisions the student needs to make.

The concepts of autonomous and controlled motivation evolved from a prior distinction between intrinsic and extrinsic motivation (Ryan & Deci, 2000). *Intrinsic motivation* means doing something because the activity itself is interesting, spontaneously enjoyable, and satisfying. For example, leisure pursuits are frequently intrinsically motivated. Because such behaviors are fully endorsed and volitional, intrinsically motivated behaviors are fully endorsed and volitional; intrinsically motivated behaviors are the prototype of autonomous motivation (Moller, et al., 2006). In contrast, *extrinsic motivation* means doing something because it is instrumental to some separable consequence (Moller, et al., 2006). Behaving to forestall a threatened punishment or to achieve a self-directed long term goal are examples of extrinsic motivation (Moller, et al., 2006). It is important to recognize that extrinsically motivated behaviors vary widely in the level of autonomy that accompanies them; some extrinsic motives are relatively controlled, and others are relatively autonomous (Ryan & Connell, 1989). The least autonomous form of extrinsic motivation is "external regulation," in which case a person's behavior is motivated by external and punishment contingencies. For example, the worker whose only motivation for work is to get a paycheck on Friday is externally regulated (Moller, et al., 2006). Somewhat more autonomous is "introjected regulation," in which internal, self-esteemed

based contingencies drive behavior; people feel proud or worthwhile when they behave in accordance with an introjected value or standard, but they feel self-derogating, guilty, or ashamed when they do not (Moller, et al., 2006). Thus, introjects are motivations that are within the person, but their operation is primarily controlled rather than autonomous (Moller, et al., 2006).

However, if one is interested in the phenomenology of everyday life, regardless of its origins, there is much to be contemplated (Moller, et al., 2006). The authors propose trying to create a world in which people will experience competence in what they do and the opportunity for action without perceived external constraint (Moller, et al., 2006). In their view, primary among the changes needed to produce such a social context is elimination of coercion through consequences. They hold that behavior maintained by feedback that identifies competence will be better sustained in the absence of social contingencies than is behavior that was generated by competition for resources used to control people's choices.

In Balduf's (2009) study of collegiate underachievers, both motivation and goal were as key factors in determining why students were not succeeding. Consistently, research related to Self-Determination Theory (SDT) has shown that when people experience choice about some behavior, the experience is accompanied by autonomous motivation, personal endorsement of the behavior, and a fuller engagement with it (Balduf, 2009).

Proposed by Deci and Ryan (2000), Self-determination Theory, when applied to education primarily relates to students' confidence in their own capacities and attributes, how much they value the education (or learning) that is taking place, and also their interest in learning the topic at hand. SDT looks at what engages a student in an activity, or causes some action to be

performed. It separates actions that are entered into by the student freely of their own choice versus actions that are compelled by an outside source.

Summary

This review of literature presented some background history about first-generation students, post-secondary college readiness and student self-determination. It is evident that very little research has been done in combination with first generation, college ready, and motivation of college students. Research is a primary vehicle in examining effective practices. It is also evident that "motivation" of students is also of much interest to researchers who continue to study the "self-determination" of an individual. This study focused on the issue of the three main factors involved, specifically on first generation, college readiness and self-determination of college students in a higher institute. The next chapter will describe the methodology that was used to conduct this study.

CHAPTER III

METHODOLOGY

The purpose of the study was to describe and compare if self-determination factors differed in first and non-first-generation college students and success levels. Additionally, comparisons of college readiness levels were measured, and finally a measure of factors that contribute to college success based on first and second semester grade point averages were investigated.

The self-determination theory is about the concern of people's inherent growth tendencies and their innate physiological needs. The goals students set for learning and studying in college are very important. The idea a student holds about learning will influence the goals set and the motivation a student has for college. In previous studies of collegiate underachievers, both self-direction and goal setting were key factors in student success (Balduf, 2009). Consistently, research related to self-determination theory indicated people experienced choice about their behavior; the experience was followed by self-direction, personal endorsement of behavior, and a fuller commitment (Balduf, 2009). According to Balduf (2009) studies have also shown the opportunity to select from among multiple options can enhance people's experience of choice, assuming that the activities are somewhat interesting and valuable to the person. Underachievement remains to be a substantial problem in education, in defining and the causes to creating purposeful interventions to change it (Balduf, 2009).

This section describes the methodology used to conduct the study. It is divided into the following subsections: (1) research design; (2) population and sample; (3) instrumentation; (4) null hypotheses; (5) data collection procedures; (6) data analysis procedures; and (7) summary.

Research Design

A quantitative research design was used to answer the questions and test the null hypotheses in this study. The design contained intrinsic motivation variables: (1) to know, toward accomplishment, and to experience stimulation, (2) extrinsic motivation variables: identified, introjected, and external regulation, and an (3) amotivation variable based on the Self-determination Theory (SDT). These variables were investigated in a comparative fashion based on the generational status of the subjects, college success, and academic readiness to attend college. In this design no attempt was made to investigate possible causes (Gay, Mills, & Airasian, 2007), but merely describe and explain the phenomena specified in the research questions. Furthermore, an investigation to describe and explain first-and-second semester college success, based on select variables, was performed.

Population and Sample

In Fall 2008, the University of Texas Pan American (UTPA) enrolled 17,534 students, of which 86.3% were Hispanic, and 60% low income (institutionally defined as Pell Grant eligible); and approximately 70% were first-generation college students, among the highest percentages of any four-year institution in the United States *(UTPA OIRE; UTPA Entering Student Survey 2008)*; and 30% were non-first generation students. There were 2,524 full time students enrolled as entering freshmen in 2008.

The Office of Undergraduate Studies at the University of Texas Pan American distributed a survey via email to the 1,586 student population (2008 cohort) enrolled at UTPA in the Fall of 2010, during the 28 day data collection period 187 students or 11% of the enrolled freshman

students (1,586) population volunteered to participate. However, only 146 of the respondents had indicated their generational status. Therefore, it was impossible to categorize 41 of the students as either first generation or non-first generation college students. Of those 146 useable respondents, 106 students were identified as first-generation college students, 40 of the students were non-first generation, 101 females, and 45 males. The average age of the subjects was 18 years, and the ethnic background consisted of students that were African American (n=4), Asian (n=1), Hispanic (n=131), Indian (n=2), White (n=7), and other (n=1).   All the students were classified as full time students; enrolled in 12 or more college credit hours for the semester.

Instrumentation

In this study, the researcher used the *Academic Motivation Scale* (AMS) (Vallerand, Pelletier, Blais, Briere, Senecal, & Vallieres, 1993) to measure motivation. The *Academic Motivation Scale* (AMS) originated as the French *Echelle de Motivation en Education* (EME). It is based on the tenets of Self-determination Theory and is composed of 28 items subdivided into seven sub-scales. The subscales assess three types of intrinsic motivation (to know, to accomplish things, and to experience stimulation), three types of extrinsic motivation (external, introjected, and identified regulation), and the amotivation subscale. In the process of cross-culturally validating the instrument from French to English, appropriate methodological procedures were implemented and the instrument was tested on university students (Vallerand, et al., 1993). Results revealed that the English version of the scale, renamed the *Academic Motivation Scale* (AMS), had satisfactory levels of internal consistency (mean alpha value = .81) and temporal stability over a one-month period (mean test-retest coefficient = .79) (Vallerand, et al., 1993).

In addition, results of a confirmatory factor analysis verified the seven-factor structure of the AMS, and gender differences obtained with the EME were basically replicated with the AMS

(Vallerand, et al., 1993). Based on Self-Determination Theory, this 28 item instrument was divided into seven subscales, reflecting one subscale of amotivation, three ordered subscales of extrinsic motivation which include: external, introjected, and identified regulation, and three distinct, unordered subscales of intrinsic motivation which include: to know, to accomplish things, and to experience stimulation (Fairchild, Horst, Finney, & Barron, 2005).

A factor analysis utilizing a Principal Component extraction method with an Eigenvalue of 1, varimax rotation, and the test of significance carried out using an alpha level of .05 was performed using the data collected in this dissertation study (N=187). All of the 187 subjects who responded to the AMS were included in this analysis, since it was used to validate the constructs of the subscales in the instrument, and not testing the null hypotheses in this study.

This data reduction procedure was performed to confirm the scales of the survey for intrinsic motivation 1) to know (items 2, 9, 16, and 23), 2) to accomplish things (items 6, 13, 20, 27), and 3) to experience stimulation (items 4, 11, 18, and 25). Each respective intrinsic motivation analysis yielded only one factor score, respectively for to know, toward accomplishment, and to experience stimulation. The following are the Cronbach's Alpha reliability coefficients for the respective subscales: .86, .87, and .84.

The same process was followed to analyze extrinsic motivation which resulted in one scale for extrinsic motivation 1) identified (items 3, 10, 17, 24), 2) introjected (items 7, 14, 21, 28), and 3) external regulation (items 1, 8, 15, and 22). The Cronbach's Alpha reliability coefficients for the respective subscales were .75, .84, and .81. Each respective extrinsic motivation analysis yielded only one factor score for identified, introjected, and external regulation. Lastly, the process was performed for amotivation (items 5, 12, 19, 26) which also produced one factor. The Cronbach's Alpha reliability coefficient for the amotivation subscale

was .78. Appendix E contains the results of the factor analysis. In sum, the present findings provided similar outcomes as those found by Vallerand, et al, (1993). The Copyright Clearance Center granted permission to use the AMS (Vallerand, Pelletier, Blais, Briere, Senecal, & Vallieres, 1993) for this research study, and a copy of the AMS may be found in Appendix B.

Other existing data sources, such as demographic variables (e.g., gender, ethnicity), ACT composite scores, and first and second semester grade point average (GPA) on a four-point scale, were obtained from the office of undergraduate studies.

Null Hypotheses

The guiding research questions, presented in chapter one of this dissertation, were further developed into specific hypothetical constructs. The null hypotheses that were tested are as follow:

(1) There is no difference in self-directed motivational factors among first-generation freshman college students and non-first generation freshman college students, and first semester college success levels, and college generation by first semester college success levels. Three sub-hypotheses were generated based on this main hypothesis:

a) There is no difference in self-directed motivational factors between first-generation freshman college students and non-first generation freshman college students.

b) There is no difference in self-directed motivational factors between first semester college success levels (GPA1 below 2.5 vs. GPA1 at or above 2.5).

c) There is no difference in self-directed motivational factors among successful first generation college students, successful non-first generation college students, less successful first generation college students, and less successful non-first generation students.

45

(2) There is no difference in self-directed motivational factors among first-generation

freshman college students and non-first generation freshman college students, and second

semester college success levels, and college generation by second semester college

success levels. Three sub-hypotheses were generated based on this main hypothesis:

    a) There is no difference in self-directed motivational factors between first-generation

    freshman college students and non-first generation freshman college students.

    b) There is no difference in self-directed motivational factors between second

    semester college success levels as measured by grade point average (GPA2 below 2.5

    vs. GPA2 at or above 2.5).

    c) There is no difference in self-directed motivational factors among successful first

    generation college students, successful non-first generation college students, less

    successful first generation college students, and less successful non-first generation

    students.

(3) There is no difference in self-directed motivational factors among first-generation and

non-first generation freshman college students, college readiness as measured by ACT

composite scores and college generation by college readiness levels. Three sub-

hypotheses were generated based on this main hypothesis:

    a) There is no difference in self-directed motivational factors between first-generation

    freshman college students and non-first generation freshman college students.

    b) There is no difference in self-directed motivational factors among college

    readiness levels (ACT 16-17 (low), ACT 18-20 (moderate) and ACT 21 and above

    (high)

    c) There is no difference in self-directed motivational factors among

first generation students with low college readiness, non-first generation students

with low college readiness, first generation students with moderate college readiness,

non-first generation students with moderate college readiness first generation students

with high college readiness, and non-first generation students with high college

readiness.

Additional null hypotheses were tested to measure the amount of variance in academic success

when several predictor variables were tested.

(4) Academic performance the first semester in college is not a function of college

generation, ACT composite scores, intrinsic motivation, extrinsic motivation, and

amotivation.

(5) Academic performance the second semester in college is not a function of college

generation, ACT composite scores, intrinsic motivation, extrinsic motivation, and

amotivation.

Data Collection Procedures

This research study was approved by the Institutional Review Board (IRB) at the

University of Texas Pan American June, 2010, and assigned the approval number 2010-045-05.

In the Fall of 2010, the prospective subjects were contacted via email through the Office of

Undergraduate Studies at UTPA (Appendix A). This recruitment email provided general

information about the study, a link to the electronic survey, as well as instructions on how to

complete the survey. Specifically, the procedures were carried out in the following manner:

Prospective participants were notified about the option to respond or not respond to the

survey. Permission to use the *Academic Motivation Scale* (AMS) (Vallerand, et al., 1993) was

obtained from the Clearing Copyright Center. After the first initial email was distributed,

reminders were sent three times on a weekly basis. The students had 28 days to respond to the survey.

Additional data collected from the students such as gender, age, ethnicity, ACT composite score, first semester (Fall 2008) grade point average (GPA1) on a four-point scale, and second semester (Spring 2009) grade point average (GPA2) on a four-point scale. A complete description of the grade point average scale may be found in Appendix C. Those students that responded to the survey also had the option to leave questions unanswered. The surveys were returned to the research analyst in the Office of Undergraduate studies where the data were coded to ensure anonymity of the subjects to the researcher before he gained access to the data. The data were reviewed and inputted into SPSS by the researcher. No mention of individual scores was made and the findings are presented as group means and frequencies in narrative, graph, and table (aggregated) form.

Data Analysis Procedures

The data collected were inputted into the SPSS 17.0 where exploratory analyses and descriptive statistics were employed. The null hypotheses were tested using an F- distribution, and an alpha level of .05. In testing the first two null hypotheses, the seven subscale motivational variables were used as the dependent variables. The first two null hypotheses that were tested utilized first generation and non-first generation as means of group comparisons, success levels as means of group comparisons, and first generation and non-first generation by success levels as means of comparisons during the first semester in college. The same comparisons were made for the second general null hypotheses that were tested but this time second semester college success was utilized in the comparisons. The next set of hypotheses used first-generation and non-first-generation as means of comparisons, college readiness levels as means of comparisons, and first

generation and non-first generation by college readiness levels as means of comparisons. A multivariate analysis of variance procedure was the statistical method followed by univariate analyses of variance when differences were significant (Tabachnick & Fidell, 1989), and an F-distribution was used as the test of significance. Tabachnick & Fidell (1989) indicate that an reason for using a MANOVA is that, it may in some instances detect differences not shown in separate ANOVA's.

The following analyses was used to investigate the fourth and fifth sets of null hypotheses: Factor scores were generated for intrinsic motivation (IM) in the following manner: to know by adding items 2, 9, 16, and 23, to accomplish things by adding items 6, 13, 20, and 27, and to experience stimulation by adding items 4, 11, 18, and 25. Factor scores were also generated for extrinsic motivation (EM): identified by adding items 3, 10, 17, and 24, introjected by adding items 7, 14, 21, and 28, and external regulation by adding items 1, 8, 15, and 22. The last set of factors scores were generated by adding the amotivation items 5, 12, 19, and 26.

The Bivariate procedure was used to determine significant relationships between the paired variables. The variables considered in this pre-analysis were IM_to know, IM_to accomplish things, and IM_to experience stimulation, EM_identified, EM_introjected, and EM_external regulation, amotivation, first semester GPA, second semester GPA, and ACT composite score.

The following factor or independent variables' scores were considered in the Stepwise Multiple Linear Regression analysis: IMknow, IMaccomplish, IMstimulate, EMidentify, EMintroject, EMextreg and ACT composite score. The dependent variables were first and second semester academic success (GPA1 and 2). The Stepwise procedure was used in order to determine the minimum number of common factors that would satisfactorily produce the

correlations among the observed variables (Kim & Muller, 1989). According to Warner (2008), stepwise regression is a combination of forward and backward methods where only significant variables are kept in the model as variables are tested for the model.

Summary

This design contained variables such as motivation factors that were investigated in a comparative fashion based on the generational status of the subjects, college readiness and college success. The student population for this study is from the University of Texas Pan American Fall 2008 freshmen cohort of 1,586 students who enrolled in 12 or more credit hours in the Fall of 2010. The target population contains both first and non-first generation college students. In order to measure the motivation of first generation and non-first generation students the researcher used the *Academic Motivation Scale*. The Office of Undergraduate Studies contacted the subjects directly via email, provided survey and demographical data to the researcher that were coded in order to ensure subject anonymity. Findings were presented as group means and frequencies in narrative, graph, and table (aggregated) form and are presented in Chapter IV.

CHAPTER IV

RESULTS

This chapter presents the results of the data analysis of the study. It is organized under the headings of Motivational Factors, Generational Factors, and Success Level: First Semester in College, which addresses the first null hypothesis tested; Motivational Factors, Generational Factors, and Success Level: Second Semester in College, which addresses the second null hypothesis tested; Motivational Factors, Generational Factors, and College Readiness, which addresses the third null hypothesis tested; and Factors Predicting College Success which addresses the last two null hypotheses. The chapter contains exploratory analyses, descriptive, including frequency analysis, and inferential outcomes (Appendices D, F through G).

Motivational Factors, Generational Factors, and Success Level: First Semester in College

The first null hypothesis tested was: There is no difference in self-determination motivational factors among freshman college students' generational status, success levels, and generational status by success levels. No differences were found, $p > .05$ when comparing college generations only, first semester academic success level (GPA1) only, or college generation by academic success level. A summary table of the results and descriptive statistics of the variables are presented in Appendix F.

Additionally, descriptive statistics were used to describe the various comparison groups in more detail using means, standard deviation, kurtosis, and skewness of the academic

motivation variables under investigation intrinsic motivation (to know, toward accomplishment, & to experience stimulation), extrinsic motivation (identified, introjected, and external regulation), and amotivation, (Table 1-8) in order to summarize the main features of the analyzed data set. Furthermore, the grade point averages were reported of each comparison group. The data were separated by generational status (non-first-generation students, n=40, and first-generation students, n=106), success level of both groups (less successful, n=21, and successful, n=125), and a combination of both groups (successful first-generation, n=88, less successful first-generation, n=18, successful non-first-generation, n=37, and less successful non-first-generation, n=3).

In the first comparison made, using college generation groups as the means for comparison, the non-first generation students entered college with an average ACT composite score of 20.1 (n=32), and completed their first semester in college with a grade point average of 3.2 (n=40). The intrinsic and extrinsic motivation group means of the non-first-generation students displayed in table 1 indicate that in all but one of the subscales, to experience stimulation (mean=3.2), the subjects moderately agreed with the items on the survey.

Table 1

Descriptive Statistics for Non-First Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.81	-.84	.37	-.28	.73	40
Accomplishment	3.9	.93	-.49	.37	-.94	.73	40
Stimulation	3.2	1.1	.00	.37	-.99	.73	40
Extrinsic Motivation							
Identified	4.4	.78	-1.9	.37	5.5	.73	40
Introjected	3.9	.99	-.76	.37	.26	.73	40
External Regulation	4.1	.86	-.99	.37	.21	.73	40
Amotivation	1.4	.80	2.7	.37	6.6	.73	40

(A score of 4 on the scale indicate moderate correspondence with an item, whereas a 1 is "does not correspond at all, and a 7 is "corresponds exactly"). The group means tends to be slightly higher in the areas of extrinsic motivation; "identified" which means that the student identifies with the importance of college education and this corresponds to questions (3, 10, 17, and 24) of the survey. The group mean of 1.4 for amotivation indicated that these items did not correspond well (Table 1).

The first generation college students entered college with an ACT composite score of 19.5 (n=94), and had a grade point average of 3.1 (n=106) their first semester in college. This group of first generation college students seems more extrinsically motivated than the non-first generation students, although statistically there were no differences. Furthermore, the group means follow a similar in pattern as the non-first generation students group means, i.e., the experience stimulation mean was the lowest in the intrinsic motivation subscale. The group mean of 1.2 for amotivation indicated that these items did not correspond well (Table 2).

Table 2

Descriptive Statistics for First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.1	.78	-1.17	.23	1.6	.46	106
Accomplishment	4.0	.85	-.87	.23	.70	.46	106
Stimulation	3.1	.97	.11	.23	-.44	.46	106
Extrinsic Motivation							
Identified	4.5	.54	-1.1	.23	.87	.46	106
Introjected	4.1	.81	-.84	.23	-.16	.46	106
External Regulation	4.4	.66	-1.35	.23	2.1	.46	106
Amotivation	1.2	.54	3.0	.23	10.8	.46	106

The next comparison involved looking at college success while disregarding college generation. The less successful students with a grade point average below 2.5 on a 4-point scale had a mean grade point average of 2.1 (n=21), and a mean ACT composite score of 18.7 (n=18). These students seem more extrinsically than intrinsically motivated with the external regulation mean of 4.5 being the highest in the extrinsic motivation subscale. These students, like the first two groups of students, in Table 1 and 2 have a lower group mean in intrinsic motivation, to experience stimulation. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 3).

Table 3

Descriptive Statistics for Less Successful College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.0	.94	-1.4	.50	3.7	.97	21
Accomplishment	3.7	.98	-.64	.50	.52	.97	21
Stimulation	2.9	.94	-.13	.50	-.10	97	21
Extrinsic Motivation							
Identified	4.4	.69	-1.4	.50	1.7	.97	21
Introjected	4.0	.91	-.90	.50	.00	.97	21
External Regulation	4.5	.56	-.80	.50	.58	.97	21
Amotivation	1.3	.47	2.4	.50	7.5	.97	21

The successful college students entered college with an ACT composite score of 19.8 (n=125), and had a grade point average of 3.3 (n=125) their first semester in college. This group of successful college students had greater extrinsic than intrinsic motivation group means than the less successful group. Again and similar to previous results of this study, the intrinsic motivation "stimulation" was corresponding the least. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 4).

Table 4

Descriptive Statistics for Successful College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.76	-.92	.21	-.03	.43	125
Accomplishment	4.0	.84	-.74	.22	.03	.43	125
Stimulation	3.1	1.0	.07	.22	-.70	.43	125
Extrinsic Motivation							
Identified	4.5	.61	-1.7	.22	4.8	.43	125
Introjected	4.1	.88	-.85	.22	.23	.43	125
External Regulation	4.3	.75	-1.3	.22	1.3	.43	125
Amotivation	1.3	.65	3.0	.22	9.5	.43	125

Then college generation by success levels was compared. Tables 5-8 depict these results. The group consisting of successful first generation students (N=88) entered college with an ACT composite score of 19.7 (n=78), and had an average first semester grade point average of 3.3 (n=88) their first semester in college. Students indicated that they are both extrinsically and intrinsically motivated. A similar pattern with a lower group mean of 3.1 is evident in the intrinsic motivation "stimulation" subscale (Table 5). The responses to the "stimulation"

Table 5

Descriptive Statistics for Successful First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.74	-.99	.26	.18	.51	88
Accomplishment	4.0	.82	-.85	.26	.53	.51	88
Stimulation	3.1	.98	.15	.26	-.55	.51	88
Extrinsic Motivation							
Identified	4.5	.51	-.79	.26	-.27	.51	88
Introjected	4.2	.81	-.77	.26	-.39	.51	88
External Regulation	4.3	.69	-1.3	.26	1.8	.51	88
Amotivation	1.2	.59	3.0	.26	10.3	.51	88

questions (4, 11, 18, and 25), refer to the experience or feeling of learning, the student had while in college. The group mean of 1.2 for amotivation indicated that these items did not correspond well (Table 5).

The group consisting of less successful first generation students (N=18) entered college with an ACT composite score of 18.5 (n=16), and had an average first semester grade point average of 2.1 (n=18) their first semester in college. These students show similar patterns in the results for intrinsic and extrinsic motivation. However, they were less intrinsically motivated in the area of accomplishing (a sense of enjoying the experience of learning) according to the responses of questions (6, 13, 20, and 17) of the AMS, and "to know" questions (2, 9, 16, and 23). The successful and unsuccessful first generation students averaged the same in "stimulation", questions (4, 11, 18, and 25) of the AMS. The group mean of 1.2 for amotivation indicated that these items did not correspond well (Table 6).

Table 6

Descriptive Statistics for Less Successful First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	3.9	.97	-1.43	.54	3.6	1.0	18
Accomplishment	3.7	.94	-.90	.54	1.5	1.0	18
Stimulation	3.0	.95	-.15	.54	.47	1.0	18
Extrinsic Motivation							
Identified	4.5	.71	-1.6	.54	2.5	1.0	18
Introjected	4.1	.88	-1.2	.54	1.0	1.0	18
External Regulation	4.5	.46	-.12	.54	-1.7	1.0	18
Amotivation	1.2	.29	-.88	.54	-.70	1.0	18

The group consisting of successful non-first generation students (N=37) entered college with an ACT composite score of 20.1 (n=30), and had an average first semester grade point

average of 3.3 (n=37) their first semester in college. These students were less intrinsically

motivated in the area of "stimulation" an intense personal feeling of learning, as responded to

questions (4, 11, 18, and 25) of the AMS and they were not extrinsically motivated in the area of

"introjected", in which the student didn't feel they needed to prove themselves, as the responses

show in questions (7, 14, 21, and 28) of the AMS. The group mean of 1.3 for amotivation

indicated that these items did not correspond well (Table 7).

Table 7

Descriptive Statistics for Successful Non-First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.82	-.84	.39	-.30	.76	37
Accomplishment	4.0	.90	-.55	.39	-.79	.76	37
Stimulation	3.3	1.0	-.14	.39	-.87	.76	37
Extrinsic Motivation							
Identified	4.4	.79	-2.0	.39	5.7	.76	37
Introjected	3.9	.99	-.87	.39	.56	.76	37
External Regulation	4.1	.86	-1.0	.39	.37	.76	37
Amotivation	1.3	.79	-3.0	.39	8.5	.76	37

The group consisting of less successful non-first generation students (N=18) entered

college with an ACT composite score of 20.5 (n=3), and had an average first semester grade

point average of 2.3 (n=3) their first semester in college. They were somewhat extrinsically

motivated in that they "identified" with college, as responded to questions: 3, 10, 17, and 24 of

the AMS and had "external regulation" in which the student had aspirations of having a high

paying, prestigious job in the future but are not intrinsically motivated in the area of

"accomplish" a sense of enjoying the learning experience, questions (6, 13, 20, and 17) and

"stimulation" the intense feeling the student has of learning, questions (4, 11, 18, and 25) of the

AMS. The group mean of 1.9 for amotivation indicated that these items did not correspond well (Table 8). Overall the different groups of students were somewhat more extrinsically motivated than they were intrinsically motivated.

Table 8

Descriptive Statistics for Less Successful Non-First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.3	.76	-.93	1.2			3
Accomplishment	3.5	1.4	.78	1.2			3
Stimulation	2.1	.38	.93	1.2			3
Extrinsic Motivation							
Identified	4.2	.66	1.4	1.2			3
Introjected	3.4	1.0	.72	1.2			3
External Regulation	4.0	1.0	-.72	1.2			3
Amotivation	1.9	.95	1.6	1.2			3

Motivational Factors, Generational Factors, and Success Level: Second Semester in College

The second null hypothesis tested was: There is no difference in self-determination motivational factors among freshman college students' generational status, success levels, and generational status by success levels. No differences were found, *p* >.05, when comparing college generations only, differences in self-determination (experience stimulation (intrinsic motivation)) were found between second semester academic success level (GPA2) only, *p*<.05, and no differences were found in college generation by academic success level, *p*>.05. A summary table and descriptive statistics of the variables are presented in Appendix G.

Additionally, descriptive statistics were used to describe the various comparison groups in more detail using means, standard deviation, kurtosis, and skewness of the academic motivation variables under investigation intrinsic motivation (to know, toward accomplishment,

and to experience stimulation), extrinsic motivation (identified, introjected, and external

regulation), and amotivation. Tables 9-16 are presented in order to summarize the main features

of the analyzed data set. Furthermore, the grade point averages were reported of each comparison

group. The data were separated by generational status (non-first generation students, n=40, and

first generation students, n=106), success level (less successful, n=21, and successful, n=125),

and a combination of both groups (successful first-generation, n=88, less successful first-

generation, n=18, successful non-first generation, n=37, and less successful non-first generation,

n=3).

In the first comparison made using college non-first generation groups as the means for

comparison the non-first generation students entered college with an average ACT composite

score of 20 (n=32), and completed their second semester in college with a grade point average of

3.2 (n=40). The intrinsic and extrinsic motivation group means of the non-first generation

students displayed in table 9 indicate that in all but one of the subscales, to experience

stimulation of learning, the subjects were less stimulated (3.0) items on the AMS survey.

Table 9

Descriptive Statistics for Non-First-Generation College Students

Variable	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.1	.70	-.99	.37	.39	.73	40
Accomplish	3.9	.93	-.92	.37	.37	.73	40
Stimulation	3.0	.92	-.02	.37	-.61	.73	40
Extrinsic Motivation							
Identified	4.5	.52	-.45	.37	-.96	.73	40
Introjected	4.2	.87	-.85	.37	.94	.73	40
External regulation	4.4	.63	-.1.2	.37	.94	.73	40
Amotivation	1.4	.80	2.71	.37	6.63	.73	40

The group mean tends to be higher in the areas of extrinsic motivation "identified" in which

identified with college corresponds to questions (3, 10, 17, and 24) of the survey. The group

mean of 1.4 for amotivation indicated that these items did not correspond well (Table 9).

The first-generation college students entered college with an ACT composite score of

19.5 (n=106), and had a grade point average of 3.2 (n=106) their second semester in college.

This group of first generation college students seems more extrinsically motivated than the non-

first-generation students, although statistically there were no differences. Furthermore, the group

means follow a similar in pattern as the non-first-generation students group means, i.e., the

experience stimulation mean was the lowest in the intrinsic motivation factor. The group mean of

1.2 for amotivation indicated that these items did not correspond well (Table 10).

Table 10

Descriptive Statistics for First-Generation College Students

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Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.1	.78	-1.17	.23	1.6	.46	106
Accomplish	3.9	.85	-.87	.23	.70	.46	106
Stimulation	3.1	.97	.11	.23	-.44	.46	106
Extrinsic Motivation							
Identified	4.5	.54	-1.1	.23	.87	.46	106
Introjected	4.1	.81	-.84	.23	-.16	.46	106
External Regulation	4.4	.66	-1.35	.23	2.1	.46	106
Amotivation	1.3	.55	3.02	.23	10.85	.46	106

_____

The next comparison involved looking at college success while disregarding college

generation. The less successful students with a grade point average below 2.3 second semester on

a 4-point scale (n=21), and a mean ACT composite score of 18.5 (n=21). These students seem

more extrinsically than intrinsically motivated with the external regulation mean of 4.5 being the

highest of the extrinsic motivation. These students, like the first two groups of students, in Table 9 and 10 have a lower group mean in intrinsic motivation to experience "stimulation" (2.9). The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 11).

Table 11

Descriptive Statistics for Less Successful College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.0	.95	-1.5	.50	4.0	.97	21
Accomplish	3.8	1.0	-.77	.50	.58	.97	21
Stimulation	2.9	.97	-.03	.50	-.19	97	21
Extrinsic Motivation							
Identified	4.5	.64	-1.7	.50	3.6	.97	21
Introjected	4.1	.81	-.92	.50	.27	.97	21
External Regulation	4.5	.56	-1.0	.50	.93	.97	21
Amotivation	1.3	.51	2.1	.50	4.9	.97	21

The successful college students entered college with an ACT composite score of 19.8 (n=125), and had a grade point average of 3.3 (n=125) their second semester in college. This group of successful college students completed the semester and had greater extrinsic than intrinsic motivation group means than the less successful group. Again and similar to previous results of this study, the intrinsic motivation "stimulation" was corresponding the least. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 12).

The group consisting of successful first generation students (N=88) entered college with an ACT composite score of 19.4 (n=78), and had an average second semester grade point average of 3.3 (n=88) in college. These students show similar patterns in the results for intrinsic and extrinsic motivation. However, they were less intrinsically motivated in the area of stimulation (a sense of enjoying the experience of learning) according to the responses of

questions (4, 11, 18, and 25) of the AMS. The group mean of 1.2 for amotivation indicated that these items did not correspond well (Table 13).

Table 12

Descriptive Statistics for Successful College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.72	-1.0	.22	.38	.43	125
Accomplish	4.0	.82	-.74	.22	.17	.43	125
Stimulation	3.1	1.0	.04	.22	-.64	.43	125
Extrinsic Motivation							
Identified	4.5	.61	-1.7	.22	4.8	.43	125
Introjected	4.1	.84	-.93	.22	.15	.43	125
External Regulation	4.3	.76	-1.3	.22	1.3	.43	125
Amotivation	1.3	.64	3.1	.22	9.9	.43	125

Table 13

Descriptive Statistics for Successful First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
Knowledge	4.2	.70	-1.1	.26	.68	.51	88
Accomplish	4.0	.79	-.89	.26	.89	.51	88
Stimulation	3.1	.99	.08	.26	-.50	.51	88
Extrinsic Motivation							
Identified	4.5	.51	-.78	.26	-.11	.51	88
Introjected	4.2	.75	-.85	.26	-.11	.51	88
External Regulation	4.4	.69	-1.4	.26	2.2	.51	88
Amotivation	1.2	.58	3.0	.26	10.3	.51	88

The group consisting of less successful first-generation students (N=18) entered college with an ACT composite score of 19.5 (n=16), and had an average first semester grade point average of 2.1 (n=18) their first semester in college. These students show similar patterns in the results for intrinsic and extrinsic motivation. However, they were less intrinsically motivated in

the area of stimulation (a sense of enjoying the experience of learning) according to the responses of questions (4, 11, 18, and 25) of the AMS, and knowledge (2, 9, 16, and 23). The group mean of 1.2 for amotivation indicated that these items did not correspond well (Table 14).

Table 14

Descriptive Statistics for Less Successful First-Generation College Student

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	3.5	.96	-.88	.54	2.0	1.0	18
Accomplish	3.6	1.0	-.57	.54	.11	1.0	18
Stimulation	2.6	.83	-.17	.54	-.59	1.0	18
Extrinsic Motivation							
Identified	4.3	.67	-1.2	.54	1.9	1.0	18
Introjected	3.8	1.01	-.46	.54	-.98	1.0	18
External Regulation	4.3	.50	-.07	.54	-.21	1.0	18
Amotivation	1.2	.36	1.5	.54	2.0	1.0	18

The group consisting of successful non-first generation students (N=37) entered college with an ACT composite score of 20.1 (n=30), and had an average second semester grade point average of 3.3 (n=37) their second semester in college. These students were less intrinsically motivated in the area of "stimulation" in which the student has the intense feeling of learning, as responded to questions (4, 11, 18, and 25) of the AMS and they were not extrinsically motivated in the area of "introjected", they didn't feel they needed to prove themselves, as the responses show in questions (7, 14, 21, and 28) of the AMS. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 15).

Table 15

Descriptive Statistics for Successful Non-First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.82	-.84	.39	-.30	.76	37
Accomplish	4.0	.90	-.54	.39	-.79	.76	37
Stimulation	3.3	1.0	-.14	.39	-.87	.76	37
Extrinsic Motivation							
Identified	4.4	.79	-2.0	.39	5.7	.76	37
Introjected	3.9	.99	-.87	.39	.56	.76	37
External Regulation	4.1	.86	-1.0	.39	.37	.76	37
Amotivation	1.3	.79	3.0	.39	8.5	.76	37

     The group consisting of less successful non-first generation students (N=3) entered college with an ACT composite score of 20.5 (n=3), and had an average second semester grade point average of 2.7 (n=3) their second semester in college. They were somewhat extrinsically motivated in that they "identified" with college, as responded to questions (3, 10, 17, and 24) of the AMS showed indications of had "external regulation" in which the student is wanting to have a high paying, prestigious job in the future but are not intrinsically motivated in the area of "accomplish" in which the student has a sense of enjoying the experience of learning, questions (6, 13, 20, and 17) and "stimulation" in which the student also has the intense feeling of learning, questions (4, 11, 18, and 25) of the AMS. The group mean of 1.9 for amotivation indicated that these items did not correspond well (Table 16).

Table 16

Descriptive Statistics for Less Successful Non-First-Generation College Students

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.3	.76	-.93	1.2	-	-	3
Accomplish	3.5	1.4	.78	1.2	-	-	3
Stimulation	2.0	.38	.93	1.2	-	-	3
Extrinsic Motivation							
Identified	4.2	.66	1.4	1.2	-	-	3
Introjected	3.4	1.0	.72	1.2	-	-	3
External Regulation	4.0	1.0	-.72	1.2	-	-	3
Amotivation	1.9	.95	1.6	1.2	-	-	3

-Kurtosis was not computed due to the small subgroup.

Motivational Factors, Generational Factors, and College Readiness

The following was the third null hypothesis tested: There is no difference in self-determination motivational factors among first-generation and non-first-generation college students, no differences among college readiness levels (as measured by ACT composite scores), and no differences among college generation by college readiness levels. A summary table of the findings may be found in Appendix H in addition to the descriptive statistics. No differences were found in any of the comparisons, *p*>.05. Additional descriptive statistics related to the motivational variables for the low, moderate and high college readiness levels are presented in tables 17-25 in order to summarize the main features of the analyzed data set.

Table 17 displays the motivation means of low college readiness students (N=34). Students were extrinsically motivated in that they "identified" with college, as responded to questions (3, 10, 17, and 24), and the student had high "external regulation" in which the student wants to have a high paying job in the future. The data shows that students were not intrinsically motivated in the area of "accomplish" a sense of enjoying the experience, questions (6, 13, 20,

and 17) and "stimulation" in which the student has the intense feeling of learning, questions (4, 11, 18, and 25) of the AMS. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 17).

Table 17

Descriptive Statistics for the Low College Readiness Group

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.79	-.95	.40	-.07	.79	34
Accomplish	4.1	.78	.35	.40	-.71	.79	34
Stimulation	3.4	1.07	.20	.40	-.58	.79	34
Extrinsic Motivation							
Identified	4.6	.56	-1.08	.70	-.16	.79	34
Introjected	4.3	.70	-.61	.40	-.68	.79	34
External Regulation	4.6	.55	-1.51	.40	2.28	.79	34
Amotivation	1.3	.52	2.06	.40	4.80	.79	34

Table 18 displays the motivational means for the moderate college readiness group. The average ACT composite score of the group was 19.0 (n=50). Students were extrinsically motivated in that they "identified" with college, as responded to questions (3, 10, 17, and 24), had high "external regulation" in which the student wants to have a high paying job in the future. The data shows that students were not intrinsically motivated in the area of "accomplish" a sense of enjoying the experience, questions (6, 13, 20, and 17) and "stimulation" in which the student has an intense feeling of learning, questions (4, 11, 18, and 25) of the AMS. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 18).

Table 18

Descriptive Statistics for the Moderate College Readiness Group

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	69	-.98	.34	.50	.66	50
Accomplish	4.0	.94	-.91	.34	.18	.66	50
Stimulation	3.1	.96	.05	.34	-.49	.66	50
Extrinsic Motivation							
Identified	4.5	.52	-.59	.34	-.88	.66	50
Introjected	4.1	.90	-.77	.34	-.55	.66	50
External Regulation	4.6	.76	-1.18	.34	.74	.66	50
Amotivation	1.3	.62	3.21	.34	10.60	.66	50

Table 19 displays the motivational means for the high college readiness group. The average ACT composite score of the group was 23.1 (n=42). Students were extrinsically motivated in that they "identified" with college, as responded to questions (3, 10, 17, and 24), had high "external regulation" in which the students wants to have a high paying in the future. The data shows that students were not intrinsically motivated in the area of "accomplish" a sense of enjoying the experience, questions (6, 13, 20, and 17) and "stimulation" the intense feeling, questions (4, 11, 18, and 25) of the AMS. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 19).

Table 20 displays the motivational means for the low college readiness of non-first generation students (N=9). Students were extrinsically motivated in that they "identified" with college, as responded to questions (3, 10, 17, and 24), and had high "external regulation" in which the student wants to have a high paying job in the future. The data shows that students were not intrinsically motivated in the area of "accomplish" a sense of enjoying the experience, questions (6, 13, 20, and 17) and less "stimulation" the intense feeling, questions (4, 11, 18, and

Table 19

Descriptive Statistics for the High College Readiness Group

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.78	-.76	.36	-.30	.72	42
Accomplish	3.9	.82	-.56	.36	-.51	.72	42
Stimulation	3.0	.99	.937	.36	-.66	.72	42
Extrinsic Motivation							
Identified	4.5	.73	-2.47	.36	8.26	.72	42
Introjected	3.9	.96	-.95	.36	.67	.72	42
External Regulation	4.2	.78	-1.51	.36	2.62	.72	42
Amotivation	1.3	.67	3.05	.36	10.04	.72	42

25) of the AMS. The group mean of 1.3 for amotivation indicated that these items did not

correspond well (Table 20).

Table 20

Descriptive Statistics for Non-First-Generation College Students with Low College Readiness

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.3	.82	-.61	.72	-1.53	1.4	9
Accomplish	3.9	.87	.33	.72	-1.61	1.4	9
Stimulation	3.4	1.09	-.35	.72	-1.71	1.4	9
Extrinsic Motivation							
Identified	4.3	.74	-.49	.72	-1.77	1.4	9
Introjected	4.0	.81	.12	.72	-1.53	1.4	9
External Regulation	4.3	.81	-1.12	.72	.12	1.4	9
Amotivation	1.3	.74	2.71	.72	7.58	1.4	9

Table 21 displays the motivational means for the moderate college readiness for non-

first- generation students (N=10). Students were extrinsically motivated in that they "identified"

with college, as responded to questions (3, 10, 17, and 24), had low "external regulation" in which the student wants to have a high paying job in the future. The data shows that students were intrinsically motivated in the area of "knowledge" in which the student enjoys the pleasure of learning new things, "accomplish" in which the student has sense of enjoying the learning experience, questions (6, 13, 20, and 17) and low on "stimulation" in which the student has a low intense feeling of learning, questions (4, 11, 18, and 25) of the AMS. The group mean of 1.3 for amotivation indicated that these items did not correspond well (Table 21).

Table 21

Descriptive Statistics for Non-First-Generation College Students with Moderate College Readiness

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.5	.57	-.62	.69	--1.16	1.33	10
Accomplish	4.2	.97	-1.25	.69	.38	1.33	10
Stimulation	3.7	.98	.07	.69	-.58	1.33	10
Extrinsic Motivation							
Identified	4.6	.53	-1.44	.69	1.26	1.33	10
Introjected	4.0	1.07	-.53	.69	-1.35	1.33	10
External Regulation	3.9	1.06	-.47	.69	-1.21	1.33	10
Amotivation	1.4	1.6	2.88	.69	8.67	1.33	10

Table 22 displays the motivational means of high college readiness for non-first-generation students (N=13). Students were extrinsically motivated in that they "identified" with college, as responded to questions (3, 10, 17, and 24), and "external regulation" in which the student wants to have a high paying in the future. The data shows that students were intrinsically motivated in the area of 'knowledge" in which the student enjoys the experience of learning new things, but low in "accomplish" in which the student has a low sense of enjoying the experience, questions (6, 13, 20, and 17) and in "stimulation" in which the student has the intense feeling of

learning, questions (4, 11, 18, and 25) of the AMS. The group mean of 1.4 for amotivation

indicated that these items did not correspond well (Table 22).

Table 22

Descriptive Statistics for Non-First-Generation College Students with High College Readiness

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.93	-.98	.61	-.11	1.2	13
Accomplish	3.9	.98	-.87	.61	-.12	1.2	13
Stimulation	3.0	1.1	.06	.61	-1.1	1.2	13
Extrinsic Motivation							
Identified	4.2	1.1	-2.2	.61	5.4	1.2	13
Introjected	3.8	1.2	.-1.1	.61	1.1	1.2	13
External Regulation	4.2	.78	.-2.0	.61	5.8	1.2	13
Amotivation	1.4	1.0	2.4	.61	5.0	1.2	13

Table 23 displays the motivational means of low college readiness for first generation

students (N=25). Students were extrinsically motivated in that they "identified" with college, as

responded to questions (3, 10, 17, and 24), had high "external regulation" want to have a high

paying, in the future. The data shows that students were not intrinsically motivated in the area of

"stimulation" the intense feeling, questions (4, 11, 18, and 25) of the AMS. The group mean of

1.3 for amotivation indicated that these items did not correspond well (Table 23).

Table 24 displays the motivational means of moderate college readiness first-generation

students (N=40). Students were extrinsically motivated in that they "identified" with college, as

responded to questions (3, 10, 17, and 24), and had high "external regulation" in which the

student wants to have a high paying in the future. The data shows that students were not

intrinsically motivated in the area of "accomplish" in which the student has a sense of enjoying

the learning experience, questions (6, 13, 20, and 17) and low in "stimulation" in which the

Table 23

Descriptive Statistics for First-Generation College Students with Low College Readiness

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.2	.80	-1.1	.46	.45	.90	25
Accomplish	4.2	.75	.-.60	.46	.11	.90	25
Stimulation	3.3	1.1	.-17	.46	-22	.90	25
Extrinsic Motivation							
Identified	4.6	.47	.46	.46	.26	.90	25
Introjected	4.4	.65	.65	.46	.26	.90	25
External Regulation	4.7	.41	-.41	.46	-.79	.90	25
Amotivation	1.3	.43	.43	.46	-.46	.90	25

student has the intense feeling of learning, questions (4, 11, 18, and 25) of the AMS. The group

mean of 1.2 for amotivation indicated that these items did not correspond well (Table 24).

Table 24

Descriptive Statistics for First-Generation College Students with Moderate College Readiness

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.1	.70	-.99	.37	.39	.73	40
Accomplish	3.9	.93	-.92	.37	.37	.73	40
Stimulation	3.0	.92	-.02	.37	-.60	.73	40
Extrinsic Motivation							
Identified	4.5	.52	-.45	.37	-.96	.73	40
Introjected	4.2	.87	-.85	.37	-.25	.73	40
External Regulation	4.4	.63	-1.2	.37	.94	.73	40
Amotivation	1.2	.52	3.1	.37	10.4	.73	40

Table 25 displays the motivational means of high college readiness of first-generation

students (N=29). Students were extrinsically motivated in that the student "identified" with

college, as responded to questions (3, 10, 17, and 24), and had "external regulation" and the

student wants to have a high paying in the future. The data shows that students were not intrinsically motivated in the area of "stimulation" in which the student does not have the intense feeling of learning, questions (4, 11, 18, and 25) of the AMS. The group mean of 1.2 for amotivation indicated that these items did not correspond well (Table 25).

Table 25

Descriptive Statistics for First Generation College Students with High College Readiness

Variables	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error	N
Intrinsic Motivation							
To Know	4.1	.73	-.64	.43	.-.41	.84	29
Accomplish	4.0	.76	-.29	.43	-1.0	.84	29
Stimulation	3.0	.97	.55	.43	-.33	.84	29
Extrinsic Motivation							
Identified	4.5	.52	-1.5	.43	-2.1	.84	29
Introjected	3.9	.84	-.67	.43	-.40	.84	29
External Regulation	4.2	.79	-1.4	.43	2.3	.84	29
Amotivation	1.2	.44	2.6	.43	.8.1	.84	29

Factors Predicting College Success

An exploratory analysis was used to determine if the data contained outliers, and to determine if the underlying assumptions for the select statistical analyses were met (Appendix D). Also, preliminary analyses were conducted to determine which predictor variables to include in the regression model. Thus, bivariate analysis was used to see if there were any correlations with the college grade point average (as the dependent variable) for the first semester (collegegpa1) and college grade point average for the second semester (collegegpa2) among the independent variables or factors scores for to know, toward accomplish, identified, introjected, eternal regulation, amotivation, and ACT scores. Moreover, the independent variables were entered into a stepwise multiple linear regression analysis.

The preliminary bivariate analysis for hypothesis 4 yielded four significant relationships between college grade point average for the first semester motivational factors such as to know (r=.16), toward accomplishment (r=.17) and external regulation, r=-.16, $p<.05$, and ACT composite scores, r= .23, $p<.05$. A complete overview of the correlation matrix may be found in Appendix I. The stepwise multiple linear regression analysis resulted in that external regulation, toward accomplishment, and ACT composite scores contributed with approximately 14 percent of the variance, R^2=.144 (adjusted R^2= .122), $p<.05$). The statistical output from the analysis may be found in Appendix I.

The preliminary bivariate analysis for hypothesis 5 yielded significant relationships between college grade point average for the second semester and to know (r=.16), toward accomplishment (r=.15), and external regulation, r= -.15, $p<.05$. A complete overview of the correlation matrix may be found in Appendix J. A stepwise multiple linear regression analysis resulted in that external regulation, and to know contributed with approximately 6 percent of the variance, R^2=.063 regression (adjusted R^2= .052), $p<.05$). The statistical output from the analysis may be found in Appendix J.

Summary

In this study 187 students of the 2008 freshmen cohort for the University of Texas Pan American responded to the survey. A number of group comparisons were made based on college generation, success as measured by first and second semester college grade point averages, and college readiness as measured by ACT composite scores using multivariate analysis of variance. The comparisons yielded no differences in motivation with the exception of intrinsic motivation, and specifically to the items related to experiencing stimulation, where successful students

showed higher motivation than less successful students. This phenomenon was only apparent the second semester of college attendance, not the first semester.

The overall descriptive analysis indicates that there are very few differences in intrinsic and extrinsic motivation in these groups of students. Linear regression analyses revealed that external regulation contributed with 5.8 percent of the total variance in grade point average for the first semester, toward accomplishment contributed with 4.7 percent, and the ACT composite score contributed with an additional 3.9 percent of the total variance (R^2=.144). The results for the second semester grade point average were explained by external regulation at 3.6 percent of the variance and to know, 2.7 percent of the total variance (R^2=.63).

The results of the study indicate that components of intrinsic motivation (to know and to accomplish) and extrinsic motivation (external regulation) are factors in student success while in college.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study describes and compares how the self-determination factors may differ between students who complete course work successfully and those who are less successful, between first-generation or non-first-generation college students, and various levels of college readiness. Also, it describes and measures factors that contribute to the college students' success during their first and second semesters at a four-year institution. In this study a student was considered successful if he or she earned a grade point average of 2.5 or higher on a 4-point scale, identified as a first-generation college student if neither parent had completed a four-year college degree, and labeled as being the least college ready if his or her ACT composite score was below 18 and the most college ready if the score was above 20.

Various group comparisons were made based on these criteria. In the first null hypothesis one comparison was made between the college generation status (first or non-first generation) and the student's motivation (intrinsic, extrinsic, and amotivation). The second comparison was made between the first semester college success levels (GPA at or above 2.5 vs. below 2.5) and the student's motivation. The third comparison used to test the first hypothesis was a combination of generational status, success levels and the student's motivation.

The testing of the second null hypothesis was carried out in a similar fashion in terms of the group comparisons except the second semester grade point average was used as a measure of

college success. In the third null hypothesis the emphasis was placed on the students' levels of college readiness and the generational college status was considered while measuring motivation. Lastly, two null hypotheses were tested to explore which variables contribute to college success levels during the first semester and second semesters of attending college. The results of the study are discussed further in the next three subsections.

Motivational Factors, Generational Factors, and Success Level

In the first hypothesis tested, which included the motivational factors, generational factors, and success levels, results indicated there is no difference among first-generation and non-first-generation freshmen college students who complete coursework successfully during the first semester in college. This indicates that, for the students in this study, being a first-generation college student is not significant in terms of motivation. Additionally, there were no differences in motivation between various success levels or when combining college generation and success levels while investigating first semester grade point averages.

In analyzing motivational factors, generational factors, and success levels in the second semester in college, results indicated there is no difference among first-generation and non-first-generation freshmen college students. However, there were differences between the successful (mean=3.1, n=125) and less successful (mean= 2.9, n=21) groups during the second semester with regard to "experiencing stimulation" (intrinsic motivation). No interaction effect was found by combining college readiness and success level.

Motivational Factors, Generational Factors, and College Readiness

In analyzing motivational factors, generational factors (first and non-generational students) and college readiness, no differences were found in self-determination factors between first-generation and non-first-generation college students. No differences were found with

regard to various levels of college readiness as measured by the ACT composite scores. Additionally, no differences were found among first-generation and non-first-generation students by college readiness. This may be an indication that the university's admission standard with regard to ACT score requirements is sufficient, at least according to the sample used in this study.

Greene and Foster (2003) noted that opinions regarding responsibility for students' lack of readiness for college vary with some people blaming the job being done in public schools other blaming the students themselves. This study indicates that students are self-determined to learn and have the ability to be successful if they are motivated to do so. The study indicates that the student's college generation has no bearing on student success at the college level for participants. However, the majority of the respondents in the sample had relatively high grade point averages.

<div align="center">

Factors Predicting College Success

</div>

The explorations of variables that contribute to college success levels were tested using a multiple linear regression analysis. The dependent variables of college success were measured using first and second semester grade point averages. The independent variables used to predict college success were as follows: ACT composite, intrinsic motivation (accomplishment), extrinsic motivation (external regulation), and generational status. Students were intrinsically motivated to accomplish in school. The ACT composite score did have correlation with the success of the student in the first semester. Therefore, it may be that the ACT college entrance exam is a good predictor for student success for those entering a four-year institution.

According to Moore (2003) students in higher education can be motivated to learn through experiences. Learning development is a lifelong process, and one of the most significant

findings from research about adult learning is that when adults learn something naturally (as distinct from being taught in a formal way) they are highly self-directing. Furthermore, what adults learn on their own initiative is learned more deeply and permanently than what they are taught through traditional educational methods. While this study focused on the self-determination of the student, this study shows that student success was due to their willingness to "accomplish" (intrinsically) their educational goals and "identified" (extrinsically) with college and their "external regulation". It does not matter what barriers a student has to overcome; if a student is motivated, they can accomplish whatever goals he or she sets.

In a previous study of collegiate underachievers, both motivation and goal were key factors in determining why students were not succeeding (Balduf, 2009). Consistently, research related to self-determination theory (SDT) has shown that when people experience choice about some behavior, the experience is accompanied by autonomous motivation, personal endorsement of the behavior, and a fuller engagement with it (Balduf, 2009). Interestingly, overall this group of students showed moderate motivation and did not respond to "exactly" for either intrinsic or extrinsic motivation variables as indicated in Appendix D. There are still many unanswered questions and further research in the self-determination theory is needed.

<div align="center">**Limitations of the Study**</div>

This study had limitations. First, the study didn't explain if "motivation" was indeed a factor in students' setting academic goals. A second limitation is the number of students that answered the survey; it was a small sample. Finally, as in any study when using self-report, it is difficult to establish how honest the respondents were in answering the survey. Grayson (1996) found that underachieving freshmen that spent their time outside of class in academically-related extracurricular activities (e.g., attending non-required lectures, speaking

with the professor outside of class) were more likely to see an increase in their grade point averages than those students who pursued socially related activities (e.g., clubs, sports, cultural events). No attempt was made in this study to investigate extracurricular involvement. Moreover, according to Balduf (2009), poorer performing students are less likely to search out assistance to counter act underachievement. This study did not attempt to measure the amount of assistance sought by students. The results of the statistical tests in this study were a representation of the "moment in time."

Implications for Practitioners

Although there are noteworthy limitations in this study, the findings yield important implications. As the number of first-generation students in higher education increases it is important to recognize the importance of being college ready for all students. Specifically the findings from this study can inform university personnel about college entrance exam scores and how college entrance exam scores are essential to student success. College recruiters, advisors, and faculty may draw on the results of this study by discussing the external motivation components related to external regulation with the prospective students. These components relate to the possibility of having a higher paying, more prestigious job in the future, and a good future life. Intrinsic motivation may be more difficult to draw from since it is an internal.

Not only do those elements of motivation found to be significant need to be used to inform behavior, but also those found not to be significant. Focusing on elements that are not motivating to students is not a good use of time and efforts for either students or university personnel.

Implications for Future Research

This research study could be the foundation for a larger study in which a qualitative or mixed method design is employed. Knowing that there are no differences between first-generation and non-first-generation students' motivation, at least based on this sample, is a bit puzzling and may warrant further study. Distinct differences were found in academic success between college-generation in studies by Martinez (2003) and Horn and Nunez, (2000). However, the college students who responded were mostly quite successful. Immersing oneself in interviewing students may assist in finding the intrinsic and extrinsic motivational factors are that helped them succeed.

Conclusion

This research on the self-determination of first-generation and non-first-generation students at the University of Texas Pan American provides a different perception of first generation students. It would be interesting to know how many of these students complete a four year degree. There are still many unanswered questions, such as: How does the motivation of students' impact learning? What are the specific external factors that drive students to be successful? What are the external factors that we should not be saying to students, such as education will help and better prepare you for a career, or enable you to enter the job market or make better choices, or improve worker competence? Instead the focus of communication should be that with only a high school diploma it is hard to find a high-paying job, however, if you are successful in completing college you will more likely obtain a job with greater prestige and a good salary, which in turn, will give you a better quality of life.

Self-determination Theory, when applied to education, primarily relates to students' confidence in their own capacities and attributes, how much they value the education (or

learning) that is taking place, and also their interest in learning the topic at hand. SDT looks at what engages a student in an activity, or causes some action to be performed. It separates actions that are entered into by the student freely of their own choice versus actions that are compelled by an outside source. This study demonstrates that the subjects at the University of Texas Pan American are both intrinsically (to accomplish) and extrinsically (external regulation) motivated to be successful in their academic performance.

Recommendations

1. This study shows that students who scored high on a college entrance exam may succeed in college. This is important information for students, high school counselors, high school teachers and college faculty.

2. Administrators at the study's institution should use this information in developing activities that 'stimulate' the student to experience the pleasure and satisfaction of learning new things.

3. A final recommendation to institutions of higher education is to perhaps focus on ways to incorporate "intrinsic and extrinsic" motivation activities in the college success class for entering freshmen.

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APPENDICES

APPENDIX A

APPENDIX A

INTRODUCTION TO STUDENTS (EMAIL)

Recruitment email:

Dear Student,

I am conducting a research study to examine motivation to enter and attend college. The survey can be completed online and takes approximately 10-15 minutes to complete. If you would be willing to take part, please click on the following link. You must be at least 18 years old to participate.

Survey Link: http://inquisite.utpa.edu/surveys/WS4NQ6/

The first page of the survey:

Self-determination, success and college readiness of first generation college students in a

higher education institution in South Texas

Educational Leadership Doctorates Program

A dissertation research By: Manuel Ochoa

The purpose of the study is to describe and compare how the Self-determination factors and

success levels may differ between students who complete course work successfully and those

who do not depending on whether or not the students are first generation or non-first generation

college ready or non-college ready students. This survey is part of the Self-determination factor

only. Students participating in this survey are the entering freshmen cohort for Fall 2008.

Participation in this research is completely voluntary. Choosing not to participate will not adversely affect your grade or standing in the class. If there are any individual questions that you would prefer to skip, simply leave the answer blank.

You must be at least 18 years old to participate. If you are not 18 or older, please do not complete the survey. All survey responses received will be treated confidentially. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in our study, we want you to be aware that certain "key logging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

(cont introduction to students)

Any individually identifiable responses will be securely stored and will only be available to those directly involved in this study. De-identified data may be shared with other researchers in the future, but will not contain information about your individual identity.

This research has been reviewed and approved by the Institutional Review Board for Human Subjects Protection (IRB). If you have any questions about your rights as a participant, or if you feel that your rights as a participant were not adequately met by the researcher, please contact the IRB at 956-381-3002 or irb@utpa.edu. You are also invited to provide anonymous feedback to the IRB by visiting www.utpa.edu/IRBfeedback .

APPENDIX B

APPENDIX B

PERMISSION TO USE THE ACADEMIC MOTIVATION SCALE SURVEY AND AMS

RE: Permission to use [pfCase:243420, pfTicket:5301074]

1 recipients
CC: recipients You More
BCC: recipients You
Hide Details
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ACADEMIC MOTIVATION SCALE (AMS-C 28)

COLLEGE (CEGEP) VERSION

Robert J. Vallerand, Luc G. Pelletier, Marc R. Blais, Nathalie M. Brière,

Caroline B. Senécal, Évelyne F. Vallières, 1992-1993

Educational and Psychological Measurement, vols. 52 and 53

Scale Description

This scale assesses the same 7 constructs as the Motivation scale toward College (CEGEP) studies. It contains 28 items assessed on a 7-point scale.

References

Vallerand, R.J., Blais, M.R., Brière, N.M., & Pelletier, L.G. (1989). Construction et validation de l'Échelle de Motivation en Éducation (EME). Revue canadienne des sciences du comportement, 21, 323-349.

WHY DO YOU GO TO COLLEGE (CEGEP)?

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college (CEGEP).

Does not correspond at all	Corresponds a little	Corresponds moderately		Corresponds a lot		Corresponds exactly
1	2	3	4	5	6	7

WHY DO YOU GO TO COLLEGE (CEGEP)?

1. Because with only a high-school degree I would not

   find a high-paying job later on.　　　1　2　3　4　5　6　7

2. Because I experience pleasure and satisfaction

   while learning new things.　　　1　2　3　4　5　6　7

3. Because I think that a college (CEGEP) education will help me

   better prepare for the career I have chosen.　　　1　2　3　4　5　6　7

4. For the intense feelings I experience when I am

   communicating my own ideas to others.　　　1　2　3　4　5　6　7

5. Honestly, I don't know; I really feel that I am wasting

   my time in school.　　　1　2　3　4　5　6　7

6. For the pleasure I experience while surpassing

   myself in my studies.　　　1　2　3　4　5　6　7

7. To prove to myself that I am capable of completing my

   college (CEGEP) degree.　　　1　2　3　4　5　6　7

8. In order to obtain a more prestigious job later on.　1　2　3　4　5　6　7

9. For the pleasure I experience when I discover

   new things never seen before.　　　1　2　3　4　5　6　7

10. Because eventually it will enable me to enter the

    job market in a field that I like.　　　1　2　3　4　5　6　7

11. For the pleasure that I experience when I read

     interesting authors.   1   2   3   4   5   6   7

12. I once had good reasons for going to college (CEGEP);

     however, now I wonder whether I should continue. 1   2   3   4   5   6   7

13. For the pleasure that I experience while I am surpassing

     myself in one of my personal accomplishments. 1   2   3   4   5   6   7

14. Because of the fact that when I succeed in college (CEGEP)

     I feel important.   1   2   3   4   5   6   7

15. Because I want to have "the good life" later on. 1   2   3   4   5   6   7

16. For the pleasure that I experience in broadening my

     knowledge about subjects which appeal to me. 1   2   3   4   5   6   7

17. Because this will help me make a better choice

     regarding my career orientation.   1   2   3   4   5   6   7

18. For the pleasure that I experience when I feel completely

     absorbed by what certain authors have written. 1   2   3   4   5   6   7

19. I can't see why I go to college (CEGEP) and frankly,

     I couldn't care less.   1   2   3   4   5   6   7

20. For the satisfaction I feel when I am in the process of

     Accomplishing difficult academic activities. 1   2   3   4   5   6   7

21. To show myself that I am an intelligent person. 1   2   3   4   5   6   7

22. In order to have a better salary later on.   1   2   3   4   5   6   7

23. Because my studies allow me to continue to learn about

     many things that interest me.   1   2   3   4   5   6   7

Does not correspond at all	Corresponds a little		Corresponds moderately		Corresponds a lot		Corresponds exactly
1	2	3	4	5		6	7

WHY DO YOU GO TO COLLEGE (CEGEP)?

24. Because I believe that a few additional years of

    education will improve my competence as a worker. 1   2   3   4   5   6   7

25. For the "high" feeling that I experience while reading

    about various interesting subjects.   1   2   3   4   5   6   7

26. I don't know; I can't understand what I am

    doing in school.   1   2   3   4   5   6   7

27. Because college (CEGEP) allows me to experience a

    personal satisfaction in my quest for excellence

    in my studies.   1   2   3   4   5   6   7

28. Because I want to show myself that I can succeed

    in my studies.   1   2   3   4   5   6   7

<u>KEY FOR AMS-28</u>

2, 9, 16, 23 Intrinsic motivation - to know

6, 13, 20, 27 Intrinsic motivation - toward accomplishment

4, 11, 18, 25 Intrinsic motivation - to experience stimulation

3, 10, 17, 24 Extrinsic motivation - identified

7, 14, 21, 28 Extrinsic motivation - introjected

1, 8, 15, 22 Extrinsic motivation - external regulation

5, 12, 19, 26 Amotivation

APPENDIX C

APPENDIX C

UTPA GRADING CRITERIA FOR CALCULATING GPA

A Excellent	4 grade points per hour
B Good	3 grade points per hour
C Satisfactory	2 grade points per hour
D Below Average	1 grade point per hour - may not be assigned in graduate classes
F Failure	0 grade points per hour
P Passing	not considered in calculating grade points or attempted hours
NP No Pass	not considered in calculating grade points or attempted hours
IP In Progress	not considered in calculating grade points or attempted hours; for remedial courses only
I Incomplete	not considered in calculating grade points or attempted hours
CR Credit	not considered in calculating grade points or attempted hours; however, hours are counted in total earned hours
NC No Credit	not considered in calculating grade points or attempted hours
DR Course Dropped	not considered in calculating grade points or attempted hours
W Withdrawal from School	not considered in calculating grade points or attempted hours

APPENDIX D

EXPLORATORY ANALYSIS AND FREQUENCIES OF RESPONSES TO ACADEMIC
MOTIVATION SCALE ITEMS AND DESCRIPTIVE STATISTICS

Stem-and-Leaf Plot for First-semester College GPA

```
    Frequency     Stem &   Leaf

        3.00        1 .   667
        1.00        1 .   8
        3.00        2 .   011
        6.00        2 .   233333
        9.00        2 .   444445555
       14.00        2 .   66666677777777
        6.00        2 .   888888
       26.00        3 .   00000000000000000111111111
       21.00        3 .   222222222233333333333
       12.00        3 .   444444555555
       12.00        3 .   666666667777
        8.00        3 .   88889999
        5.00        4 .   00000

    Stem width:       1.00
    Each leaf:        1 case(s)
```

Box Plot for First-semester College GPA
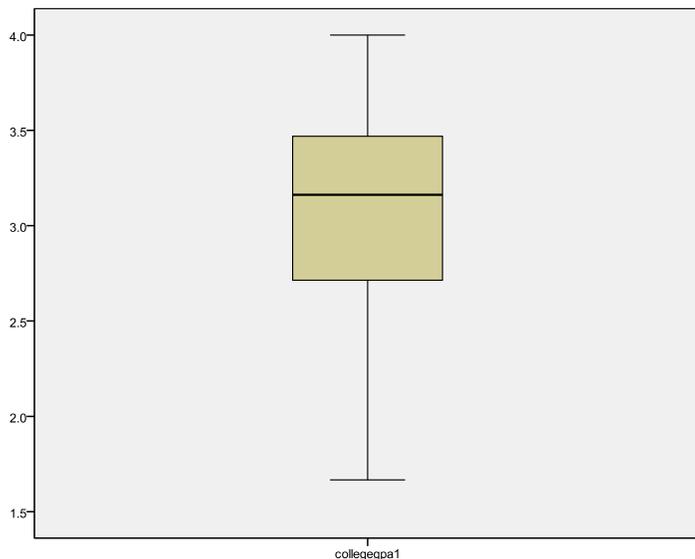
collegegpa1

Stem-and-Leaf Plot for Second-semester College GPA

```
Frequency     Stem &   Leaf
   2.00        1 .   66
   2.00        1 .   88
   2.00        2 .   01
   7.00        2 .   2223333
   6.00        2 .   444455
  16.00        2 .   6666666667777777
   4.00        2 .   8889
  24.00        3 .   000000000000000000011111
  22.00        3 .   2222222222223333333333
  12.00        3 .   444555555555
  12.00        3 .   666667777777
   3.00        3 .   888
  14.00        4 .   00000000000000

Stem width:      1.00
Each leaf:       1 case(s)
```

Box Plot for Second-semester College GPA

collegegpa2

Stem-and-Leaf Plot for ACT Composite Scores

```
    Frequency     Stem &  Leaf

       2.00        14 .  00
       2.00        15 .  00
       9.00        16 .  000000000
      21.00        17 .  000000000000000000000
      20.00        18 .  00000000000000000000
      13.00        19 .  0000000000000
      16.00        20 .  0000000000000000
      14.00        21 .  00000000000000
      10.00        22 .  0000000000
       3.00        23 .  000
       4.00        24 .  0000
       9.00        25 .  000000000
        .00        26 .
       2.00        27 .  00
       1.00  Extremes    (>=32.0)

    Stem width:      1.00
    Each leaf:       1 case(s)
```

Box Plot for ACT Composite Scores

Stem-and-Leaf Plot for Amotivation

```
 Frequency     Stem &  Leaf

    82.00       10 .
0000000000000000000000000000000000000000000000000000000000000000000000000000000000
      .00       10 .
      .00       11 .
      .00       11 .
      .00       12 .
    16.00       12 .  5555555555555555
     1.00       13 .  3
      .00       13 .
      .00       14 .
      .00       14 .
     8.00       15 .  00000000
    19.00 Extremes   (>=1.75)


 Stem width:         .10
 Each leaf:        1 case(s)
```

Box Plot for Amotivation

Stem-and-Leaf Plot for Instrinsic Motivation

```
Frequency     Stem &   Leaf

   1.00 Extremes     (=<5.3)
   2.00         5 .  55
   2.00         6 .  27
   7.00         7 .  0555777
   8.00         8 .  22557778
  10.00         9 .  0002225777
  22.00        10 .  0000022255555557777777
  17.00        11 .  00555555555777777
  21.00        12 .  000000002255555777777
  19.00        13 .  0000022222222255577
   9.00        14 .  000225557
   8.00        15 .  00000000

Stem width:      1.00
Each leaf:       1 case(s)
```

Box Plot for Intrinsic Motivation
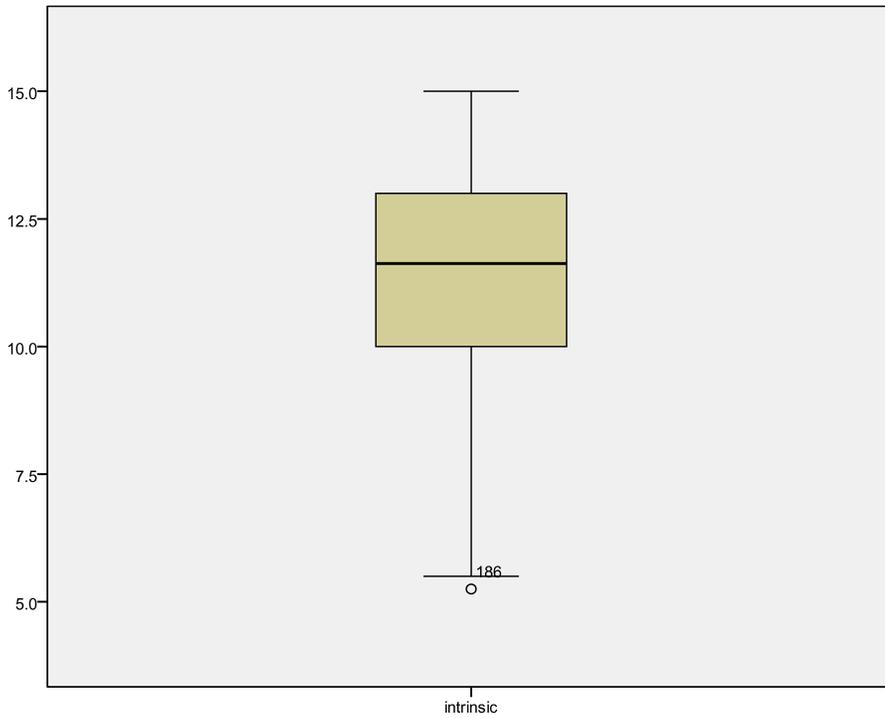
intrinsic

Stem-and-Leaf Plot for Extrinsic Motivation

```
Frequency     Stem &   Leaf

    3.00  Extremes     (=<7.8)
    2.00         9 .   22
    3.00         9 .   555
    4.00        10 .   0222
    6.00        10 .   677777
    8.00        11 .   00222222
    8.00        11 .   55677777
    8.00        12 .   00000022
    3.00        12 .   557
   14.00        13 .   00000022222222
   18.00        13 .   555555555555777777
   18.00        14 .   000000000022222222
   14.00        14 .   55557777777777
   17.00        15 .   00000000000000000

Stem width:     1.00
Each leaf:      1 case(s)
```

Box Plot for Extrinsic Motivation

109
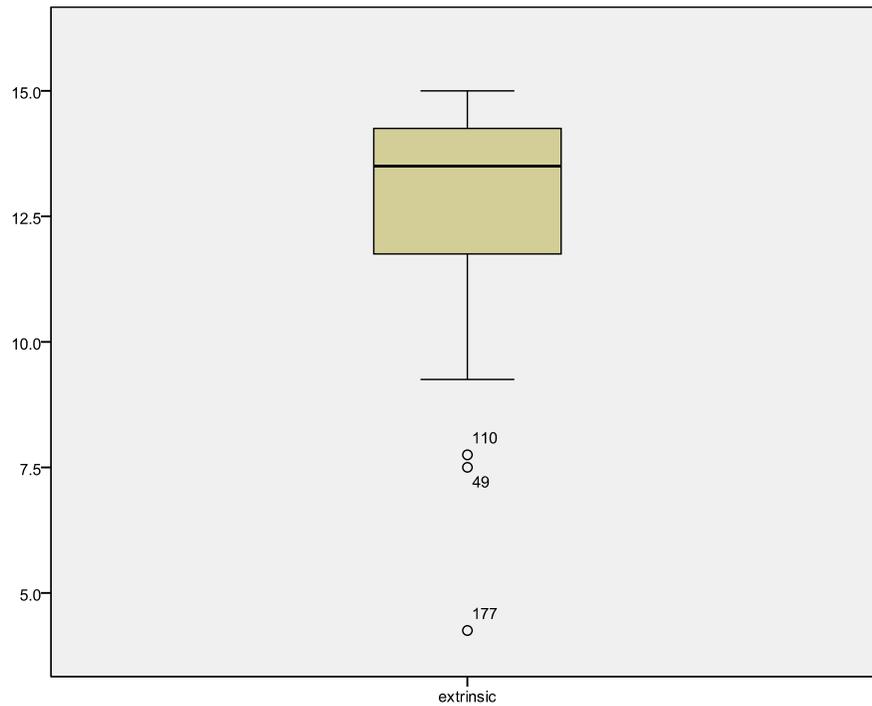
Frequencies of Responses to Motivation Survey Items

Variables	Does not correspond at all		Moderately			Corresponds exactly		
	1	2	3	4	5	6	7	N
Intrinsic Motivation								
To Know								
satisfaction to learn	2	2	42	70	71	0	0	187
discover new things	4	15	34	56	75	0	0	186
pleasure to broaden	2	12	21	71	80	0	0	187
learn interesting things	1	7	25	59	94	0	0	186
Toward Accomplishment								
surpass performance	5	19	51	52	59	0	0	186
surpass accomplishments	1	11	44	65	66	0	0	186
hard academic activities	2	14	46	54	70	0	0	186
quest for excellence	4	14	36	62	71	0	0	187
Stimulation								
communicating ideas	11	24	68	48	34	0	0	185
read authors	33	37	66	25	25	0	0	186
authors writings	29	46	44	38	28	0	0	185
interesting subjects	19	32	59	36	39	0	0	185
Extrinsic								
Identified								
prepare for career	1	1	5	44	136	0	0	187
enter job market	0	2	9	50	126	0	0	187
better career choice	3	8	29	52	93	0	0	185
improve competence	3	3	23	59	98	0	0	186
Introjected								
completing degree	4	11	23	57	91	0	0	186
feeling successful	8	17	30	46	86	0	0	187
feeling intelligent	5	19	53	48	62	0	0	187
demonstrate success	4	5	23	58	96	0	0	186
External Regulation								
HS degree not enough	2	10	24	53	97	0	0	186
prestigious job later	1	5	18	43	116	0	0	186
good life" later	4	10	28	41	104	0	0	187
better salary later	2	7	25	60	93	0	0	187
Amotivation								
wasting time in school	151	23	6	3	2	0	0	185
self-doubt	133	27	12	8	6	0	0	186
care less	169	7	5	1	3	0	0	185
don't know why school	171	7	4	1	3	0	0	187

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Fac_IMknow	185	16.5622	3.14291	-.928	.179	.649	.355
Fac_IMaccomplish	185	15.6432	3.47386	-.600	.179	-.170	.355
Fac_IMstimulate	183	12.4044	4.06815	.049	.180	-.666	.357
Fac_EMIdentify	184	17.8098	2.37512	-1.443	.179	3.849	.356
Fac_EMIIntorject	185	16.2324	3.46489	-.806	.179	.106	.355
Fac_EMextreg	185	17.2378	2.95761	-1.242	.179	1.139	.355
Fac_Amot	184	5.1522	2.39961	2.920	.179	9.348	.356
collegegpa1	187	3.0731	.61991	-1.000	.178	2.447	.354
collegegpa2	187	3.1201	.62802	-.909	.178	2.241	.354
ACTcomp	162	19.3210	3.00859	.968	.191	1.253	.379
Valid N (listwise)	151						

APPENDIX E

APPENDIX E

FACTOR ANALYSIS

Component Matrix[a]				
	Component			
	1	2	3	4
IM 02 know	.581	-.457	.119	.101
IM 09 Know	.800	-.310	.015	.050
IM 16 Know	.742	-.204	.120	-.067
IM 23 Know	.736	-.192	.141	-.144
IM 06 Accomplish	.758	-.281	.035	.018
IM 13 Accomplish	.743	-.186	.084	-.285
IM 20 Accomplish	.772	-.172	.012	-.197
IM 27 Accomplish	.775	-.230	.001	-.209
IM 04 Stimulation	.557	-.376	.107	.310
IM 11 Stimulation	.596	-.395	.039	.371
IM 18 Stimulation	.629	-.352	-.117	.295
IM 25 Stimulation	.703	-.367	-.063	.202
EM 03 Identified	.587	.307	.306	.242
EM 10 Identified	.504	.347	.046	.180
EM 17 Identified	.673	.260	-.146	.086
EM 24 Identified	.543	.384	-.146	.036
EM 07 Introjected	.680	.057	-.182	-.172
EM 14 Introjected	.679	.323	-.262	-.264
EM 21 Introjected	.650	.114	-.240	-.286
EM 28 Introjected	.708	.085	-.132	-.397
EM 01 External regulation	.382	.451	-.153	.251
EM 08 External regulation	.537	.606	-.222	.118
EM 15 External regulation	.434	.511	-.398	.145
EM 22 External regulation	.434	.535	-.401	.166
AM 05 code	.369	.314	.738	.011
AM 12 code	.039	.229	.479	-.195
AM 19 code	.296	.316	.751	.020
AM 26 code	.252	.365	.793	.018
Extraction Method: Principal Component Analysis.				
a. 4 components extracted.				

To Know

Total Variance Explained							
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimension	1	2.825	70.625	70.625	2.825	70.625	70.625
	2	.537	13.433	84.058			
	3	.388	9.694	93.752			
	4	.250	6.248	100.000			
Extraction Method: Principal Component Analysis.							

Component Matrix[a]	
	Component
	1
IM 02 Know	.768
IM 09 Know	.900
IM 16 Know	.855
IM 23 Know	.832
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Toward Accomplishment

Total Variance Explained							
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimension	1	2.903	72.571	72.571	2.903	72.571	72.571
	2	.420	10.512	83.084			
	3	.355	8.885	91.969			
	4	.321	8.031	100.000			
Extraction Method: Principal Component Analysis.							

Component Matrix[a]	
	Component
	1
IM06Accomplish	.837
IM13Accomplish	.857
IM20Accomplish	.873
IM27Accomplish	.839
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Experience Stimulation

Total Variance Explained							
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimension	1	2.720	68.006	68.006	2.720	68.006	68.006
	2	.585	14.617	82.623			
	3	.355	8.873	91.496			
	4	.340	8.504	100.000			
Extraction Method: Principal Component Analysis.							

Component Matrix[a]	
	Component
	1
IM04Stimulation	.748
IM11Stimulation	.843
IM18Stimulation	.841
IM25Stimulation	.863
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Identified

Total Variance Explained						
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimension	1	2.310	57.747	57.747	2.310	57.747	57.747
	2	.742	18.545	76.292			
	3	.545	13.618	89.910			
	4	.404	10.090	100.000			
Extraction Method: Principal Component Analysis.							

Component Matrix[a]	
	Component
	1
EM03Identified	.761
EM10Identified	.677
EM17Identified	.814
EM24Identified	.781
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Introjected

Total Variance Explained							
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimension	1	2.703	67.572	67.572	2.703	67.572	67.572
	2	.579	14.485	82.057			
	3	.415	10.371	92.428			
	4	.303	7.572	100.000			
Extraction Method: Principal Component Analysis.							

Component Matrix[a]	
	Component
	1
EM07Intojected	.794
EM14Introjected	.852
EM21Introjected	.833
EM28Introjected	.808
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

External Regulation

Total Variance Explained							
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimension 0	1	2.560	64.004	64.004	2.560	64.004	64.004
	2	.680	16.994	80.998			
	3	.415	10.367	91.365			
	4	.345	8.635	100.000			
Extraction Method: Principal Component Analysis.							

Component Matrix[a]	
	Component
	1
EM01Extreg	.700
EM08Extreg	.837
EM15Extreg	.812
EM22Extreg	.843
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Amotivation

Total Variance Explained						
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings	
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimension	1	2.713	67.815	67.815	2.713	67.815	67.815
	2	.822	20.558	88.373			
	3	.322	8.051	96.424			
	4	.143	3.576	100.000			
Extraction Method: Principal Component Analysis.						

Component Matrix[a]	
	Component
	1
codeAM05	.886
codeAM12	.511
codeAM19	.893
codeAM26	.932
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Extrinsic Motivation

Total Variance Explained										
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
dimensi on0	1	5.545	46.211	46.211	5.545	46.211	46.211	2.978	24.815	24.815
	2	1.245	10.378	56.589	1.245	10.378	56.589	2.534	21.117	45.932
	3	1.083	9.025	65.614	1.083	9.025	65.614	2.362	19.682	65.614
	4	.793	6.608	72.222						
	5	.634	5.283	77.506						
	6	.594	4.946	82.452						
	7	.483	4.021	86.473						
	8	.426	3.548	90.021						
	9	.357	2.975	92.995						
	10	.342	2.849	95.844						
	11	.305	2.546	98.390						
	12	.193	1.610	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]			
	Component		
	1	2	3
EM03Identified	.582	.110	.539
EM10Identified	.567	.253	.414
EM17Identified	.733	-.106	.276
EM24Identified	.690	-.046	.268
EM07Intojected	.669	-.437	-.005
EM14Introjected	.795	-.215	-.272
EM21Introjected	.681	-.372	-.317
EM28Introjected	.688	-.459	.089
EM01Extreg	.518	.546	-.109
EM08Extreg	.784	.331	.020
EM15Extreg	.690	.234	-.393
EM22Extreg	.705	.328	-.353
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

Intrinsic Motivation

Total Variance Explained										
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative ve %	Total	% of Variance	Cumulative e %
dimen sion0	1	6.884	57.368	57.368	6.884	57.368	57.368	4.533	37.777	37.777
	2	1.084	9.036	66.404	1.084	9.036	66.404	3.435	28.627	66.404
	3	.643	5.354	71.758						
	4	.583	4.857	76.615						
	5	.516	4.304	80.919						
	6	.467	3.888	84.807						
	7	.430	3.580	88.386						
	8	.353	2.941	91.327						
	9	.312	2.596	93.924						
	10	.265	2.210	96.134						
	11	.247	2.062	98.196						
	12	.217	1.804	100.000						
Extraction Method: Principal Component Analysis.										

Component Matrix[a]		
	Component	
	1	2
IM02know pleasure to know	.718	.110
IM09Know	.860	-.059
IM16Know	.770	-.271
IM23Know	.764	-.262
IM06Accomplish	.798	-.152
IM13Accomplish	.752	-.302
IM20Accomplish	.769	-.339
IM27Accomplish	.796	-.180
IM04Stimulation	.659	.330
IM11Stimulation	.697	.502
IM18Stimulation	.706	.447
IM25Stimulation	.779	.322
Extraction Method: Principal Component Analysis.		
a. 2 components extracted.		

APPENDIX F

APPENDIX F

HYPOTHESIS 1: SUMMARY TABLE

Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
College1stnon	Fac_IMknow	4.448	1	4.448	.437	.510	.003
	Fac_IMaccomp	4.827	1	4.827	.397	.530	.003
	Fac_IMStimul	27.612	1	27.612	1.797	.182	.013
	Fac_EMidentify	6.179	1	6.179	.967	.327	.007
	Fac_EMintroject	40.862	1	40.862	3.385	.068	.025
	Fac_EmExtreg	20.455	1	20.455	2.483	.117	.018
	Fac_Amot	20.295	1	20.295	3.070	.082	.023
GPA1category	Fac_IMknow	.189	1	.189	.019	.892	.000
	Fac_IMaccomp	16.502	1	16.502	1.357	.246	.010
	Fac_IMStimul	53.139	1	53.139	3.458	.065	.026
	Fac_EMidentify	.203	1	.203	.032	.859	.000
	Fac_EMintroject	7.085	1	7.085	.587	.445	.004
	Fac_EmExtreg	.817	1	.817	.099	.753	.001
	Fac_Amot	11.579	1	11.579	1.752	.188	.013
College1stnon * GPA1category	Fac_IMknow	4.539	1	4.539	.446	.505	.003
	Fac_IMaccomp	3.508	1	3.508	.288	.592	.002
	Fac_IMStimul	48.369	1	48.369	3.148	.078	.023
	Fac_EMidentify	2.001	1	2.001	.313	.577	.002
	Fac_EMintroject	14.305	1	14.305	1.185	.278	.009
	Fac_EmExtreg	2.503	1	2.503	.304	.582	.002
	Fac_Amot	13.210	1	13.210	1.999	.160	.015
Error	Fac_IMknow	1343.175	132	10.176			
	Fac_IMaccomp	1605.686	132	12.164			
	Fac_IMStimul	2028.160	132	15.365			
	Fac_EMidentify	843.053	132	6.387			
	Fac_EMintroject	1593.243	132	12.070			
	Fac_EmExtreg	1087.277	132	8.237			
	Fac_Amot	872.517	132	6.610			
Total	Fac_IMknow	39211.000	136				
	Fac_IMaccomp	35930.000	136				
	Fac_IMStimul	23290.000	136				
	Fac_EMidentify	44377.000	136				
	Fac_EMintroject	38173.000	136				
	Fac_EmExtreg	42051.000	136				
	Fac_Amot	4569.000	136				
a. R Squared = .009 (Adjusted R Squared = -.013)							
b. R Squared = .011 (Adjusted R Squared = -.011)							
c. R Squared = .030 (Adjusted R Squared = .008)							
d. R Squared = .010 (Adjusted R Squared = -.013)							
e. R Squared = .029 (Adjusted R Squared = .007)							
f. R Squared = .040 (Adjusted R Squared = .018)							
g. R Squared = .024 (Adjusted R Squared = .001)							

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Fac_IMknow	145	4.00	20.00	16.7034	3.14935	-1.093	.201	1.109	.400
Fac_IMaccomp	145	5.00	20.00	15.8000	3.46530	-.737	.201	.128	.400
Fac_IMStimul	144	4.00	20.00	12.4306	4.00289	.080	.202	-.653	.401
Fac_EMidentify	144	5.00	20.00	17.8889	2.47536	-1.607	.202	4.361	.401
Fac_EMintroject	144	4.00	20.00	16.4097	3.46897	-.882	.202	.222	.401
Fac_EmExtreg	145	7.00	20.00	17.3034	2.89234	-1.308	.201	1.564	.400
Fac_Amot	145	4.00	17.00	5.1586	2.51572	3.008	.201	9.563	.400
collegegpa1	146	1.40	4.00	3.1084	.56513	-.616	.201	.147	.399
Valid N (listwise)	136								

APPENDIX G

APPENDIX G

HYPOTHESIS 2: SUMMARY TABLE

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
College1stnon	Fac_IMknow	1.043	1	1.043	.109	.742	.001
	Fac_IMaccomp	.133	1	.133	.011	.916	.000
	Fac_IMStimul	21.023	1	21.023	1.410	.237	.011
	Fac_EMidentify	.345	1	.345	.054	.816	.000
	Fac_EMintroject	9.675	1	9.675	.806	.371	.006
	Fac_EmExtreg	.081	1	.081	.010	.921	.000
	Fac_Amot	.072	1	.072	.011	.917	.000
GPA2category	Fac_IMknow	24.838	1	24.838	2.584	.110	.019
	Fac_IMaccomp	16.353	1	16.353	1.368	.244	.010
	Fac_IMStimul	104.984	1	104.984	7.042	.009	.051
	Fac_EMidentify	1.174	1	1.174	.185	.668	.001
	Fac_EMintroject	9.486	1	9.486	.790	.376	.006
	Fac_EmExtreg	5.318	1	5.318	.645	.423	.005
	Fac_Amot	.274	1	.274	.041	.839	.000
College1stnon * GPA2category	Fac_IMknow	1.947	1	1.947	.203	.653	.002
	Fac_IMaccomp	.276	1	.276	.023	.879	.000
	Fac_IMStimul	25.830	1	25.830	1.733	.190	.013
	Fac_EMidentify	.827	1	.827	.130	.719	.001
	Fac_EMintroject	.002	1	.002	.000	.989	.000
	Fac_EmExtreg	9.145	1	9.145	1.110	.294	.008
	Fac_Amot	3.947	1	3.947	.596	.441	.004
Error	Fac_IMknow	1268.894	132	9.613			
	Fac_IMaccomp	1578.194	132	11.956			
	Fac_IMStimul	1967.954	132	14.909			
	Fac_EMidentify	837.553	132	6.345			
	Fac_EMintroject	1585.255	132	12.010			
	Fac_EmExtreg	1087.988	132	8.242			
	Fac_Amot	874.041	132	6.622			
Total	Fac_IMknow	39211.000	136				
	Fac_IMaccomp	35930.000	136				
	Fac_IMStimul	23290.000	136				
	Fac_EMidentify	44377.000	136				
	Fac_EMintroject	38173.000	136				
	Fac_EmExtreg	42051.000	136				
	Fac_Amot	4569.000	136				

a. R Squared = .064 (Adjusted R Squared = .043)
b. R Squared = .028 (Adjusted R Squared = .006)
c. R Squared = .058 (Adjusted R Squared = .037)
d. R Squared = .016 (Adjusted R Squared = -.006)
e. R Squared = .034 (Adjusted R Squared = .012)
f. R Squared = .040 (Adjusted R Squared = .018)
g. R Squared = .022 (Adjusted R Squared = .000)

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable:Fac_IMStimul

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	115.648[a]	3	38.549	2.481	.064
Intercept	3172.474	1	3172.474	204.143	.000
College1stnon	19.993	1	19.993	1.286	.259
GPA2category	100.453	1	100.453	6.464	.012
College1stnon * GPA2category	31.149	1	31.149	2.004	.159
Error	2175.658	140	15.540		
Total	24542.000	144			
Corrected Total	2291.306	143			

a. R Squared = .050 (Adjusted R Squared = .030)

Tests of Between-Subjects Effects

Dependent Variable:Fac_IMStimul

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	83.817[a]	1	83.817	5.392	.022
Intercept	8878.511	1	8878.511	571.123	.000
GPA2category	83.817	1	83.817	5.392	.022
Error	2207.489	142	15.546		
Total	24542.000	144			
Corrected Total	2291.306	143			

a. R Squared = .037 (Adjusted R Squared = .030)

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
							Std.		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Error	Statistic	Std. Error
Fac_IMknow	145	4.00	20.00	16.7034	3.14935	-1.093	.201	1.109	.400
Fac_IMaccomp	145	5.00	20.00	15.8000	3.46530	-.737	.201	.128	.400
Fac_IMStimul	144	4.00	20.00	12.4306	4.00289	.080	.202	-.653	.401
Fac_EMidentify	144	5.00	20.00	17.8889	2.47536	-1.607	.202	4.361	.401
Fac_EMintroject	144	4.00	20.00	16.4097	3.46897	-.882	.202	.222	.401
Fac_EmExtreg	145	7.00	20.00	17.3034	2.89234	-1.308	.201	1.564	.400
Fac_Amot	145	4.00	17.00	5.1586	2.51572	3.008	.201	9.563	.400
collegegpa2	146	1.67	4.00	3.1564	.57564	-.449	.201	-.325	.399
Valid N (listwise)	136								

Descriptive Statistics

APPENDIX H

HYPOTHESIS 3: SUMMARY TABLE

		Tests of Between-Subjects Effects					
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
College generation	Fac_IMknow	3.104	1	3.104	.354	.553	.003
	Fac_IMaccomp	.050	1	.050	.004	.948	.000
	Fac_IMStimul	15.121	1	15.121	.984	.323	.009
	Fac_EMidentify	9.701	1	9.701	1.633	.204	.014
	Fac_EMintroject	23.921	1	23.921	1.971	.163	.017
	Fac_EmExtreg	34.550	1	34.550	4.329	.040	.038
	Fac_Amot	12.636	1	12.636	2.006	.160	.018
ACT group	Fac_IMknow	9.189	2	4.595	.523	.594	.009
	Fac_IMaccomp	2.088	2	1.044	.090	.914	.002
	Fac_IMStimul	46.859	2	23.429	1.525	.222	.027
	Fac_EMidentify	7.281	2	3.640	.613	.544	.011
	Fac_EMintroject	28.677	2	14.338	1.182	.311	.021
	Fac_EmExtreg	44.080	2	22.040	2.762	.068	.047
	Fac_Amot	1.517	2	.758	.120	.887	.002
College generation * ACTgroup	Fac_IMknow	20.040	2	10.020	1.141	.323	.020
	Fac_IMaccomp	35.395	2	17.698	1.526	.222	.027
	Fac_IMStimul	41.882	2	20.941	1.363	.260	.024
	Fac_EMidentify	28.519	2	14.260	2.400	.095	.041
	Fac_EMintroject	7.770	2	3.885	.320	.727	.006
	Fac_EmExtreg	13.504	2	6.752	.846	.432	.015
	Fac_Amot	2.754	2	1.377	.219	.804	.004
Error	Fac_IMknow	974.804	111	8.782			
	Fac_IMaccomp	1287.365	111	11.598			
	Fac_IMStimul	1705.555	111	15.365			
	Fac_EMidentify	659.535	111	5.942			
	Fac_EMintroject	1346.838	111	12.134			
	Fac_EmExtreg	885.865	111	7.981			
	Fac_Amot	699.329	111	6.300			
Total	Fac_IMknow	34186.000	117				
	Fac_IMaccomp	31420.000	117				
	Fac_IMStimul	20649.000	117				
	Fac_EMidentify	38686.000	117				
	Fac_EMintroject	33235.000	117				
	Fac_EmExtreg	36344.000	117				
	Fac_Amot	3876.000	117				

a. R Squared = .040 (Adjusted R Squared = -.003)
b. R Squared = .039 (Adjusted R Squared = -.004)
c. R Squared = .053 (Adjusted R Squared = .010)
d. R Squared = .066 (Adjusted R Squared = .024)
e. R Squared = .059 (Adjusted R Squared = .017)
f. R Squared = .099 (Adjusted R Squared = .059)
g. R Squared = .024 (Adjusted R Squared = -.020)

Univariate Summary Table

Tests of Between-Subjects Effects

Dependent Variable: Fac_EmExtreg

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	98.652[a]	5	19.730	2.473	.036
Intercept	27293.394	1	27293.394	3421.126	.000
ACT group	39.730	2	19.865	2.490	.087
College Generation	28.239	1	28.239	3.540	.062
ACT group * generation	23.176	2	11.588	1.453	.238
Error	957.348	120	7.978		
Total	38912.000	126			
Corrected Total	1056.000	125			

a. R Squared = .093 (Adjusted R Squared = .056)

Tests of Between-Subjects Effects

Dependent Variable:Fac_EmExtreg

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	29.311[a]	1	29.311	3.566	.061
Intercept	33792.015	1	33792.015	4111.381	.000
College Generation	29.311	1	29.311	3.566	.061
Error	1175.337	143	8.219		
Total	44619.000	145			
Corrected Total	1204.648	144			

a. R Squared = .024 (Adjusted R Squared = .018)

Multiple Comparisons

Dependent Variable:Fac_EmExtreg

	(I) 1=17 or less, 2=18-20, 3=>21	(J) 1=17 or less, 2=18-20, 3=>21	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Scheffe	1.00	2.00	1.3546	.62558	.100	-.1960	2.9052
		3.00	1.4496	.63808	.080	-.1319	3.0312
	2.00	1.00	-1.3546	.62558	.100	-2.9052	.1960
		3.00	.0950	.59605	.987	-1.3824	1.5724
	3.00	1.00	-1.4496	.63808	.080	-3.0312	.1319
		2.00	-.0950	.59605	.987	-1.5724	1.3824
Bonferroni	1.00	2.00	1.3546	.62558	.097	-.1643	2.8735
		3.00	1.4496	.63808	.075	-.0996	2.9989
	2.00	1.00	-1.3546	.62558	.097	-2.8735	.1643
		3.00	.0950	.59605	1.000	-1.3522	1.5422
	3.00	1.00	-1.4496	.63808	.075	-2.9989	.0996
		2.00	-.0950	.59605	1.000	-1.5422	1.3522

Based on observed means.

The error term is Mean Square(Error) = 7.978.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Fac_IMknow	145	4.00	20.00	16.7034	3.14935	-1.093	.201	1.109	.400
Fac_IMaccomp	145	5.00	20.00	15.8000	3.46530	-.737	.201	.128	.400
Fac_IMStimul	144	4.00	20.00	12.4306	4.00289	.080	.202	-.653	.401
Fac_EMidentify	144	5.00	20.00	17.8889	2.47536	-1.607	.202	4.361	.401
Fac_EMintroject	144	4.00	20.00	16.4097	3.46897	-.882	.202	.222	.401
Fac_EmExtreg	145	7.00	20.00	17.3034	2.89234	-1.308	.201	1.564	.400
Fac_Amot	145	4.00	17.00	5.1586	2.51572	3.008	.201	9.563	.400
ACTcomp	126	14.00	32.00	19.6508	3.02607	.932	.216	1.369	.428
Valid N (listwise)	117								

APPENDIX I

APPENDIX I

HYPOTHESIS 4: CORRELATION MATRIX AND STEPWISE LINEAR REGRESSION FOR FIRST SEMESTER

Correlations		Fac_IM know	Fac_IM accomplish	Fac_IM stimulate	Fac_EM Identify	Fac_EM Intorject	Fac_EM extreg	Fac Amot	ACT comp	College gpa 1
Fac_IM know	Pearson Correlation	1	.785**	.702**	.482**	.556**	.216**	-.181*	-.005	.160*
	N	185	184	182	183	183	184	183	160	185
Fac_IM accomplish	Pearson Correlation	.785**	1	.665**	.518**	.681**	.264**	-.163*	-.020	.166*
	N	184	185	182	183	183	184	183	160	185
Fac_IM stimulate	Pearson Correlation	.702**	.665**	1	.383**	.461**	.159*	-.056	-.072	.110
	N	182	182	183	181	181	182	181	159	183
Fac_EM Identify	Pearson Correlation	.482**	.518**	.383**	1	.606**	.593**	-.282**	-.138	-.004
	N	183	183	181	184	182	183	182	159	184
Fac_EM Intorject	Pearson Correlation	.556**	.681**	.461**	.606**	1	.549**	-.117	-.187*	-.003
	N	183	183	181	182	185	183	182	160	185
Fac_EM extreg	Pearson Correlation	.216**	.264**	.159*	.593**	.549**	1	-.079	-.182*	-.159*
	N	184	184	182	183	183	185	183	161	185
Fac_Amot	Pearson Correlation	-.181*	-.163*	-.056	-.282**	-.117	-.079	1	.052	-.144
	N	183	183	181	182	182	183	184	159	184
ACT comp	Pearson Correlation	-.005	-.020	-.072	-.138	-.187*	-.182*	.052	1	.226**
	N	160	160	159	159	160	161	159	162	162
College gpa1	Pearson Correlation	.160*	.166*	.110	-.004	-.003	-.159*	-.144	.226**	1
	N	185	185	183	184	185	185	184	162	187

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.240[a]	.058	.050	.52986
2	.325[b]	.105	.091	.51840
3	.379[c]	.144	.122	.50933

a. Predictors: (Constant), Fac_EMextreg

b. Predictors: (Constant), Fac_EMextreg, Fac_IMaccomplish

c. Predictors: (Constant), Fac_EMextreg, Fac_IMaccomplish, ACTcomp

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.094	1	2.094	7.460	.007[a]
	Residual	34.252	122	.281		
	Total	36.346	123			
2	Regression	3.829	2	1.914	7.124	.001[b]
	Residual	32.517	121	.269		
	Total	36.346	123			
3	Regression	5.216	3	1.739	6.702	.000[c]
	Residual	31.130	120	.259		
	Total	36.346	123			

a. Predictors: (Constant), Fac_EMextreg

b. Predictors: (Constant), Fac_EMextreg, Fac_IMaccomplish

c. Predictors: (Constant), Fac_EMextreg, Fac_IMaccomplish, ACTcomp

d. Dependent Variable: collegegpa1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.872	.287		13.484	.000
	Fac_EMextreg	-.045	.016	-.240	-2.731	.007
2	(Constant)	3.499	.317		11.038	.000
	Fac_EMextreg	-.057	.017	-.304	-3.393	.001
	Fac_IMaccomplish	.036	.014	.228	2.540	.012
3	(Constant)	2.665	.477		5.591	.000
	Fac_EMextreg	-.049	.017	-.265	-2.952	.004
	Fac_IMaccomplish	.036	.014	.229	2.599	.011
	ACTcomp	.036	.015	.199	2.312	.022

a. Dependent Variable: collegegpa1

APPENDIX J

HYPOTHESIS 5: CORRELATION MATRIX AND STEPWISE LINEAR REGRESSION FOR SECOND SEMESTER

Correlations			Fac_IM Accomp-lish	Fac_IM stimulate	Fac_EM Identify	Fac_ EM Introject	Fac_EM extreg	Fac_ Amot	ACT comp	College gpa2
		Fac_IM know								
Fac_IM know	Pearson Correlation	1	.785**	.702**	.482**	.556**	.216**	-.181*	-.005	.158*
	N	185	184	182	183	183	184	183	160	185
Fac_IM accomp-lish	Pearson Correlation	.785**	1	.665**	.518**	.681**	.264**	-.163*	-.020	.147*
	N	184	185	182	183	183	184	183	160	185
Fac_IM stimulate	Pearson Correlation	.702**	.665**	1	.383**	.461**	.159*	-.056	-.072	.080
	N	182	182	183	181	181	182	181	159	183
Fac_EM Identify	Pearson Correlation	.482**	.518**	.383**	1	.606**	.593**	-.282**	-.138	-.026
	N	183	183	181	184	182	183	182	159	184
Fac_EM IIntorject	Pearson Correlation	.556**	.681**	.461**	.606**	1	.549**	-.117	-.187*	-.006
	N	183	183	181	182	185	183	182	160	185
Fac_EM extreg	Pearson Correlation	.216**	.264**	.159*	.593**	.549**	1	-.079	-.182*	-.153*
	N	184	184	182	183	183	185	183	161	185
Fac_ Amot	Pearson Correlation	-.181*	-.163*	-.056	-.282**	-.117	-.079	1	.052	-.133
	N	183	183	181	182	182	183	184	159	184
ACT comp	Pearson Correlation	-.005	-.020	-.072	-.138	-.187*	-.182*	.052	1	.144
	N	160	160	159	159	160	161	159	162	162
collegegpa2	Pearson Correlation	.158*	.147*	.080	-.026	-.006	-.153*	-.133	.144	1
	N	185	185	183	184	185	185	184	162	187

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.164[a]	.027	.022	.62243
2	.250[b]	.063	.052	.61264

a. Predictors: (Constant), Fac_IMknow

b. Predictors: (Constant), Fac_IMknow, Fac_EMextreg

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.941	1	1.941	5.010	.026[a]
	Residual	70.122	181	.387		
	Total	72.063	182			
2	Regression	4.505	2	2.253	6.002	.003[b]
	Residual	67.558	180	.375		
	Total	72.063	182			

a. Predictors: (Constant), Fac_IMknow

b. Predictors: (Constant), Fac_IMknow, Fac_EMextreg

c. Dependent Variable: collegegpa2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.573	.247		10.433	.000
	Fac_IMknow	.033	.015	.164	2.238	.026
2	(Constant)	3.143	.326		9.634	.000
	Fac_IMknow	.041	.015	.205	2.778	.006
	Fac_EMextreg	-.041	.016	-.193	-2.614	.010

a. Dependent Variable: collegegpa2

BIOGRAPHICAL SKETCH

Manuel Ochoa is the son of the late Juanita Ochoa from Edinburg, Texas. He was born in Raymondville, Texas and raised in Edinburg, Texas. He attended the public education system in Edinburg and graduated from Edinburg High School in 1977. Manuel attended the University of Texas Pan American and received a Bachelor of Arts in English in 1992. Manuel also received a Master's in Public Administration in 2000, also from the University of Texas Pan American. Manuel enrolled at the University of Texas Pan American in 2007 to purse a Doctor of Education Degree in Educational Leadership. He has worked with non-profit organizations for over 20 years. Manuel is passionate about assisting low income, first generation, and migrant families and children. Manuel may be reached at man8a@yahoo.com.