2-12-2008

The Effect of Career Goals and Socioeconomic Mobility on Nontraditional Students' Intrinsic Motivation for College Attendance

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This dissertation, THE EFFECT OF CAREER GOALS AND SOCIOECONOMIC MOBILITY ON NONTRADITIONAL STUDENTS' INTRINSIC MOTIVATION FOR COLLEGE ATTENDANCE, by JANICE C. GEORGE, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree Doctor of Philosophy in the College of Education, Georgia State University.

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THE EFFECT OF CAREER GOALS AND SOCIOECONOMIC MOBILITY ON NONTRADITIONAL STUDENTS' INTRINSIC MOTIVATION FOR COLLEGE ATTENDANCE

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The growth of the community college has created an access point for many students that traditionally would not pursue higher education. Although community colleges have soared in enrollment in the last forty years, the rate at which students persist and graduate has remained low compared to four-year institutions. Studies on college persistence and academic achievement indicate that there is a consistency of characteristics among community college, low-income, and first-generation students. Behaviors traditionally associated with persistence, such as integration within the institution, are not characteristic nontraditional students because they tend to have closer connections with the environment external to the college campus. Missing from the literature are studies that examine the motivational factors that encourage persistence in spite of the risk factors.

The twofold purpose of this study was to examine the effects of nontraditional students' extrinsic motivation on

their intrinsic motivation for attending college and to examine how the effects of environmental and background influences on intrinsic motivation are mediated through extrinsic motivation. Two surveys, The Academic Motivation Scale and the Factors Influencing Pursuit of Higher Education Questionnaire, were administered to 151 students from two community colleges in the Southeast. Through hierarchical regression analysis and path analysis the study examined how nontraditional students' intrinsic motivation levels for attending college was affected by background influences (locus of control, perception of barriers, and self-efficacy), environmental influences (family and friends support), career goal attainment, and socioeconomic mobility.

The results of the study indicated that career goal attainment, locus of control, and support of friends had a positive direct impact on students' intrinsic motivation levels. The results also revealed that several of the background and environmental influence variables had an indirect effect on intrinsic motivation mediated through the extrinsic motivation variable of career goal attainment. The findings from this study add to the current retention, persistence, and motivation literature.

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A Dissertation

Presented in Partial Fulfillment of Requirements
for the
Degree of
Doctor of Philosophy
in
Higher Education
in
the Department of Educational Policy Studies
in
the College of Education
Georgia State University

Atlanta, Georgia
2007

ACKNOWLEDGMENTS

This has been an incredible journey for me. I have experienced joy, satisfaction, frustration, stress, and elation. This process has helped to refine my understanding of higher education and education in general. I am proud of the higher education professional that I have become as a result.

This accomplishment would not have been possible without the support of many influential people in my life. I am very grateful for my committee members for their assistance and guidance as I completed my dissertation. To my advisor and committee chair, Philo Hutcheson, without his commitment to the students in the Higher Education program many graduations would have been significantly delayed. Philo, thank you for your guidance, commitment, and for being a true educator. To my mother, Dolores George, her immeasurable strength has truly shaped me into the person I am today. She is the person I admire most in this world. For her persistent emphasis on the importance of education in my life and lives of my siblings, I dedicate this dissertation to her. This work is a result of hard work, tenacity, and conviction, all characteristics exemplified by my mother. Finally yet importantly, to my husband, Ricardo Jacques, who came into my life toward the latter stage of my dissertation work. His love and support provided me with the peace that I needed to finish this work. He has brought so much to my life. I am truly blessed to have him as my husband.

Because of this experience, I end this chapter of my life more informed and inspired. I am more confident to face the professional challenges that lie ahead.

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Chapter 1

INTRODUCTION

The scene on many college campuses has changed substantially since the early 1990s and continuing into the new millennium. According to a report from the National Center for Education Statistics, the percentage of minority enrollment has increased compared to the enrollment of white students(Snyder, 2004). As of Fall 2001, the enrollment of African-Americans increased by 11.6 percent since 1990, Hispanics 4.5 percent, and Asians 6.4 percent, while the percentage of white students has decreased by 13.8 percent. In addition to enrollment changes, how and where students attend college has also changed. In 2003, of the 16.4 million students enrolled in college across the country, 38 percent attended two-year colleges; 60 percent attended full-time while 40 percent attended part-time. This is an increase in enrollment from a decade prior in which community college enrollment was 24% of undergraduates. Another difference can be found in the changes of students' perceptions in the utility of college. As Astin (1998) suggests, in an article that

traces changes in higher education, the goal and purpose for students pursuing a higher education has shifted from "developing a meaningful philosophy of life" to "being very well off financially" (p. 116). This shift began in the early 1970s and expanded in the late 1980s. The tone of the shift in students' purposes for attending college also suggests that there is an underlying belief in the utility of college for socioeconomic mobility. Therefore, more students may find some form of higher education essential to their future financial well-being, whether its a Bachelor's degree or an Associate degree, which could offer some explanation for the increased enrollment in both four-year and two-year institutions.

Although the current diversification of college campuses is far more representative of this country than ever before, within this diversity students enter with varying sociocultural backgrounds and academic needs. The alternative access points into postsecondary education through the proliferation of community colleges in the 1960s have provided an entryway for less traditional college students. Pascarella (1997) states that traditionally the widely accepted public standards of what American higher education "should be" are institutions with residential undergraduates that attend full-time and

immediately after completing high school, undergraduates that are non-working, non-minority, with middle or upper-middle class origins. As the data presented earlier indicate, today the United States higher education system does not reflect this traditional view with community colleges accounting for 38 percent of the total higher education enrollment. Community colleges do not meet the traditional public standard that Pascarella (1997) describes because of the characteristics associated with community college students.

Much of the research on college persistence and academic achievement indicates that there is consistency among the profiles and characteristics of community college, low-income, and first-generation students. They consistently have many of the following characteristics: twenty-four years and older, minority, single parents or married with dependents, enrolled part-time, working either full-time or part-time, poor academic performance, deficient academic preparation for college, and delayed enrollment after completing high school (Astin, 1964; Bean & Metzner, 1985; Chaney, Muraskin, Cahalan, & Rak, 1997; Choy, 2000; Cohen & Brawer, 2003; Coulson & Bradford, 1983; Gordon & Johnson, 1982; Green & Sturgeon, 1982; Hearn, 1992; Hughes, 1983; Metzner & Bean, 1987; Rossman & Kirk,

1970; Stage & Hossler, 1998; Terenzini, Cabrera, & Bernal, 2001; Valverde, 1986; Wei, 2002).

The consistency in the student characteristics validates the necessity of including low-income and first-generation status as variables in a study of community college students. Since students meeting most of these characteristics differ significantly from traditional students, as described by Pascarella (1997), the label of nontraditional students will be used interchangeably with low-income and/or first-generation students throughout this study. As Snyder (2004) indicates, community college students are currently 38 percent of the total higher education population, making these students and institutions an important sector of American higher education. Therefore, discovering more about the community college student will make a significant contribution to the study of higher education.

Statement of the Problem

Students are motivated to attend college for many reasons. The reasons are as diverse as the students themselves. Their perceptions of the utility of a college education fulfilling their outcome expectations are an important factor in enrollment and persistence decisions.

Equally important are the social and environmental experiences that influence their perceptions, such as family support, values, self-efficacy, and goal attainment.

Historically in lower-income communities, education has always been considered a method of social and economic improvement. In particular, in the African American community, which is disproportionately represented within the lower-income strata, parents have fought against tremendous odds to ensure their children have educational opportunities. In the perils of the Civil Rights struggle, African American parents took great risks in providing their children with a quality education (Corder & Quisenberry, 1987). However, parental expectations and definitions of success vary with social status and help to mediate student aspirations and levels of academic motivation. Low-income parents are more likely to view a high school diploma as the norm because securing employment after high school is an expectation. College attendance is not an expectation (Astin, 1975; Bowen & Bok, 1998; Walpole, 2003). Although a college education can be the means to an improved socioeconomic status, students from low-income families still have lower educational aspirations and attainment than their middle and upper-income counterparts (Walpole, 2003).

Occupational aspirations also positively affect student's motivation and persistence. The goal of occupational attainment can become a motivating force for completing college. According to Tinto (1993) the higher the level of one's educational or occupational goals, the greater the likelihood of college completion. This is especially true when the completion of college is seen as part of a wider career goal.

For college students, research has shown that educational decisions and choices are made within a sociocultural context (McDonough, 1997; Vacha & McLaughlin, 1992; Walpole, 2003). Background and environmental influences play a key role in influencing the decisions that students make regarding attainment of their occupational and educational goals. Two of the factors that distinctly separate low-income and first-generation students from more traditional students are their background and environmental characteristics.

Because of the effect of these factors on nontraditional students, retention scholars like Bean and Metzner (1985) stress that nontraditional students are more closely connected with the environment external to the college campus rather than the internal environment, in contrast to more traditional college students. External

contacts, such as family and friends, reduce the likelihood that students will have many opportunities for integration outside of the classroom. Therefore, it is imperative for a researcher of the nontraditional student population to include external environmental and background factors, such as family and peer support, as essential influences on the nontraditional student success. As Bean and Metzner (1985) stress,

> It is the student's experiences, both in and out of school, that influence the attitudes about his or her education and ultimately the decision to continue in school. The academic and environmental variables should directly influence the psychological outcomes and attitudes toward school. (p. 24)

In addition to background and environmental influences it is generally accepted that the motivational difficulties of poorly achieving students are influenced by students' self-efficacy (Bandura, 1986; Schunk, 1985), perceptions of competence (Harter, 1992), and attributional beliefs (Weiner, 1979). In reference to nontraditonal college students, researchers have concluded that these students have decreased self esteem (McGregor, Mayleben, Buzzanga, Davis, & Becker, 1991), lower self-efficacy(Hellman, 1996), less encouragement from parents to attend college (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996),

and decreased postsecondary aspirations (Hearn, 1992; Stage & Hossler, 1998).

Conceptual Background

The theoretical foundation of this study is grounded in academic motivation literature. Ryan and Deci (1985) developed the Self-Determination Theory (SDT) in which they explain the nature of intrinsic and extrinsic motivation. The basis of their theory is that intrinsically motivated behaviors are more sustainable than extrinsically motivated behaviors because the former are performed for inherent satisfaction without external outcome expectations, whereas the latter is performed as a means to an end, to obtain some outcome separate from the self. Deci and Ryan (1985) assert that motivation lies on a continuum from amotivation to extrinsic motivation to intrinsic motivation. They stress that, within their framework, the three types of motivation are not hierarchical or antecedents, rather the continuum explains a potential psychological regulation of behaviors as they progress towards self-determination or intrinsic motivation.

Within the SDT framework, intrinsic motivation and well internalized extrinsic motivation are highly correlated with academic achievement. It is possible for

extrinsically regulated behaviors to become intrinsically motivated if an individual internalizes the behavior and it becomes concurrent with other personal values and needs. Internalized behaviors, according to Deci and Ryan (1985), are behaviors initiated by an individual without being controlled or coerced by external forces. These behaviors are satisfying to the individual and satisfy the psychological needs of competence, relatedness, and autonomy. When referring to higher education, when nontraditional students perceive college attendance as a vital means of obtaining their future goals and increasing their socioeconomic status, degree attainment becomes an invaluable motivation for persistence. Although this type of motivation according to Deci and Ryan (1985) is extrinsic, the Future-Oriented Motivation Theory, developed by Miller and Brickman (2004), suggests that such an extrinsically motivated behavior can, in fact, become intrinsically motivated.

In their theory, Miller and Brickman (2004) assert that behavior is regulated by valued future goals. These goals can provide incentive for behavior when current actions are aligned with the attainment of the future goals. Although a future goal is an extrinsic motivator, behavior is regulated toward becoming intrinsic because

current activities become more meaningful when they are perceived as instrumental to the attainment of future goals. When a goal is highly valued, such as career attainment and increased socioeconomic mobility, the instrumentality of the activity associated with attaining the goal facilitates the internalization process needed to promote intrinsic motivation. Therefore, the regulation of a behavior (attending college) that is motivated externally by career goal attainment (a valued future goal) can become intrinsically motivated (inherently satisfying) if a student perceives attending college as instrumental to obtaining something personally valuable (a career).

Self-Determination Theory provides a foundational explanation for motivational orientation and Future-Oriented Motivation Theory provides a feasible explanation for the regulation of motivated behaviors. The two combined frameworks are a rational approach to explain how nontraditional students' extrinsically motivated reasons for attending college could be regulated for their college attendance to become intrinsically motivating and thus increase their achievement and persistence levels.

Purpose of the Study

Much of the research on community college students, particularly nontraditional students, focuses on the risk factors associated with retention, graduation, and academic achievement. Missing from the literature are investigations of the motivational factors that encourage persistence in spite of the risk factors. For the lower income and first-generation student populations, college degree attainment is a means to social economic mobility and career attainment. Therefore, the purpose of this study was to examine the motivation orientations of nontraditional college students, particularly how their perceptions of the instrumentality of college affect their intrinsic motivation levels. The following research hypotheses guided this study:

1) If nontraditional students perceive college attendance as instrumental in obtaining a career goal and increasing their socioeconomic mobility, then they will have increased intrinsic motivation for attending college.
2) If background and environmental influences are positive, then intrinsic motivation levels will increase for nontraditional students who perceive

college attendance as instrumental in obtaining a career goal and increasing socioeconomic mobility.

Significance of the Study

While much has been learned about the reasons students remain or depart from college, the risk factors associated with dropping out remain a more significant problem for community colleges compared to baccalaureate institutions(Bean & Metzner, 1985; Choy, 2000; Cohen & Brawer, 2003; Metzner & Bean, 1987; Stage & Hossler, 1998; Wei, 2002). Most of the retention literature has focused on profiling and identifying risk factors to retention and academic achievement. In the motivation literature, discussed further in the next chapter, the focus has been primarily on motivational constructs used to explain academic course achievement and academic task success. The gap in the literature that focuses on nontraditional, community college students is substantial. As Pascarella and Terenzini (2005) have stated, the conclusions they drew in the first volume of ***How College Affects Students*** were based on a population that no longer dominates postsecondary education in America. Therefore it continues to be incumbent upon researchers and practitioners in higher education to investigate how to keep community

college students that aspire to a degree on a path toward that goal.

Definitions of Terms

The definitions developed are congruent with retention and achievement motivation literature. The explanation for the variables used in this study is consistent with the conceptual literature. These definitions may differ by only slight semantic variations.

Intrinsic Motivation is motivated actions or beliefs that are inherently interesting and satisfying. The individual participates because the activity itself is rewarding (Deci & Ryan, 1985).

Extrinsic Motivation was defined by Deci and Ryan (1985)when they developed the Self-Determination Theory (SDT). In SDT, extrinsic motivation is defined as the engagement in a behavior with an external purpose, a means to an end. Deci and Ryan (1985)and Vallerand, Pelltier, Blais, Briere, Senecal, and Vallieres (1992)described these types of extrintsically motivated behaviors as externally regulated behaviors and identified regulated behaviors. On the Achievement Motivation Scale, which is based on SDT and one of the survey instruments used in this study, the external and identified motivated behaviors for going to

college are represented by career goals and socioeconomic mobility, respectively. Therefore, based on SDT and the Achieve Motivation Scale the extrinsic motivators are defined as:

Career Goal: a student's desire to obtain a future career.

Social Mobility: increased socioeconomic status, a student's desire to obtain a higher salary and a perceived better job or career in the future.

For background and environmental influences both the motivation and retention literature was consulted. Although the definitions for the two constructs are plentiful, the primary focus in developing a definition was to support the conceptual framework of this study. The following definitions are supported by retention and motivation literature (Bean & Metzner, 1985; Miller & Brickman, 2004; Tinto, 1993).

Background Influences are self-efficacy (perceived competence in completing college), locus of control (perceived control over college outcome expectations), and perception of barriers (perceived confidence that potential barriers cannot undermine a desired course of study).

Environmental Influences are family and peer support, defined as the influence of family members, both immediate

and extended, and friends on a person's decision to pursue higher education.

Nontraditional Student Status is defined as either low-income only students, first-generation only students, or low-income and first-generation students. Low income student status is determined using the 2006 Federal TRIO program low-income guidelines used by TRIO programs to determine student eligibility. The determination of low-income status is based on students' self-reported household income levels and household size (see appendix A for income ranges). First-generation status is defined as neither parent of the student holding an associate or baccalaureate degree.

Statement of Limitations

The subjects for this study were not randomly sampled because the institutions that participated do not document all students' low-income, first-generation status. Only those students that apply for financial aid are asked to submit this information. Therefore, the sample would have been limited to only those participants that applied for financial aid at the institutions. Instead, permission from individual faculty members was sought and surveys were administered in classrooms to increase response rate.

Participants were asked to self-report their low-income and first-generation status. Using this convenience sampling method limits the generalizability of the results.

Another limitation to generalizability is that the two institutions from which the samples were drawn have very high African-American populations, with little if any diversity. With such a limited population the results of this study are sample-specific to African-American nontraditional students.

Summary

The purpose of this study was to examine the motivation orientations of nontraditional students and how their perceptions of the instrumentality of college affect their intrinsic motivation levels. While most of the research on nontraditional students has focused on risk factors for retention, graduation, and academic achievement and the motivation research has not focused much on nontraditional community college students, this study fills the gap in the literature by addressing the motivational factors that encourage persistence of nontraditional students in spite of the risk factors associated with this group.

The theoretical foundation of the study is grounded in the Self-Determination Theory (Deci and Ryan, 1985) and the

Future-Oriented Motivation Theory (Miller and Brickman, 2004). Combined, these theories provide a rational approach to explain how nontraditional students' extrinsically motivated reasons for attending college could be regulated for their college attendance to become intrinsically motivating and thus increase their achievement and persistence levels.

Chapter 2

LITERATURE REVIEW

This chapter provides a thorough discussion of the dilemma of inconsistent motivational behaviors of nontraditional students and the sociocultural antecedents that influence students' motivational orientations towards attending and persisting in college. Following is a discussion of how the perception of the instrumentality of college attendance can enhance nontraditional students' motivation to pursue higher education as a viable option to secure future endeavors while simultaneously enhancing their intrinsic motivation towards college attendance. This discussion is grounded in the conceptual framework of Future-Oriented Goal Motivation Theory and Self-Determination Theory.

Background and Environmental Influences

In developing values, beliefs, and actions toward educational attainment, the family and social environment are the primary influencing factors. As socializing agents, these factors help students develop educational

aspirations and outcome expectations, which facilitate academic motivation. Numerous studies have concluded that nontraditional students have lower educational aspirations, persistence rates, and educational attainment than their counterparts, prior to and during college attendance (Astin, 1993; Bean & Metzner, 1985; McDonough, 1997; Metzner & Bean, 1987; Pascarella & Terenzini, 1991; Tinto, 1993). Parental expectations and social, and environmental experiences shape students' perceptions of accessible options for personal aspirations such as occupational pathways and educational attainment. For individuals in the lower economic strata, knowledge of accessible options is limited, particularly in the education arena. Although a college education is viewed as a vehicle to an improved economic status in low-income, first-generation, and minority communities, lack of knowledge of the higher education process and available options, low perceptions of the ability to complete college, and low outcome expectations of equitable opportunities create difficult barriers that interfere with college attendance and persistence. In addition, the lack of adequate academic preparation due to students' low achievement motivation as well as the systemic disparity in schools located in low-income and minority communities are additional barriers to

college attendance and persistence. Disparities such as inequities of resources, low student expectations, and the lack of recruitment and retention of highly qualified teachers do not promote a college preparatory environment or an overall expectation of college as the inevitable next step after high school for students in low income, first generation, minority communities(Ford, 1993).

Evidence of an existing paradox of parents and students' perceptions of educational attainment as a vehicle to economic mobility in the presence of low educational expectations and achievement has been well documented. Researchers have concluded that low-income parents in comparison to their higher-income counterparts are more likely to view a high school diploma as an attainable goal and securing employment after high school as acceptable (Hearn, 1991; McDonough, 1997; Walpole, 2003). Ogbu (1978), in an ethnographic study of African Americans and Chicanos in Stockton, California, described their belief in education as a pathway for upward mobility and personal betterment, yet students had poor achievement and high dropout rates. Michelson (1990) concluded that African Americans were consistent in their desire for educational attainment while underachievement remained constant.

Lacking pertinent knowledge of the higher educational milieu (Nunez & Cuccaro-Alamin, 1998; Stage, 1989; Terenzini et al., 2001; Tierney, 1980), perceiving institutional and societal barriers (Brint & Karabel, 1989; Mickelson, 1990; Ogbu, 1978), and low educational and occupational aspirations (Ford, 1993; Fordham & Ogbu, 1986; Lent, Brown, & Hackett, 1994, 1996; Ogbu, 1978) can affect nontraditional students' motivational orientation, which further affects achievement behaviors and educational aspirations leading to dismal education attainment results.

The vital role that background factors, environmental influences, and experiences play in exposing students to various ideas, activities, and possibilities facilitates students' interest and future expectations leading to valued goals. With knowledge of available pathways, perceived self-efficacy, and positive outcome expectations, valued goals can become a powerful extrinsic motivator for regulating students' behavior in maintaining a course toward college degree attainment. Through their sociocultural context, students can begin to identify with becoming future college graduates and consequently internalize and exhibit positive achievement behaviors. Researchers have concluded that goal commitment and educational aspirations are important variables in

measuring the persistence and motivation of nontraditional students (Bean & Metzner, 1985; Tinto, 1993). Numerous studies have noted that the stronger a student's goal commitment, the more likely he or she will persist in college (Bean & Metzner, 1985; Fordham, 1988; Tinto, 1993). Tinto (1993) addresses goal commitment in his Student Departure Model, in which he asserts that a student's intentions play a pivotal role in how well he or she will do in college. The reasons why a student chooses to attend college are important predictors of completion, particularly if college completion is aligned with a career goal. The stronger this link the more likely the student will complete college.

In contrast to Tinto's view, Deci and Ryan (1985) posit that attending college because one perceives it to be instrumental to obtain a valued career is an extrinsic motivator that is not self-determined, and therefore less effective in maintaining college persistence than the intrinsic motivator of attending college for its inherent satisfaction. However, the devalued economic and social position of students from low-income, first-generation, and minority communities highlights educational attainment as a necessary vehicle to improved socioeconomic levels and personal well-being. Therefore, the instrumentality of

college completion to occupational attainment is a powerful extrinsic motivating force that could regulate the internalization of students academic and persistence behaviors. Particularly if students' educational aspirations are supported by family and environmental forces, they perceive themselves capable of achieving their goals, and are not detoured by perceived barriers.

Future-Oriented Motivation Theory

Miller and Brickman (2004) developed Future-Oriented Motivation Theory to explain how students are motivated to complete academic tasks. They posit that future goals can provide an incentive for behavior when current actions are aligned with attainment of a future goal. If an individual perceives that participation in current action is essentially instrumental to the achievement of a future goal, then the commitment to the current activity as well as the future goal will be enhanced and will motivate an individual into action.

In Future-Oriented Motivation Theory, behavior is regulated when the goal is personally valued, perceived as attainable, and there is a pathway to attainment (Miller & Brickman, 2004). Background and environmental factors play a pivotal role in satisfying these elements. In a

sociocultural context, through actual and vicarious experiences, students develop meaningful aspirations. Vicarious experiences occur when someone witnesses individuals with similar backgrounds achieve success through sustained efforts. These experiences increase an individual's belief in his or her own capabilities to achieve similar success (Bandura, 1994).

As extrinsic motivators, future goals regulate actions toward becoming intrinsically motivated by making current activities more meaningful when they are perceived instrumental to the attainment of a future goal. As the current activities become more meaningful, the likelihood increases for them to become more inherently enjoyable and satisfying, which are core elements of intrinsic motivation. More instances of success in immediate activities also increases the likelihood of higher intrinsic motivation (Miller & Brickman, 2004). Applied to an academic setting, a student's motivation to complete college (an immediate goal) will be increased if he or she associates a college degree with obtaining a specific career (valued future-goal). As the student experiences more success in college, the commitment to the future goal will be increased and the individual's motivation to persist will be strengthened.

Future goals are self-relevant and self-defining goals that provide an incentive for specific action. The goal must hold value for the individual to engage in action toward attainment (Miller & Brickman, 2004). Some examples of future goals are personal aspirations such as getting an education, acquiring a specific career or job, developing intimate personal relationships, or making a contribution to society. These goals regulate behavior because they are self-defining.

In order for a goal to be meaningful it must be of value. Individuals, regardless of socioeconomic status, equate value to goals or develop outcome expectations for their actions through background and environmental factors such as their sociocultural influences, knowledge, and experiences. However, for action to be taken an individual must perceive the goal as attainable (Miller & Brickman, 2004; Miller, DeBacker, & Greene, 2000).

Self-Efficacy

Self-efficacy, as described by Bandura (1986), is the belief that one is capable of generating the behaviors needed to obtain certain outcomes. People with strong self-efficacy confidently approach difficult tasks as challenges to be mastered rather than avoided. They are

quick to recover from failures and attribute failure to either their insufficient effort or a lack of knowledge or a lack of skills that they are capable of acquiring. Conversely, individuals with weak self-efficacy view difficult tasks in the light of their perceived personal deficiencies. They tend to dwell on the obstacles they will encounter rather than on how to meet the challenge. They have low aspirations and weak commitments and they try to avoid challenging tasks. Like valued goals, regardless of socioeconomic status, self-efficacy beliefs are developed through social and cultural experiences such as success in former experiences (mastery experience), experience provided by social role models (vicarious experience), by verbal persuasion (social persuasion), and by stress reactions or tension while engaged in a specific performance (emotional states) (Bandura, 1986, 1991, 1994).

Outcome Expectations and Perceived Barriers

Outcome expectations are equally important for individuals to develop future goals. Miller and Brickman (2004) state, "If either self-efficacy or outcome expectations are low for a perceived task, the likelihood of that task being selected as the target goal in the present situation decreases" (p. 11). Outcome expectations

and perceived obstacles can vary from culture to culture. For example, for some minorities, systemic bias or interference can affect the willingness to commit to specific goals. Inequities in employment and education perceived by some minorities, as described by Schunk (1991) and Ford (1993), can dissuade individuals from committing to goals they feel are unattainable and out of their locus of control. In the academic setting this perception, referred to as the glass ceiling effect, is derived from the work of John Ogbu and his colleagues (Fordham & Ogbu, 1986; Ogbu, 1978). Ogbu argues that some minorities do not perceive their educational attainment as rendering the same opportunities that it renders for whites in America. Caste-like minorities believe that they will face a job ceiling that will prohibit them from acquiring occupational rewards commensurate with the educational credentials they attain. Therefore, some African American students do not believe that the efforts they exert in school will yield the same outcomes for members of their ethnic group as do similar efforts for members of the majority ethnic group.

Negative outcome expectations are formed through past learning experiences, either direct or vicarious. How the results of experiences are perceived can effect future participation in similar experiences. Low-income and

first-generation college students, as compared to their counterparts, typically have a limited immediate exposure to role models that have successfully completed college and obtained a valued career goal. Therefore, as students, the positive consequences of obtaining a career and using college as a vehicle for increased socioeconomic mobility is not an obvious course of action (Nunez & Cuccaro-Alamin, 1998; Stage & Hossler, 1998; Terenzini et al., 2001; Tierney, 1980).

Knowledge of Pathways to Attainment

When individuals with valued future goals perceive them as attainable, they must still align their future goals with immediate action to strengthen the commitment to the goal (Miller & Brickman, 2004). Knowledge of possible pathways to attain a future goal is gained through the sociocultural influences of parents, school, and friends. Researchers agree that individuals that develop immediate goals in pursuit of a future goal are more effective and more motivated toward obtaining the valued future goal (Bandura, 1986; Brickman, Miller, & Roebel, 1997; Miller & Brickman, 2004; Miller et al., 2000; Schunk, 1991).

Miller and Brickman (2004) argue that there is an increase in the incentive value for reaching an immediate

goal when goal attainment is perceived to be instrumental to attaining a valued future goal. Therefore, the instrumentality of current activities is crucial in the persistence of those activities. The current task must be perceived as instrumental in obtaining the future goal for the individual to ascribe value to the current task.

Empirical studies concur with the Future-Oriented Motivation Theory. Debacker and Nelson (1999) and Green et al. (1999) found that perceived instrumentality was positively correlated with students' intrinsic valuing of academic tasks. Brickman (1997) and Brickman and Miller (2001) also found that students' perception of their school work as instrumental to reaching their future goals was related to their perceptions of the intrinsic and extrinsic value of their school work. Miller et al. (1996) found that high school mathematics students' perception of the instrumentality of their performance to future goal attainment was positively related to mathematics achievement, self-regulation strategies, study strategies, effort, and persistence. Past research (Brickman et al., 1997; DeVolder & Lens, 1982; Miller et al., 1996; Raynor & Entin, 1982) has shown that perceptions of instrumentality are related to cognitive engagement and achievement.

Miller et al. (2000) concur,

> If students do not perceive current academic activities as instrumental to attaining personally relevant future goals, we question whether those activities will have sufficient incentive value to foster the level of student cognitive engagement necessary to produce meaningful learning. (p. 252)

When college is perceived as important for attaining personally valued goals that are extrinsic, such as career entry, the benefits of success in classes can yield immediate intrinsic consequences such as a sense of accomplishment, increased self-esteem, and self-satisfaction. When students do not perceive tasks or activities as instrumental to attain some valued future goal, they may become amotivated (Deci & Ryan, 1985) and decide not to persist in college.

The following discussion will focus on the conceptual foundation of intrinsic motivation and the process by which extrinsically motivated behaviors become more internalized.

Self-Determination Theory

Intrinsic and extrinsic motivation are central constructs in both motivation and goal theory literature. Intrinsically motivated activities are defined as activities that are inherently interesting and satisfactory. Individuals are said to be intrinsically motivated when the activity itself is rewarding and there

is no need for external reinforcement for engagement (Csikszentmihalyi & Nakamura, 1989; deCharms, 1968; Deci & Ryan, 1985). Dichotomous to intrinsic motivation is the construct of extrinsic motivation. Extrinsically motivated behavior refers to performance of an activity to attain some external outcome (Deci & Ryan, 1985; Ryan & Connell, 1989; Vallerand, Fortier, & Guay, 1997). Various studies have confirmed that intrinsic motivation is associated with better learning, performance, and well being (Benware & Deci, 1984; Deci, Schwartz, Sheinman, & Ryan, 1981; Grolnick & Ryan, 1987; Valas & Sovik, 1993).

Deci and Ryan (1985) developed the Self-Determination Theory (SDT) to explain the processes of how non-intrinsically motivated behaviors can become internalized and the ways in which the social environment influences those processes. SDT asks the question, "what kind of motive is being exhibited at any given time" (Deci & Ryan, 1985, p. 69). By taking into consideration the forces that influence actions, SDT distinguishes between several types of motivation.

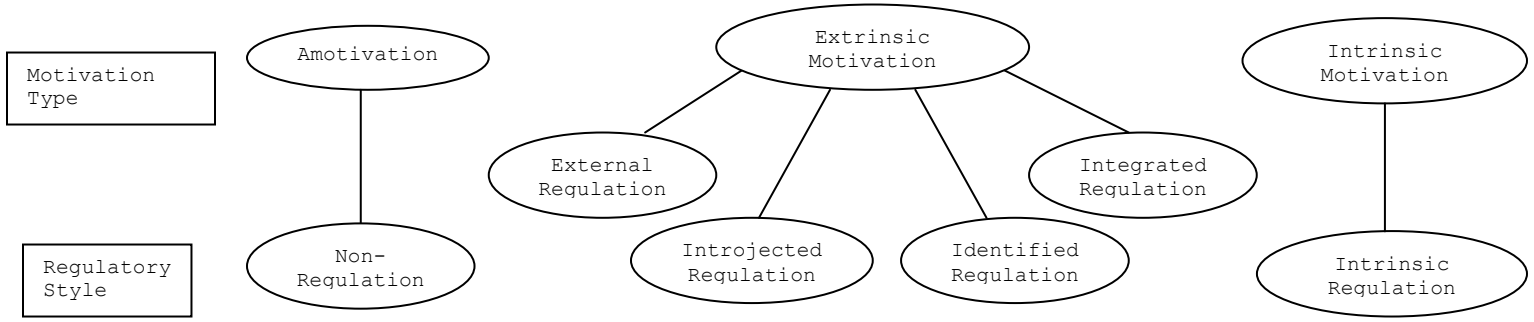
Intrinsically motivated behaviors are a function of being self-determined. The individual is the causal agent in initiating behaviors rather than being controlled or coerced by external forces. Behaviors are satisfying and

congruent with one's values and needs. The satisfaction of three psychological needs, competence, relatedness, and autonomy, promotes and enhances intrinsic motivation. While engaging in an activity, perceived competence increases individual self-efficacy. The need for competence has been documented to have significant effects on an individual's engagement in specific activities (Deci, 1971; Deci & Ryan, 1980; Vallerand & Reid, 1984). Relatedness refers to the need to feel belongingness and connected to others. Behaviors that are prompted, modeled, or valued by significant others enhance internalization. Finally, autonomy refers to the need to feel in control of behavior rather than coerced by an external force. Autonomy over behavioral pursuits is essential to internalization. Deci and Ryan (1985) assert that behaviors that satisfy the three psychological needs will be highly internalized and therefore intrinsically motivated.

In SDT, Deci and Ryan (1985) explain further that behaviors that are non-intrinsically motivated will be either extrinsically motivated or amotivated. In the model, behaviors lie on a continuum from amotivation to extrinsic motivation to intrinsic motivation (see figure 1).

Figure 1

The Self-Determination Continuum Showing Types of Motivation with their Regulatory Styles, Loci of Causality, and Corresponding Processes



Perceived locus of Causality	Impersonal	External	Somewhat External	Somewhat Internal	External	Internal
Relevant Regulatory Processes	Nonintentional Nonvaluing Incompetence Lack of Control	Compliance External Rewards & Punishments	Self-control Ego Involvement Internal Rewards & Punishments	Personal Importance Conscious Valuing	Congruence Awareness Synthesis w/Self	Interest Enjoyment Inherent Satisfaction

Amotivated behaviors are defined as lacking intention to act. When amotivated, people either do not act at all or act without intent; they simply go through the motions. Amotivation is a result of not valuing an activity, not feeling competent to do it, or having negative outcome expectations. This behavior is also temporary in nature and ceases quickly (Bandura, 1986; Ryan, 1995).

Extrinsic motivation refers to activity or performance to attain some outcome separate from the self, rather than performance for inherent satisfaction as with intrinsically motivated performance. In SDT a key element of extrinsic behavior is instrumentality, which refers to the perceived value and usefulness of the desired outcome of an action. The instrumentality of extrinsically motivated activities is composed of external reinforcements and rewards (Deci and Ryan (1985).

Deci and Ryan (1985) disaggregated extrinsic motivation into four levels of exhibited autonomy, acknowledging that all extrinsically motivated behaviors do not completely lack locus of control and internalization. They postulated that there are varying levels in feelings of choice and coercion in decisions to engage in specific behaviors. For example, students who do well on an assignment because they perceive its value in obtaining

their chosen career are extrinsically motivated, as are those who do well because they seek to win a professor's favor. Both examples involve external instrumentalities rather than enjoyment of the work itself, yet the former case of extrinsic motivation is partially internally endorsed and is attached to more than just an immediate incentive, whereas the latter behavior involves seeking outside approval and the incentive value is tied to the immediate circumstance. In SDT, both decisions to perform the behavior (complete the assignment) are motivated by compliance (with the requirements of the course) and external rewards (potential career or esteem from the professor). However, in the former case, the behavior is also regulated by personal interest and it is congruent with other personal values (self-improvement, growth, aspirations), whereas in the latter case, the behavior is regulated by the ego and external rewards and punishment (acceptance, validation). Therefore, in SDT, the first example would be considered behavior that is more internalized and self-determined and the other would be considered more externally controlled; when the external reinforcement is perceived to have ceased, so will the participation in the activity or behavior because an

internal motivation to continue the activity or behavior is not present.

There are four levels of extrinsic motivation that vary on a continuum of relative autonomy from external to internal motivation in SDT. The least autonomous of these is external regulation which occurs when behavior is regulated by some external force such as rewards, punishments, or constraints. Such behaviors are contingent upon external rewards or compliance. For example, a student works hard in school to receive accolades or avoid some punishment. This behavior is least autonomous because motivation to act is perceived as being externally controlled. The next type of extrinsic motivation in the model is introjected regulation. This behavior is regulated internally but with external contingencies, as in the earlier example of the student motivated to please the professor. Internal contingencies are also imposed by the individual, such as avoiding guilt and anxiety or ego enhancements. The third type of extrinsic motivation is identified regulation, occurring when a behavior is valued by the individual and perceived as being chosen by oneself. The behavior is personally important and consciously valued, nonetheless still extrinsically motivated because it is performed to obtain some outcome, a means to an end,

rather than being performed because the activity itself is satisfying. For example, using the first case of the college student completing the assignment, the student may be motivated to do the assignment because of its perceived instrumentality to a career goal via a college degree. However, the extent to which the student is motivated to do well on the assignment by devoting sufficient time in the process, rather than doing a mediocre job, is an indication of how intrinsically motivated the student maybe. A mediocre performance would still render the same outcome, that is, a college degree leading to the desired career. However, when the student internalizes the behavior, the desired outcome as well as the satisfaction of doing a good job motivates the performance. Without the occurrence of internalization, if the student no longer perceives a college degree as instrumental to obtaining a valued career or a career no longer has value, then persistence in the behavior, such as completing assignments, may cease (Deci & Ryan, 1985). The performance of behavior beyond just a desired outcome or a means to an end describes the last type of extrinsic motivation, integrated regulation. This type of behavior occurs when identified regulated behaviors are fully assimilated into the self. Behaviors are integrated into the individual's other valued activities

and goals and are performed willingly. Integrated regulated behaviors are very similar to intrinsic behaviors; however, integrated regulated behaviors are still extrinsic because action is motivated to obtain a separable outcome rather then for inherent enjoyment. If a conflict should occur between an integrated regulated activity and other valued activities and goals, and the individual chooses to discontinue the former activity, this is an indication that the activity is not completely intrinsically motivated.

Ryan and Connell (1989)found support for the division of the extrinsic motivation construct with their investigation of achievement behaviors among school children. They found that different types of extrinsic motivation were correlated with different experiences and outcomes. External regulation was negatively correlated with interest, value, and effort in achievement. Students also displayed less competence and self-efficacy. Introjected regulation was positively correlated with expanding more effort, but negatively correlated with efficacious achievement behaviors. Identified and integrated regulation was associated with positive self-efficacy behaviors, more interest and enjoyment in school, and expending more effort. Other studies extend these

findings, concluding that the more autonomous the extrinsic motivation, the more students are engaged in academic activities (Connell & Wellborn, 1991), exhibit better performance (Miserandino, 1996), have lower dropout rates (Vallerand & Bissonnette, 1992), and give better teacher ratings (Hayamizu, 1997). These findings focused primarily on the various extrinsic motivational factors. Self-Determination Theory suggests that the most sustainable behavior is that which is self-determined and intrinsically motivated. External forces such as rewards and consequences diminish internalization, and thus threaten behavioral persistence; "not only monetary rewards, but also all contingent tangible rewards significantly undermine intrinsic motivation" (Deci & Ryan, 2000, p. 234).

Empirical evidence that supports the Self-Determination Theory (Black & Deci, 2000) shows that organic chemistry students who were more autonomously motivated had better grades and enjoyed the course more than those who were more controlled in their motivation by external forces. Vallerand and Bissonnette (1992) investigated Canadian junior college students and concluded that dropouts had significantly lower scores on three

levels of extrinsic motivation (identified, integrated, and intrinsic regulation) than those that persisted.

Vallerand, Fortier, and Guay (1997), in investigating the antecedents and consequences of autonomous motivation, in a follow-up study of the same group of Canadian students, concluded that support of parents and teachers led to students feeling more autonomously motivated and self-efficacious, which resulted in less dropout behavior and more persistence. Finally, Sheldon and Kasser (1998) found that when high school students were more autonomously self-regulated they displayed more goal-attainment progress. These studies suggest that when students are more autonomous in learning they will be more likely to adopt academic achievement-type behaviors (Deci & Ryan, 2000).

Summary

Self-Determination Theory provides an explanation of different types of motivation orientations that are adopted by an individual to satisfy the psychological needs of competence, relatedness, and autonomy, with autonomy as the requisite need. Motivation lies on a continuum ranging from amotivation to extrinsic motivation to intrinsic motivation. Intrinsically motivated behaviors are performed for inherent satisfaction without external

outcome expectations. Extrinsically motivated behaviors, in contrast, refer to performing an activity to attain some separable outcome. Extrinsic motivation has four levels that reflect the regulation of autonomous motivation (actions elicited by inherent choice without control from external forces); they are external, introjected, identified, and integrated regulation. Finally, amotivation reflects a lack of motivation in behavior.

Intrinsic motivation and well-internalized extrinsic motivation are the bases for autonomous or self-determined behavior and are highly correlated with academic achievement and self-efficacious behaviors. Although external forces such as rewards and consequences diminish internalization of extrinsically motivated behaviors, socialization is central to internalization of values, behaviors, and actions. Socially sanctioned norms are transformed into personally endorsed values and self-regulations (Deci & Ryan, 2000).

Based on the evidence presented, Future-Oriented Motivation Theory is a rational approach for explaining how extrinsically motivated reasons for attending college, such as career attainment, can increase low-income and first-generation students' intrinsic motivation for college persistence. The higher the perceived instrumentality of

college attendance and degree attainment to achieving valued occupational goals, the more students will internalize academic behaviors and become more intrinsically motivated.

In addition, the commitment to a valued long-term future or distant goal is strengthened when an individual successfully attains the immediate or proximal goals he or she perceives to be instrumental to his or her valued future goal. In order for the attainment of the future goal to motivate an individual into action, the goal must be meaningful to the individual, the individual must perceive that attainment is possible, and there must be knowledge of immediate activities (immediate goals) associated with achieving the future goals (Miller & Brickman, 2004; Miller et al., 2000). Finally, the more one perceives immediate tasks or activities as instrumental in attaining the valued future goals the more intrinsically motivated the individual becomes in successfully completing immediate tasks. All of these elements associated with future-oriented motivation, according to Miller and Brickman (2004), are strongly influenced by the environmental and background factors that shapes one's knowledge and experiences

Chapter 3

METHOD

This chapter will provide an overview of the study, the two hypotheses investigated, and the instruments that were used to investigate each. A detailed discussion of the instruments is also presented along with a rationale for the number of participants and an explanation of the procedures that were employed to administer the instruments. Additionally, a discussion of the descriptive data and a thorough explanation of the method of inquiry and its firm foundation within the theoretical framework is presented. Finally, an explanation of how the data were analyzed in reference to the two hypotheses is presented.

Overview of the Study

The primary purpose of this study was to determine how the extrinsic motivators of obtaining a career and increasing socioeconomic mobility affect nontraditional college students' level of intrinsic motivation for attending college. Nontraditional students that perceive

college attendance to be instrumental to obtaining a career goal and increasing their socioeconomic status will more likely gain inherent satisfaction from college attendance and internalize academic behaviors, thus becoming more intrinsically motivated to attend. As explained in the preceding chapter, students establish career goals in a sociocultural context. Background and environmental experiences significantly affect how students develop knowledge of available pathways, such as college, to attain a career goal. These experiences also shape one's perceived self-efficacy and outcome expectations. Therefore, a supportive environment and a positive self-concept will increase the likeliness of students having a positive expectation for their educational outcome and potentially increase their motivation to persist on a course leading to degree attainment.

Traditionally, low-income and first-generation college students have had limited access to information to aid in the development of an educational plan that is aligned with their career goals. They also traditionally have a lack of knowledge about the higher education environment and a lack confidence in their capabilities of attaining positive outcomes and overcoming perceived barriers. Accordingly, the second purpose of this study was to determine the

influence of background and environmental factors on the extrinsic motivators for college attendance, obtaining a career and increasing socioeconomic mobility, and their combined effect on nontraditional students' intrinsic motivation for college attendance.

Research Hypotheses

This study proposed the following hypotheses:

1) If nontraditional students perceive college attendance as instrumental in obtaining a career goal and increasing their socioeconomic mobility, then they will have increased intrinsic motivation for attending college.
2) If background and environmental influences are positive, then intrinsic motivation levels will increase for nontraditional students who perceive college attendance as instrumental in obtaining a career goal and increasing socioeconomic mobility.

Investigating the motivational orientation of nontraditional college students can be complex because of the sociocultural context in which students decide to attend and pursue a college degree. Recalling the attributes of the theoretical foundation of this study, Self-Determination Theory (Deci & Ryan, 1985)and Future-

Oriented Motivation Theory (Miller & Brickman, 2004), the process by which students develop either intrinsic or extrinsic motivation orientations toward attending college is heavily dependent on external influences. Self-Determination Theory asserts that an individual's behaviors become more self-determined, thus intrinsically motivated, when the individual is able to internalize the behavior or action and it becomes congruent with other needs. Internalization is fortified when performance of a behavior satisfies the individual's psychological needs of relatedness (connected to others), competence (self-efficacy), and autonomy (locus of control).

Future-Oriented Motivation Theory explains that individuals can become more intrinsically motivated if they perceive their current performance in a behavior as instrumental to obtaining a valued future goal. An individual's social and environmental influences affect the development of valued future goals, through knowledge of potential pathways, support for attainment (relatedness), one's own perceived competence to attain a goal (self-efficacy), perceived control in goal attainment (autonomy), and positive outcome expectations that efforts will result in the attainment of the valued future goal.

Both theories assert that intrinsic motivation is associated with persistence in an activity or behavior. Empirical evidence relating to academic achievement and persistence supports this claim (Connell & Wellborn, 1991; Grolnick & Ryan, 1987; Ryan & Connell, 1989; Vallerand & Bissonnette, 1992) Therefore, since according to the literature, nontraditional students are most vulnerable to dropping out of college (Astin, 1972; Bean & Metzner, 1985; Pascarella, 1997; Tinto, 1993), it is reasonable to assume that this population of college students would also exhibit low levels of intrinsic motivation for attending and persisting in college. However, given the socioeconomic status of low-income and first-generation students, college completion is a means of improving their economic status and their overall quality of life. For this group of students, a potential career and an increase in socioeconomic mobility would be strong extrinsic motivators to attend and persist in college. According to Future-Oriented Motivation Theory, depending on the strength of a student's perception of the instrumentality of college (the immediate activity) to obtain a career goal and increase his or her socioeconomic mobility (a valued future goal), these extrinsic motivators can increase the level of a

student's intrinsic motivation, which would likely increase persistence.

Description of Instrument

The effects of the following variables on intrinsic motivation were measured in this study: nontraditional student status (first-generation only, low-income only, or first-generation and low-income), extrinsic motivation (career goals and socioeconomic mobility), environmental support influences (family and peer support), and background influences (self-efficacy, locus of control, and perception of barriers). For the nontraditional student status variable a demographic questionnaire was administered to gather the following participant data: age, gender, attendance status (fulltime or part-time), enrollment status (first-time freshmen, continuing freshmen, or Sophomore), household income, household size, and first-generation status.

Low-income status was measured using the 2006 Federal TRIO program low-income guidelines in which low-income status is determined by household size and if a family's income does not exceed 150% of the poverty level amount (see appendix for the 2006 annual low-income levels). First-generation status was measured by students' answers

to the question, “Do either of your parents have an Associate or Bachelor’s degree?”

The two survey instruments used in the study were The Academic Motivation Scale (Vallerand et al., 1992)and The Factors Influencing Pursuit of Higher Education Questionnaire (Harris, 1998; Harris & Halpin, 2002). The former was used to measure students’ levels of intrinsic and extrinsic motivation and the latter was used to measure students’ environmental support and background influences. Both instruments are explained in further detail below.

Academic Motivation Scale (AMS-C 28)

The Academic Motivation Scale, based on the Self Determination Theory developed by Deci and Ryan (1985),is a 28-item questionnaire measuring the intrinsic, extrinsic, and amotivation of college students. Students respond to the question “Why are you going to college?” The questionnaire consists of seven scales that are scored on a 7-point Likert scale ranging from “Does not correspond at all” to “Corresponds exactly.” The AMS has seven scales consisting of four items each, one scale for amotivation, three subscales for extrinsic motivation (identified, introjected, external regulation), and three subscales for intrinsic motivation (to know, toward accomplishment, and

to experience stimulation). The intrinsic motivation subscales will be defined shortly. For this study, the intrinsic subscales and two of the extrinsic subscales (external regulation, and identified regulation) were administered. The two extrinsic sub-scales were selected because the items specifically identify career goals and socioeconomic mobility as motivators for attending college.

The excluded extrinsic subscale, introjected regulation, was not relevant to the independent variables in this study because this type of extrinsic motivation consists of behavior regulated by ego enhancements, approval from others, and avoiding guilt and anxiety. The extrinsic motivation variables in this study are represented by behaviors that are regulated by rewards, punishments, or constraints (external regulation-socioeconomic mobility) and behaviors that are regulated to obtain a specific outcome (identified regulation-career goals) (Deci & Ryan, 1985).

The amotivation scale was also omitted because amotivated behaviors are defined as a lack of intention to act or acting without intent (Deci & Ryan, 1985). This type of motivation, or lack thereof, was not relevant to this study due to the specific types of extrinsic motivation examined, as described above.

The independent variables of career goals and increased socioeconomic mobility were assessed using the Identified and External Regulation subscales respectively. In response to the question "Why do you go to college," the Identified Regulation subscale contains statements relating college attendance to obtaining a career goal; the External Regulation subscale contains statements relating college attendance to obtaining increased socioeconomic mobility. The dependent variable of intrinsic motivation was assessed using the combined average score from the three intrinsic motivation subscales.

Vallerand et al. (1992) expanded Deci and Ryan's Self-Determination Theory by delineating the intrinsic motivation construct into three sub-categories. The first, Intrinsic Motivation-To-Know, occurs when behavior is performed for the pleasure and the satisfaction that one experiences while learning, exploring, or trying to understand something new. Second, Intrinsic Motivation-To-Accomplish, occurs when behavior is performed to feel competent and to create unique accomplishments. Finally, Intrinsic Motivation-To-Experience Stimulation, occurs when behavior is performed to experience stimulating sensations derived from participating in an activity, such as sensory pleasure, aesthetic experiences, and fun and excitement.

Internal consistency for the Achievement Motivation Scale has been tested in several studies. Cronbach's alpha is useful in determining the internal consistency of instruments where responses, such as Likert type scales, can take on a range of scores (Avry, Jacobs, & Razavieh, 1996). According to Westhuis and Thayer (1989), Cronbach's alpha is the best measure of reliability because it "provides a good estimate of the major source of measurement error, sets the upper limits of reliability, [and] provides the most stable estimate of reliability" (p. 157). Vallerand et al. (1992, 1993) report that Cronbach's coefficient alpha for the scales ranged from .83 to .86. Additionally test-retest reliability over a one-month period ranged from .71 to .83. Cokely et al. (2001) also report strong internal consistency scores for each of the AMS scales with scores ranging from .70 to .86. Fairchild et al. (2004) report adequate validity for the AMS, citing that the instrument had consistent construct validity with other instruments measuring similar constructs; the internal consistency estimates of the scores for each of the seven scales were found to be adequate with scores ranging from .77 to .90.

Factors Influencing Pursuit of Higher Education (FIPHE) Questionnaire

The FIPHE is a ninety-two item self-report instrument that measures which factors influence individuals' pursuit of college. Harris and Halpin (2002) used a literature-based, rational factors approach to develop the Factors Influencing Pursuit in Higher Education Questionnaire (FIPHE). The statements used in this questionnaire were derived from literature that addresses the variables thought to have an effect on a person's decision to pursue a college education. Based on a four-point Likert scale, respondents indicate their level of agreement with each statement (SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree). Of the nine scales contained in the instrument, five scales were used for this study to measure environmental support and background factors.

For the environmental influences variables of family and peer support, the following scales were used: Family Influence, Sibling's Influence, and Peer Influence Scales. These scales specifically measure parental, family, sibling, and peer support for college attendance. The Family Influence Scale has twenty-six statements e.g. "My father encouraged me to go to college;" "My mother told me about the demands I would face in college;" The Sibling

Influence Scale has three statements, e.g. "My sister encouraged me to go to college;" "My brother encouraged me to go to college." The Peer Influence Scale has six statements e.g., "I cannot talk to my friends about my career goals after college."

For the background influences variables of self-efficacy, locus of control, and perception of barriers, the following scales were used: the Self-Appraisal Scale to measure self-efficacy and locus of control and the Glass Ceiling Effect Scale to measure perception of barriers. The Self-Appraisal Scale has two subscales, the Self-Efficacy subscale and the Locus of Control subscale. The former has eight statements measuring self-efficacy, e.g., "I believe that I will be successful in my college major" and the latter has ten statements measuring locus of control, e.g., "When bad things happen, I can make the best of the situation." The Glass Ceiling Effect Scale has five statements aimed at measuring one's perception of potential barriers to choices in pursuing a college major, e.g., "My race does not limit my choice of college majors."

Four scales from the FIPHE questionnaire were not included in the study. The Secondary School Support Scale, which measures the level of encouragement a student received from secondary school personnel to pursue higher

education, was omitted because the majority of the population at the two community colleges included in the study are older students and high school experiences are not as current as other environmental experiences measured in the study. The Financial Aid Concerns Scale, which measures the importance of financial aid in a student's pursuit of higher education, was omitted because financial aid concerns were beyond the scope of this study. The Relative Functionalism Scale which measures a student's perception of the purpose of higher education was omitted even though the questions were similar to some of the questions from the motivation scale used. However, the formatting of the scale combined extrinsic functions of college such as "getting a better job" and "increasing self-pride" with intrinsic functions such as "increasing knowledge of the world" and it was critical to the purpose of this study to measure intrinsic and extrinsic motivation for attending college separately. Therefore, this subscale was omitted since the Achievement Motivation Scale was used. The Preparation for College Scale, which measures a student's perception of his or her level of academic preparation for college, was omitted because the questions in this scale focused on students' reported use of support services in high school and middle school such as tutors

and study groups. Although perceived academic preparation is important to student success, the construct was beyond the scope of this study.

Consensus among the experts evaluating the measures was used to determine content validity of the questionnaire (McMillan, 1996; Nardi, 2003). An instrument is judged to have content validity if "evidence is gathered by careful and critical examination by expert judges to determine the relationship between the test and the defined measure" (Avry et al., 1996, p. 163). To determine content and face validity of the FIPHE questionnaire several administrators and college professors with experience in the areas of recruiting, admissions, and retention were asked to review the items. The reviewers indicated that the items did address the variables that, in their experience, reflect the domain of interest, higher education pursuit (Harris, 1998).

To determine internal consistency of the questionnaire, a reliability analysis was performed. The reliability analysis measured the degree to which the items contained in the scales on the questionnaire measured the construct. A pilot test was conducted with 21 undergraduate participants. The alpha coefficients ranged from .54-.90. (Harris & Halpin, 2002). To further assess

internal consistency and using results from the pilot study, an item analysis was performed using 487 subjects from a large, traditional land-grant university and a smaller nontraditional college. The item analysis provided information on the internal consistency of single items as they related to the homogeneity of the scale to which they were assigned (McMillan, 1996; Nardi, 2003). The item analysis was conducted by investigating the corrected-item total correlation for each item in a scale. For the overall internal consistency of the questionnaire the alpha coefficients ranged from .54-.90. Although the range of the alpha coefficients was identical to the pilot test, several scales were modified and revised based on the item analysis of each scale. Items with low correlations were either modified or removed from the questionnaire. Specifically, the Glass Ceiling Effect Scale was revised resulting in an increased alpha from .54 to.69 in the pilot study and the Family Support Scale increased from .82 to .84 (Harris, 1998; Harris & Halpin, 2002).

Participants

This study consisted of 153 students from two community colleges in the Southeast. The sample size was based on a study by Park and Dudycha (1974 in Stevens,

1999), in which they concluded that 15 subjects per predictor would yield a small amount of shrinkage (<.05) with 90% probability if the squared multiple population correlation is .50. The Stein formula for estimated shrinkage supports this result (Stevens, 1999) as does Cohen and Cohen's (1983) formula for determining the number of cases needed for regression analysis of sets of independent variables.

Procedure

Participants were sought from the college seminar class required of all students at the two institutions. The surveys were administered during class to increase response rate and ensure consistency in instructions to participants.

Since the survey instruments were found to be valid and reliable, a read aloud was conducted with five participants with similar characteristics to the participants that were sought for the study. The read aloud consisted of a focus-group discussion, prior to the administration of the surveys, to gauge participants' understanding of the survey items and to ensure the reliability of the instruments based on the participants' interpretation of the meaning of the items. The questions

were read aloud and participants were asked, "What is this question asking?" The read aloud resulted in minor syntax changes to some of the survey items but none of the items needed to be omitted.

Descriptive Statistics

Data were collected for the following demographics: age, gender, attendance status, classification, first-generation, household income, and household size. Descriptive statistics are presented with the results of the two surveys and the population demographics.

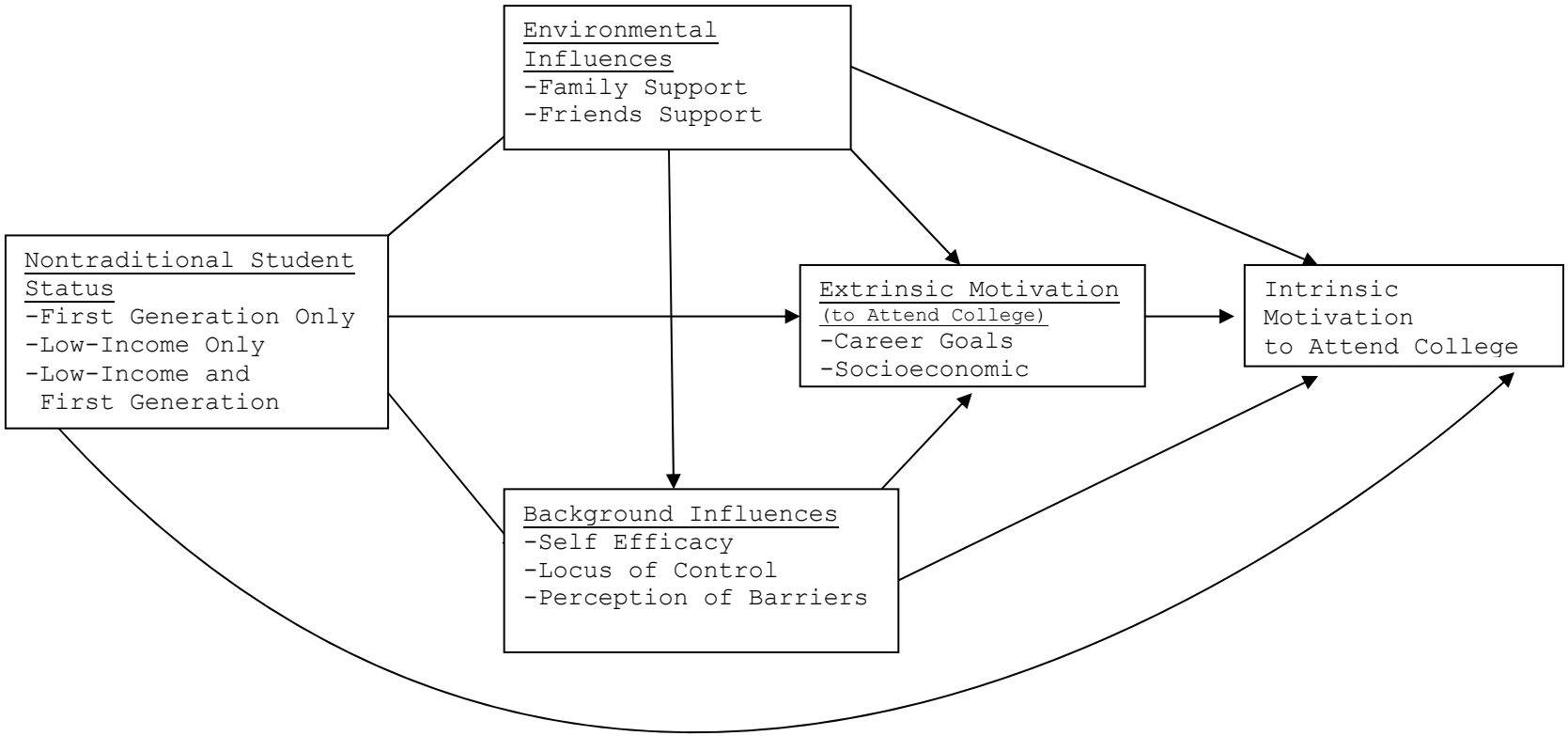
Method of Inquiry

In this study a causal model is presented to explain how nontraditional status, background factors, environmental influences, and extrinsic motivation directly and indirectly affect students' intrinsic motivation to attend college. The causal flow was determined as a result of the review of the literature.

The causal flow is depicted in Figure 2.

Figure 2

Causal Model for Intrinsic Motivation to Attend College for Low-Income and/or First Generation Students



Hierarchical regression and a path analysis were conducted to measure the direct and indirect effects of the causal variables on students' intrinsic motivation to attend college. An alpha level of .05 was used to test the statistical significance of each parameter tested.

a) The direct effect of nontraditional student status on intrinsic motivation was measured.

b) The direct effects of the extrinsic motivators, career goals and socioeconomic status on intrinsic motivation levels were measured.

c) The indirect and total effects of nontraditional student status mediated through the extrinsic motivation variables were analyzed to measure their combined effects and unique contributions over and above the other variables in the model.

d) The direct effects of the environmental and background variables on intrinsic motivation levels were measured.

e) The indirect effects of the environmental and background variables on intrinsic motivation, as mediated through the extrinsic motivators were measured.

f.) The total effects, that is, the sum of the direct and indirect effects of all variables on intrinsic motivation, were measured.

g.) The total mediated effects of student status, environmental influences, and background factors on intrinsic motivation through the extrinsic motivation variables were measured.

A hierarchical regression analysis rather than a simultaneous regression analysis was conducted because according to Cohen and Cohen (1983), hierarchical analysis is useful in extracting data about interrelationships among variables. This method was used to incrementally partition the variance in intrinsic motivation explained by the student status, environmental, background, and extrinsic motivation variable sets.

Hierarchical regression analysis consists of a series of multiple regression analyses in which a new variable is entered at each step in the analysis. It is an appropriate method for studying the effects of the independent variables or a set of independent variables on the dependent variable after controlling for effects of the other independent variables (Pedhazur, 1997). The partialling process controls for the redundancy of the effects of the independent variables on the dependent variable that is common in causal models (Cohen and Cohen, 1983). The proportion of the variance of the dependent variable accounted for by all of the independent variables

is partitioned incrementally with the entry of each new independent variable. The proportion of the variance accounted for by each new independent variable depends on the point at which it is entered into the regression analysis. Therefore, the order in which the variables are entered is crucial.

Cohen and Cohen (1983) assert that to avoid spurious relationships among correlated independent variables, "presumed causal priority" should guide the decision of how variables are entered into the model. The authors suggest that each variable should be entered into the model only after other variables that may be the source of a spurious relationship have been entered. Within the causal model of this study, it is presumed that the student status variables of low-income only, first-generation only, or low-income and first-generation are exogenous variables that are assumed to be caused outside of the causal model. The other independent variables in the model are endogenous and have a presumed causal flow as illustrated in figure 2 (p. 61).

Pedhazur (1997) and Cohen and Cohen (1983) both stress that the order in which the variables are entered into the analysis should be grounded in a causal model developed within a theoretical foundation. Cohen and Cohen assert,

> The reader is reminded that the increment attributable to any IV may change considerably if one changes its position in the hierarchy, because this will change what has and what has not been partialled out from it. This is indeed why one wishes the IVs to be ordered in terms of causal priority-otherwise part of the variance in Y due to some cause is instead attributed to an IV that is an effect of this cause. (p. 121)

Pedhazur concurs,

> Incremental proportioning of variance may be used when one wishes to control for a variable(s) while studying the effect of another variable(s), provided that this is done in accordance with a causal model. (p.280)

The advantage of the hierarchical analysis over simultaneous regression analysis is that this method allows for an analysis of the proportion of the contribution of each independent variable over and above the other independent variables.

The distinction between hierarchical regression analysis and stepwise regression should be noted because of the similarity in entering variables at different stages in the analysis. In stepwise regression, the importance of the contribution of each independent variable is determined by the computer analysis of the relative importance of each variable. The analysis is adjusted and the importance of all independent variables is re-determined as each new independent variable is entered. The analysis yielded in stepwise regression is not driven by theory; rather the procedure dictates the uniqueness of the variables. In

contrast, in hierarchical regression analysis the order of entry of independent variables is determined a priori based on the theoretical foundations of the causal model.

A path analysis was also conducted to determine the direct, indirect, and total effects of all variables in the model. The advantage of using path analysis is that it allows one to test multiple regression equations simultaneously and it also allows an investigator to decompose correlations among the variables, enhancing the interpretations and the patterns of effects of one variable on another (Pedhazur, 1997). Another advantage of path analysis is that it provides for an interaction of the data with theoretical perspective of the causal model. The model reflects the theoretical formulation of the relationships among the variables (Pedhazur, 1997). The hierarchical regression and the path analysis provided important insight into the causal model presented, which is based on Self-Determination Theory and Future-Oriented Motivation Theory.

Analysis of Data

Two hierarchical regression analyses were conducted to address the two research hypotheses. For the first hypothesis, if nontraditional students perceive college

attendance as instrumental in obtaining a career goal and increasing their socioeconomic mobility, then they will have increased intrinsic motivation for attending college, the variable set for nontraditional student status was treated as the control variable and entered in the first block and the extrinsic motivation variables were entered in the second block to estimate their affects on intrinsic motivation. A control for student status determined the effect of nontraditional student status on intrinsic motivation levels and the degree to which the extrinsic motivators variables' contribution were statistically significant in explaining the variance in intrinsic motivation above and beyond the student status variables.

For the second hypothesis, if background and environmental influences are positive, then intrinsic motivation levels will increase for nontraditional students who perceive college attendance as instrumental in obtaining a career goal and increasing socioeconomic mobility, a second hierarchical analysis was conducted controlling student status and adding the environmental, background, and the extrinsic motivation variable sets in the second, third, and fourth blocks respectively. The analysis determined the extent to which the variables made statistically significant contributions explaining the

variance in intrinsic motivation above and beyond the other variables entered in each of the previous blocks. The analysis also determined the statistical significance of the independent contributions of each variable set as they were entered into the equation.

For the hierarchical analyses the F ratio was used to determine the statistical significance of R^2 change for each variable set (Cohen and Cohen, 1983; Pehazur, 1997). Missing data was excluded pairwise using SPSS. Cases were excluded only if they were missing the data required for the specific analysis. To determine the accuracy of the model an analysis of residuals, curvilinearity, the existence of outliers, heteroscedasticity, and omission of important variables was conducted.

For the path analysis, a recursive model was analyzed in which intrinsic motivation was regressed on all endogenous variables. The extrinsic motivation variables of career goals and socioeconomic mobility were regressed on family support, friends support, perception of barriers, locus of control, self-efficacy, low-income only and first-generation only. The background variables were regressed on family support, friends support low-income only, and first-generation only, and finally, the environmental support variables were regressed on low-income only and

first generation only and low-income and first generation. The statistical significance of the direct effects of all variables was determined by testing the t-ratio of each path coefficient.

The indirect effects were measured for all endogenous variables. Indirect effects are the product of the direct effect of one variable on a mediator variable and the direct effect of the mediator variable on the dependent variable. Baron and Kenny (1986) assert that an indirect effect is statistically significant if all components are statistically significant and the direct effect of the variable on the dependent variable decreases when the mediator variable is partialled out of the equation. The indirect effects of student status, environmental influence, and background influences mediated through the extrinsic motivation variables were measured to test the two hypotheses of this study. Finally, the total effects, which are the sum of direct and indirect effects, were analyzed for all endogenous variables.

The foundation of a causal model assumes that the endogenous variables will be correlated because the existence of one preempts the existence of the other. Therefore multicollinearity among endogenous variables is expected. However, the existence of high intercorrelations

among independent variables makes it difficult to determine the unique contribution when intercorrelated variables are used to measure the variance of the dependent variable. Cohen and Cohen (1983) assert that by measuring the incremental partitioning of variance, as in hierarchical regression analysis, the partialling process controls for the redundancy of the effects of the independent variables on the dependent variable. To measure the multicollinearity of the independent variables in this study, an analysis of the variance-inflation factor (VIF), was conducted. To combat the problems of multicollinearity, Stevens (1999) suggests that variables that are highly correlated should be combined to form one variable.

The results of the hierarchical regression analysis were generated using SPSS 12.0. For the path analysis, AMOS 6 was used. The results and subsequent analyses provide important insight and increases the knowledge base of low-income and/or first- generation college students.

Chapter 4

RESULTS

This chapter presents the findings from the statistical analyses and treatment of the data with respect to the hypotheses tested. The chapter begins with a demographic profile of the participants followed by a description of the survey scales and the results of the analyses. The presentation of the results is organized around tables and figures and is presented for each hypothesis to provide a thorough examination of the analyses.

Demographic Profile of Participants

The sample consisted of 153 African-American community college students, 116 females and 37 males. The mean age range of participants was 26-30 years; 63% attended college full-time while 37% were part-time students; 28% were first-time freshman; 35% were continuing freshman; and 37% were sophomores; the median annual income level of participants was $19,801-$24,900 and the mean household size was three.

The Federal TRIO programs income guidelines set forth by the U. S. Department of Education, in which household income is measured against household size, were used to determine participants' low income status. The participants response to the survey question, "Do either of your parents have an Associate or Bachelor's Degree," was used to determine first-generation status. More than half of the participants, 56% (n=86), were placed in the low-income and first-generation category, 18% (n=24) were placed in the low-income only category, and 27% (n=41) were placed in the first-generation only category. Two participants, .01%, did not fall into any of the nontraditional student categories and were removed from the analysis, thus the final sample size was 151 students. The table below provides the demographic breakdown of participants.

Table 1

Demographics of Participants

Variables	*f*	%
Age		
20 or less	40	26.3
21-25	40	26.3
26-30	26	17.1
31-35	23	15.1
36-40	7	4.6
41-45	7	4.6

Variables	*f*	%
46-50	5	3.3
51-55	3	2.0
55 and above	1	.7
Gender		
Male	37	24.2
Female	116	75.8
Attendance Status		
Full-time	97	63.4
Part Time	56	36.6
Classification		
First-time freshman	42	27.5
Continuing Freshman	54	35.3
Sophomore	56	36.6
First Generation Status		
Non-First Generation	26	17.0
First Generation	127	83.0
Income Level		
under $14,700	57	37.3
$14,701 - $19,800	27	17.6
$19,801- $24,900	24	15.7
$24,901 - $30,000	22	14.4
$30,001 - $35,100	8	5.2
$35,101 - $40,200	9	5.9
$40,201 -$45,300	3	2.0
$50,401 and above	3	2.0
Household Size		
1	17	11.1
2	39	25.5
3	46	30.1
4	31	20.3
5	12	7.8
6	6	3.9

Description of Survey Scales

Participants were administered two surveys, The Academic Motivation Scale (AMS) to measure their intrinsic and extrinsic motivation for attending college, and the Factors Influencing Pursuit of Higher Education (FIPHE) Questionnaire to measure environmental support influences and background influences on college attendance. The AMS was scored on a 7-point Likert scale ranging from "Does not correspond at all" to "Corresponds exactly." The FIPHE was scored on a four-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree." Missing data was excluded pairwise using SPSS. Cases were excluded only if they were missing the data required for the specific analysis.

Means and standard deviations of each survey item are presented below in Tables 2 and 3.

Table 2

Descriptive Statistics for Survey Instruments

Academic Motivation Scale (AMS)					
	N	Min	Max	M	SD
Intrinsic Motivation Scale	151	1	7	5.13	1.065
Career Goals Scale	151	2	7	6.24	.957
Socioeconomic Mobility Scale	151	1	7	6.29	1.086
Valid N (listwise)	151				

Table 3

Factors Influencing Pursuit of Higher Education (FIPHE)					
	N	Min	Max	M	SD
Locus of Control Scale	151	2	4	3.57	.440
Self-Efficacy Scale	151	2	4	3.57	.414
Perception of Barriers Scale	151	1	4	3.35	.708
Friends Support Scale	151	2	4	3.46	.558
Family Support Scale	151	1	4	2.90	.606
Valid N (listwise)	151				

To decrease the possibility of measurement errors, a reliability test of the two surveys was conducted and Cronbach's alpha was used to determine the internal consistency of the survey instruments. The scale means, standard deviations, and alphas were comparable to those obtained in previous studies (Harris, 1998; Harris & Halpin, 2002; Vallerand et al. 1993; Cokely et al., 2001; Fairchaild et al., 2004). The results of the reliability analysis are presented in Table 4.

Table 4

Reliability Analysis for Survey Scales

	Scale Statistics		
	Mean	SD	Alpha
Intrinsic Motivation Scale	61.47	12.57	.907
Career Goals Scale	24.95	3.80	.807
Socioeconomic Mobility Scale	18.83	3.25	.840
Locus of Control Scale	28.56	3.55	.816
Self-Efficacy Scale	28.69	3.22	.799
Perception of Barriers Scale	13.34	2.87	.846
Friends Support Scale	13.94	2.11	.780
Family Support Scale	72.65	15.97	.903

In preparing the data for analysis, the categorical variable for nontraditional student status contained three categories, low-income only, first-generation only, and low-income and first-generation. Pedhazur (1997) advises that when a nominal variable has three or more categories, independent variables that represent the nominal variable must be created. The number of variables created is one less than the number of categories. Therefore, the nontraditional student status variables, low-income only, first-generation only, and low-income and first-generation were dummy coded into two variables, low-income only and first-generation only with variable of low-income and first-generation as the reference group.

The data were checked to ensure that assumptions were not violated. The diagnostic statistics revealed that assumptions for multicollinearity were not violated. The lowest tolerance value was .589 and highest variance inflation factor value was 1.758. In the Normal Probability Plot the points were in a reasonably straight diagonal line suggesting that the data did not deviate from normality. The scatterplot also revealed that data did not violate assumptions as most of the scores were concentrated in the center. Mahalanobis distances revealed that two scores were outliers. However, the sample size was large

enough that the two scores would not affect the results (Pedhazur, 1997).

Two one-way ANOVAs were conducted to determine if students' survey scores differed by enrollment classification (first-time freshman, continuing freshman, and sophomore) and age group. The results were not statistically significant, indicating that there were no differences in participants' scores. The results are provided below in Tables 5 and 6.

Table 5

One-Way ANOVA for the Effect of College Classification on Survey Scores

Survey Scales	SS	df	MS	F	p
Intrinsic Motivation					
Between Groups	.615	2	.308	.267	.766
Within Groups	169.197	147	1.151		
Low-Income Only					
Between Groups	.475	2	.238	1.775	.173
Within Groups	19.685	147	.134		
First-Generation Only					
Between Groups	.266	2	.133	.661	.518
Within Groups	29.528	147	.201		
Career Goals					
Between Groups	2.469	2	1.235	1.347	.263
Within Groups	134.698	147	.916		
Socioeconomic Mobility					
Between Groups	3.262	2	1.631	1.387	.253
Within Groups	172.857	147	1.176		
Locus of Control					
Between Groups	.454	2	.227	1.166	.314
Within Groups	28.621	147	.195		
Self-Efficacy					
Between Groups	.297	2	.149	.865	.423
Within Groups	25.258	147	.172		

Survey Scales	SS	df	MS	F	p
Perception of Barriers					
Between Groups	1.836	2	.918	1.845	.162
Within Groups	73.142	147	.498		
Friends Support					
Between Groups	.403	2	.201	.639	.529
Within Groups	46.285	147	.315		
Family Support					
Between Groups	.546	2	.273	.765	.467
Within Groups	52.471	147	.357		

*p<.05; **p<.001

Table 6

One-Way ANOVA for the Effect of Age Range on Survey Scores

Variables	SS	df	MS	F	p
Intrinsic Motivation					
Between Groups	6.139	4	1.535	1.414	.232
Within Groups	157.353	145	1.085		
Low-Income Only					
Between Groups	.572	4	.143	1.058	.379
Within Groups	19.588	145	.135		
First-Generation Only					
Between Groups	.627	4	.157	.780	.540
Within Groups	29.166	145	.201		
Career Goals					
Between Groups	3.731	4	.933	1.218	.306
Within Groups	111.062	145	.766		
Socioeconomic Mobility					
Between Groups	2.724	4	.681	.634	.639
Within Groups	155.796	145	1.074		
Locus of Control					
Between Groups	.803	4	.201	1.029	.394
Within Groups	28.272	145	.195		
Self-Efficacy					
Between Groups	.669	4	.167	.975	.423
Within Groups	24.886	145	.172		
Perception of Barriers					
Between Groups	1.156	4	.289	.567	.687
Within Groups	73.882	145	.510		
Friends Support					
Between Groups	1.171	4	.293	1.002	.409
Within Groups	42.383	145	.292		
Family Support					

Variables	SS	df	MS	F	p
Between Groups	1.997	4	.499	1.365	.249
Within Groups	53.060	145	.366		

*p<.05; **p<.001

Two t-tests were conducted to determine if students' scores differed by gender and college attendance level (full-time and part time). The results were not statistically significant indicating that there were no differences in scores between groups. The results are provided below in Tables 7 and 8.

Table 7

T-Test for Differences in Survey Scores by Gender

	Male		Female			
Survey Scales	M	SD	M	SD	t	p
Intrinsic Motivation	4.96	1.211	5.19	1.012	-1.145	.254
Low-Income Only	.19	.397	.15	.358	.576	.566
First-Generation Only	.19	.397	.30	.460	-1.295	.197
Career Goals	6.05	1.093	6.30	.905	-1.427	.156
Socioeconomic Mobility	6.11	1.315	6.35	1.001	-1.168	.245
Locus of Control	3.46	.537	3.60	.401	-1.648	.101
Self-Efficacy	3.57	.394	3.58	.423	-.124	.902
Perception of Barriers	3.48	.628	3.31	.729	1.287	.200
Friends Support	3.45	.566	3.46	.559	-.061	.052
Family Support	2.99	.682	2.87	.579	1.018	.311

*p<.05; **p<.001

Table 8

T-Test for Differences in Survey Scores by College Attendance Level

	Male		Female			
	M	SD	M	SD	t	p
Intrinsic Motivation	4.96	1.211	5.19	1.012	.797	.427
Low-Income Only	.19	.397	.15	.358	-.119	.906
First-Generation Only	.19	.397	.30	.460	-1.548	.124
Career Goals	6.05	1.093	6.30	.905	.360	.719
Socioeconomic Mobility	6.11	1.315	6.35	1.001	1.655	.100
Locus of Control	3.46	.537	3.60	.401	.531	.596
Self-Efficacy	3.57	.394	3.58	.423	.558	.578
Perception of Barriers	3.48	.628	3.31	.729	.854	.394
Friends Support	3.45	.566	3.46	.559	.845	.400
Family Support	2.99	.682	2.87	.579	.986	.326

*p<.05; **p<.001

Results of Analysis

The twofold purpose of this study was to first determine how the extrinsic motivators of obtaining a career and increased socioeconomic mobility may affect nontraditional college students' level of intrinsic motivation for attending college. The second purpose was to determine the influence of background and environmental factors on the extrinsic motivators for college attendance and their combined effects on nontraditional students' intrinsic motivation for college attendance.

The results of the two hypotheses are presented below with reviews of the methods used to test each hypothesis and a description of the findings.

Hypothesis 1

The first purpose of this study was addressed with the first hypothesis: Nontraditional students will have increased intrinsic motivation for attending college when they perceive college attendance as instrumental in obtaining a career goal and increasing their socioeconomic mobility.

A hierarchical regression analysis was conducted with the dummy-coded nontraditional student status variable set, containing first-generation only and low-income only with low-income and first-generation as the reference group, in the first block and the extrinsic motivation variable set, containing career goals and socioeconomic mobility, added to the second block. The hierarchical regression analysis enabled the independent assessment of each set of variables on intrinsic motivation and the analysis of all variables combined. The standardized regression coefficient was analyzed with its corresponding significance level to determine the statistical significance of the independent contributions of the variables in each set as they were entered into the hierarchical regression equation. The standardized rather than the unstandardized coefficient was used because the constructs included in this study are represented by variables that are tested using survey

instruments and the scores generated are not easily interpreted. According to Cohen and Cohen (1983) and Pedahazur (1997), the standardized coefficient is useful when the scales measured are arbitrary and not concrete units.

The standardized regression coefficients indicate the number of standard deviations that the dependent variable would change if there were only one standard deviation unit change on the variable in question. The results are presented below in Table 9.

Table 9

Hierarchical Regression of Nontraditional Status and Extrinsic Motivation on Intrinsic Motivation

Variable	*B*	SE	β	t	Sig.	Part	R^2	ΔR^2
Block 1							.009	
Low-Income Only	.098	.246	.034	.398	.691	.033		
First-Generation Only	.227	.203	.095	1.123	.263	.092		
							.313**	.305**
Block 2								
Low-Income Only	.290	.208	.100	1.389	.167	.095		
First-Generation Only	.351	.170	.147	2.060	.051	.086		
Career Goals	.653	.094	.587	6.906	.001**	.474		
Socioeconomic Mobility	.053	.083	.054	-.635	.527	-.044		

Note: Model 1- R^2 = .009, F(2,148)= .636, p= .531;
Model 2- R^2=.313, F(5, 146)= 15.660, p= .001** and ΔR^2= .305, F(2,146)= 32.414, p=.001**
* p < .05 ** p <.001

In Block 1, intrinsic motivation regressed on nontraditional student status variables were not

statistically significant, R^2= .009, F(2,148)= .636, p= .531. When the extrinsic motivation variable set was added in the second block, the two sets combined accounted for 31% of the variance in intrinsic motivation, R^2=.313, F (5, 146) = 15.660, p= .001. The effect of the extrinsic motivation variable set after controlling for nontraditional student status was statistically significant, explaining 31% of the variance in intrinsic motivation, R^2 Change = .305, F(2,146)= 32.414, p=.000. The R^2 change value indicates that the nontraditional variable set had virtually no effect on intrinsic motivation. The standardized regression coefficient indicated that only the career goals variable made a statistically significant contribution to the variance in intrinsic motivation, β = .587, t (6.907), p =.001. All other variables were not statistically significant.

The results of the hierarchical regression equation supports only part of the hypothesis that if nontraditional students perceive college attendance as instrumental in obtaining a career goal and increasing their socioeconomic mobility, then they will have increased intrinsic motivation for attending college.

The standardized regression coefficient for career goals, β = .587, t (6.906), p = .001, indicates that an

increase in career goals will result in an increase in intrinsic motivation. The socioeconomic mobility variable was not statistically significant in explaining the variance in intrinsic motivation.

Hypothesis 2

The second purpose of the study was addressed with the second hypothesis: If background and environmental influences are positive, then intrinsic motivation levels will increase for nontraditional students who perceive college attendance as instrumental in obtaining a career goal and increasing socioeconomic mobility. Three analyses were used to address this hypothesis, a hierarchical regression analysis, a path analysis and based on the results of the model fit indices a modified path analysis was also conducted.

The hierarchical regression analysis was conducted with intrinsic motivation regressed on all variables. The nontraditional student status set was entered in the first block, the environmental variable set, containing friends support and family support, was entered in the second block, the background variable set, containing perception of barriers, locus of control, and self-efficacy, was entered in the third block, and finally the extrinsic

motivation variable set was entered in the fourth block. This analysis was performed to determine how each set of variables directly affected intrinsic motivation above and beyond the preceding set and to analyze the combined effects of the variable set as each was added to the regression model.

To further analyze the various linear combinations of the variables, a path analysis was conducted to analyze the direct, indirect, and total effects of the causal relationships in the model. Specifically, how the effects of the variables in the nontraditional student status set, the environmental influences set, and the background factors set were mediated onto intrinsic motivation via extrinsic motivation. A modified path analysis was then conducted based on the results of the analysis of the model fit indices. In the modified path analysis, the variables in each set were combined and analyzed. Therefore, the combined effects of the variables in the nontraditional student status set, the environmental support set and the background set were analyzed to determine their combined direct effects on intrinsic motivation and combined indirect effects via extrinsic motivation. Although the first analysis revealed that the nontraditional student status set was not statistically significant, it was still

added into the hierarchy to analyze its effects with the other variables in the model.

The results of the hierarchical regression analysis are first presented followed by the results of the path analysis. Table 10 below presents the results of the regression analysis.

Table 10

Hierarchical Regression of Intrinsic Motivation on Nontraditional Student Status Set, Environmental Support Set, Background Factors Set, and Extrinsic Motivation Set

Variable	*B*	SE	β	t	Sig.	Part	R^2	ΔR^2
Block 1							.009	
Low-Income Only	.098	.246	.034	.398	.691	.033		
First-Generation Only	.227	.203	.095	1.123	.263	.092		
Block 2							.033	.024
Low-Income Only	.000	.250	.000	.001	1.000	.000		
First-Generation Only	.234	.201	.098	1.164	.246	.095		
Friends Support	.139	.157	.073	.886	.377	.072		
Family Support	.234	.146	.133	1.600	.112	.130		
Block 3							.102*	.069*
Low-Income Only	.211	.254	.073	.832	.407	.066		
First-Generation Only	.229	.198	.096	1.156	.250	.092		
Friends Support	.020	.161	.010	.124	.902	.010		
Family Support	.151	.150	.086	1.010	.314	.080		
Locus of Control	.679	.238	.281	2.856	.005*	.226		
Self-Efficacy	.025	.253	.010	.097	.923	.008		
Perception of Barriers	-.040	.128	-.027	-.315	.753	-.025		
Block 4							.360**	.258**
Low-Income Only	.460	.220	.159	2.092	.038*	.141		
First-Generation Only	.326	.169	.137	1.930	.056	.130		
Friends Support	.302	.145	.111	2.077	.040*	.140		
Family Support	.113	.127	.064	.883	.379	.060		

Variable	*B*	SE	β	t	Sig.	Part	R^2	ΔR^2
Locus of Control	.464	.204	.192	2.274	.024*	.153		
Self-Efficacy	-.255	.218	-.099	-1.168	.245	-.079		
Perception of Barriers	-.067	.109	-.045	-.617	.539	-.042		
Career Goals	.670	.099	.602	6.737	.001**	.454		
Socioeconomic Mobility	-.025	.083	-.026	-.307	.760	-.021		

Note: Block 1- R^2 = .009, F(2,148)= .636, p= .531;
Block 2- R^2=.033, F(4, 146)= 1.241, p= .296 and ΔR^2= .024, F(2,146)= 1.839, p=.163;
Block 3- R^2=.102, F(7, 143)= 2.314, p= .029* and ΔR^2= .069, F(3,143)= 3.853, p= 014*;
Block 4- R^2=.360, F(9, 141)= 2.314, p= .001** and ΔR^2= .258, F(2,141)= 28.397,p= 001**
* p < .05; ** p <.001

The nontraditional student status variables in the first block were not statistically significant. When the environmental influence variables were added in the second block, the combined effects of this set with the nontraditional student status variables also yielded a non-significant effect on intrinsic motivation, R^2=.033, F(4, 146)= 1.241, p= .296. When the effects of the nontraditional student status variables were partialled from the model to assess the effect of environmental influence specifically, the result was also a non-statistically significant effect on intrinsic motivation, R^2 Change = .024, F (2,146)= 1.839, p=.163. Also according to the standardized regression coefficients, none of the variables in this block made statistically significant independent contributions to intrinsic motivation.

In the third block the background influence variables were added to the analysis, the combined effects of this set with nontraditional student status and environmental influence accounted for 10% of the variance, R^2=.102, F(7, 143)= 2.314, p= .029. When the effects of the nontraditional student status variables and environmental influence variables were partialled from the model, to assess the effects of the background influence specifically, the result revealed that of the 10% of variance explained by the model 7% was explained by the background influence variables, R^2 Change = .069, F(3,143)= 3.853, p= .014. Among the variables in this set, only the contribution of locus of control was statistically significant, β = .288, t(2.971), p =.003. The semi-partial correlation revealed that removal of the locus of control variable would decrease R^2 by 6%, which is practically the entire effect of the set, indicating that the other two variables, perceived barriers and self-efficacy, contributed very little to the variance.

The extrinsic motivation set was added in the fourth block. With all variables included, the model explained 36% of the variance in intrinsic motivation, R^2=.360, F(9, 141)= 8.799, p= .001. The extrinsic motivation variables specifically added 26% to the variance over and above all

other variables in the model, R^2 Change = .258, F (2,141) = 28.397, p= 001. Four of the nine variables in the model made statistically significant independent contributions to the variance in intrinsic motivation, career goals, β = .602, t (6.737), p =.001, low-income only, β = .159, t (2.092), p =.001, locus of control, β = .192, t (2.274), p =.024, and friends support, β = .111, t (2.077), p =.040. The semi-partial correlation revealed the proportion of the effect of each these variables on the variance. The removal of career goals would result in a 21% decrease in R^2, removal of locus of control would result in a 6% decrease, for friends support a 2% decrease, and low-income only, a 1.5% decrease.

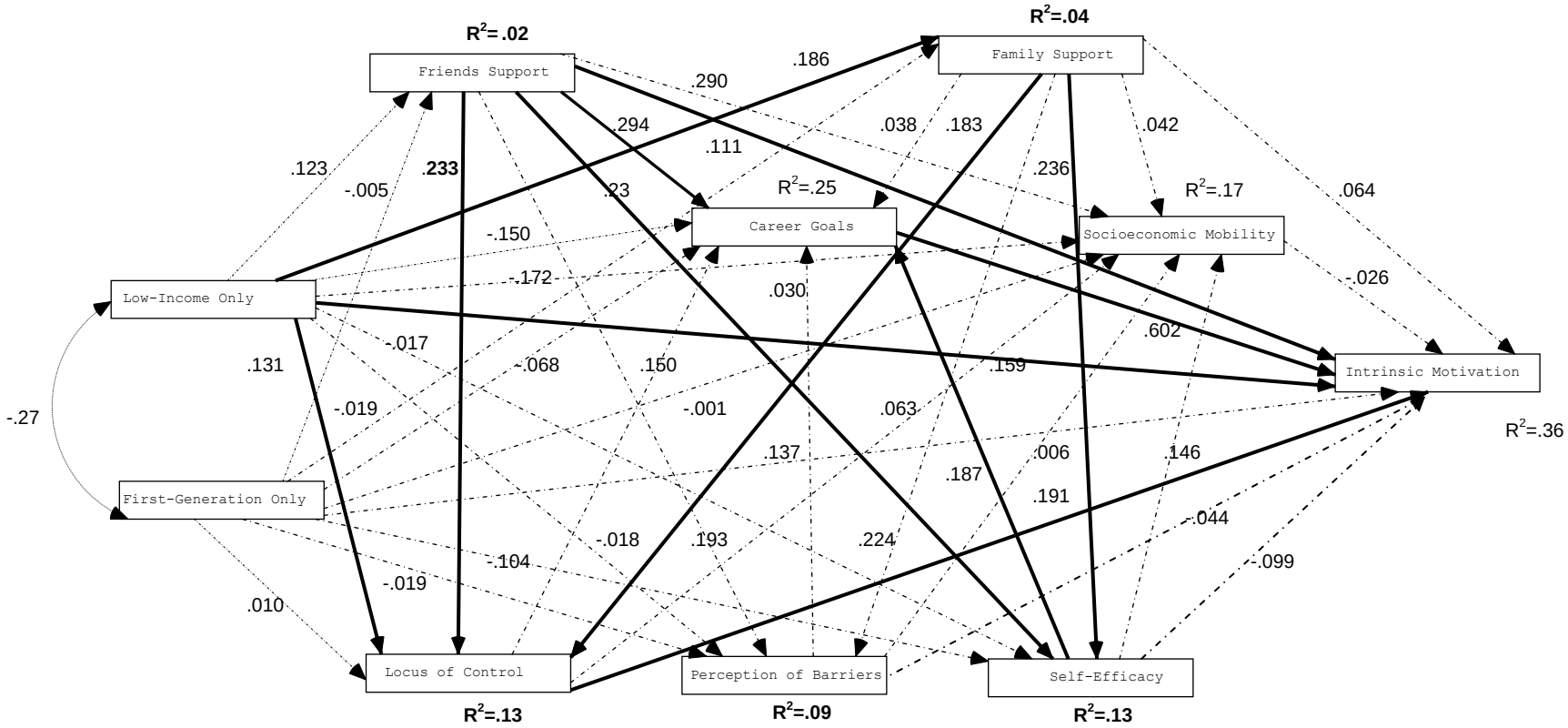
Path Analysis

The two path analyses were performed to analyze the direct, indirect, and total effects of the causal relationships of the variables in the regression analyses. Specifically, how the combined and individual effects of the variables in the nontraditional student status set, the environmental influence set, and background influence set were mediated onto intrinsic motivation via the combined and individual variables in the extrinsic motivation set. Following the theoretical foundation of this study, the

variables in the nontraditional student status set preceded the environmental influence set, then the background influence set, the extrinsic motivation set, and finally intrinsic motivation. The causal alignment of the variables in the first path analysis with the standardized path coefficients is presented in Figure 3.

Figure 3

Path Diagram for Full Model-All Variables with Standardized Coefficients



Note: The solid lines indicate the statistically significant paths discussed in the next section. R^2 represents the squared multiple correlation for each endogenous variable.

A path analysis allows one to test multiple regression equations simultaneously. Therefore, the intrinsic motivation variables were regressed on all variables, the extrinsic motivation variables of career goals and socioeconomic mobility were regressed on family support, friends support, perception of barriers, locus of control, self-efficacy, low-income only, and first-generation only. The background variables were regressed on family support, friends support, low-income only, and first-generation only, and finally, the environmental influence variables were regressed on low-income only and first generation only. The results of the path analysis are presented in Table 11 below.

Table 11

Path Coefficients for Full Model- All Independent Variables

Paths			Beta	S.E.	C.R.	p
Environmental Influence						
Friends Support	<--	Low-Income Only	.123	.084	1.464	.143
Friends Support	<--	First-Generation Only	-.005	.084	-.063	.950
Family Support	<--	Low-Income Only	.186	.083	2.234	.025*
Family Support	<--	First-Generation Only	-.019	.083	-.229	.819
Background Influence						
Locus of Control	<--	Friends Support	.235	.076	3.051	.002*
Perception of Barriers	<--	Friends Support	.193	.077	2.458	.014*
Locus of Control	<--	Low-Income Only	.131	.082	1.599	.001*
Perception of Barriers	<--	Low-Income Only	-.018	.081	-.214	.831

Paths			Beta	S.E.	C.R.	p
Perception of Barriers	<--	First-Generation Only	-.019	.080	-.240	.810
Locus of Control	<--	First-Generation Only	.010	.079	.131	.896
Self-Efficacy	<--	Friends Support	.233	.076	3.024	.002*
Self-Efficacy	<--	First-Generation Only	-.104	.078	-1.309	.190
Self-Efficacy	<--	Low-Income Only	-.017	.080	-.209	.834
Self-Efficacy	<--	Family Support	.236	.077	3.033	.002*
Perception of Barriers	<--	Family Support	.224	.078	2.820	.005*
Locus of Control	<--	Family Support	.183	.077	2.357	.018*
Extrinsic Motivation						
Career Goals	<--	Perception of Barriers	.030	.077	.395	.693
Career Goals	<--	First-Generation Only	-.068	.074	-.919	.358
Career Goals	<--	Self-Efficacy	.187	.088	2.142	.032*
Socioeconomic Mobility	<--	Locus of Control	.063	.092	.690	.490
Socioeconomic Mobility	<--	Low-Income Only	-.172	.082	-2.090	.037*
Socioeconomic Mobility	<--	First-Generation Only	-.001	.078	-.018	.986
Socioeconomic Mobility	<--	Self-Efficacy	.146	.092	1.587	.112
Socioeconomic Mobility	<--	Perception of Barriers	.006	.081	.081	.936
Career Goals	<--	Locus of Control	.150	.088	1.722	.085
Career Goals	<--	Friends Support	.294	.075	3.928	.001**
Socioeconomic Mobility	<--	Family Support	.042	.080	.531	.595
Socioeconomic Mobility	<--	Friends Support	.290	.079	3.679	.001**
Career Goals	<--	Family Support	.038	.076	.508	.611
Career Goals	<--	Low-Income Only	-.150	.078	-1.922	.055
Intrinsic Motivation						
Intrinsic Motivation	<--	Family Support	.064	.070	.915	.360

Paths			Beta	S.E.	C.R.	p
Intrinsic Motivation	<--	Self-Efficacy	-.099	.083	-1.204	.228
Intrinsic Motivation	<--	Locus of Control	.191	.082	2.345	.019*
Intrinsic Motivation	<--	Perception of Barriers	-.044	.071	-.636	.525
Intrinsic Motivation	<--	Socioeconomic Mobility	-.026	.082	-.316	.752
Intrinsic Motivation	<--	Low-Income Only	.159	.073	2.154	.031*
Intrinsic Motivation	<--	Career Goals	.602	.086	6.949	.001**
Intrinsic Motivation	<--	First-Generation Only	.137	.069	1.991	.057
Intrinsic Motivation	<--	Friends Support	.111	.074	1.502	.031*

Note: The arrows indicate the direction of the causal path measured.
* p < .05; ** p <.001

Direct Effects

The following analysis highlights only those paths with statistically significant direct effects. The direct effects on intrinsic motivation from career goals, friends support, locus of control, and low-income only, were consistent with the results previously discussed from the hierarchical regression analysis. For career goals there were two variables with statistically significant direct effects, friends support--β = .294, t (3.928), p = .001; and self-efficacy--β = .187, t (2.142), p = .032. For locus of control there were three variables with statistically significant direct effects, friends support--β = .235, t (3.051), p = .002; low-income only--β = .131, t (1.599), p = .001; and family support--β = -.183, t

(2.357), p = .018. There was one variable with a statistically significant direct effect on family support, low-income only--β = .186, t (2.234), p =.025. For self-efficacy there were two variables with statistically significant direct effects, family support-- β = .236, t (3.033), p =.002 and friends support-- β = .233, t (3.024), p =.002.

Indirect Effects

Indirect effects were calculated by multiplying the direct effects of the variables in question. For example, the indirect effect of friends support on intrinsic motivation via career goals would be the product of the direct effect of friends support on career goals and the direct effect of career goals on intrinsic motivation (Pedhazur, 1997). Baron and Kenny (1986) assert that an indirect effect is statistically significant if all components are statistically significant and the direct effect of the variable on the dependent variable decreases when the mediator variable is partialled out of the equation. Following this test of significance, only the indirect effects that met the this criteria are reported.

Intrinsic Motivation- Career goals and locus of control had statistically significant direct effects on

intrinsic motivation and also mediated indirect effects from other endogenous variables on intrinsic motivation. The statistically significant indirect effects on intrinsic motivation were:

Via Locus of Control

Friends → locus of control = .045

Low-income → locus of control = .03

Family support → locus of control = .035

Low-income → family support → locus of control= .007.

Via Career Goals

Friends support → career goals = .176

Self-efficacy → career goals = .112

Friends support→self-efficacy →career goals =.03

Low-income → Family support → self-efficacy → career goals= .004.

For career goals, self-efficacy had a statistically significant direct effect and also mediated indirect effects from other endogenous variables on career goals. The statistically significant indirect effects on career goals were:

Via Self-Efficacy

Fiends support → self-efficacy = .044

Family support → self-efficacy = .008

Low-income only→family support→self-efficacy = 068.

For locus of control, family support had a statistically significant direct effect and also mediated indirect effects from other endogenous variables onto locus of control. The statistically significant indirect effects on locus of control were:

Via Family Support

Low-income via Family Support = .034

Table 12 below provides a summary of all direct and indirect effects in the path analysis. The total effects were obtained by adding all statistically significant direct and indirect effects.

Table 12

Standardized Direct, Indirect, and Total Effects

	Independent Variables					
Dependent Variables	Low-Income Only	Family Support	Friends Support	Self-Efficacy	Locus of Control	Career Goals
Family Support						
Direct	.186	-	-	-	-	-
Indirect	-	-	-	-	-	-
Total Effects	.186	-	-	-	-	-
Self-Efficacy						
Direct	-	.236	.233	-	-	-
Indirect	-	-	-	-	-	-
Total Effects	-	.236	.233	-	-	-
Locus of Control						
Direct	.131	.183	.233			

Dependent Variables	Independent Variables					
	Low-Income Only	Family Support	Friends Support	Self-Efficacy	Locus of Control	Career Goals
Indirect	.034	-	-	-	-	-
Total Effects	.165	.183	.233	-	-	-
Career Goals						
Direct	-	-	.294	.187	-	-
Indirect	-	.044	.044	-	-	-
Total Effects	-	.044	.338	.187	-	-
Intrinsic Motivation						
Direct	.159	-	.111	-	.192	.602
Indirect	.041	.035	.251	.112	-	-
Total Effects	.200	.035	.362	.112	.192	.602

Notes: Total effects are the sum of direct and indirect effects of each variable. The total effects presented are derived from the statistically significant direct and indirect effects.
A dash indicates no statistically significant effect.

Model Fit

To determine the fit of the data in the path analysis, Kline (2005) suggests using the following model fit indices, chi square, root mean square error of approximation (RMSEA), comparative fit index (CFI), and the root mean square residual (RMR). Chi square, a badness of fit index, tests the theoretical model and indicates that the specified model fits the sample data. A non-statistically significant chi square value is desired and indicates that the sample covariance matrix and the reproduced model-implied covariance matrix are similar. The higher the chi square value, the worse the model's correspondence to the data (Kline, 2005).

RMSEA, another badness of fit index, estimates the lack of fit of the model to the population covariance matrix. A RMSEA value less than or equal to .05 indicates close approximate fit, values between .05 and .08 suggest reasonable fit, and values greater than or equal to .10 suggest poor fit. The confidence interval for the population parameter estimated by RMSEA is usually 90%. This interval reflects the degree of uncertainty associated with RMSEA at the 90% level of statistical confidence (Kline, 2005).

CFI compares the relative improvement in fit of the researcher's model compared with a baseline model. Indexes greater than .90 may indicate reasonably good fit of the researcher's mode (Kline, 2005).

Finally, RMR is a measure of the mean absolute value of the covariance residuals. Perfect model fit is indicated by RMR = 0, and increasingly higher values indicate worse fit. Values less than .10 are generally considered favorable (Kline, 2005).

For the path analysis, chi square was not statistically significant at 1.597 with p value of .206. The RMSEA value was .063 with a 90% confidence interval of .000-.237. The lower bound fit was less the .05 leading to not rejecting the null hypothesis of close approximate fit.

However, since the upper bound fit exceeded .10 the hypothesis of poor approximate fit cannot be rejected. The CFI value was .998 and the RMR value was .018, indicating a reasonably good fit of the model.

The model fit indices indicated that the data to model-fit approached a reasonable level, but some model modifications would allow a better fit between the sample variance-covariance matrix and the reproduced variance-covariance, given the path model. RMSEA suggested a fair amount of sampling error indicating that the sample size for the model was too small given that the ratio of the parameters to the number of cases was 4:1. Kline (2005) suggests that when the case to parameter ratio is less than 5:1 the statistical precision of the results may be doubtful. Therefore the path model should be modified to attain a more satisfactory fit. Since the fit indices indicated that sample size may be the primary contributor to a more satisfactory model fit, the model was modified and reanalyzed by combining variables to reduce the number of paths. By combining variables rather than removing variables, the ratio of sample size to parameters increased and the theoretical foundation of the study was maintained.

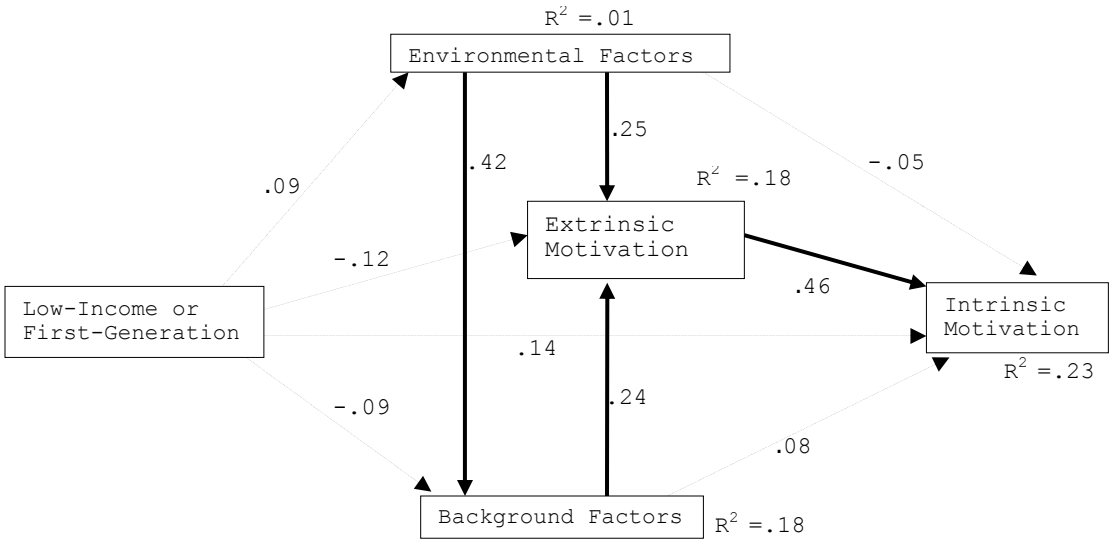
For the modified path analysis, the variables in each set were combined and analyzed together rather than

separately. In the extrinsic motivation set, the career goals and the socioeconomic mobility variables were combined. In the environmental support, set the family support and friends support variables were combined. In the background factors set, the variables of perception of barriers, locus of control, and self-efficacy were combined. Finally, in the nontraditional student status set, the low-income only and first-generation only variables were combined and the low-income and first-generation variable remained as the reference group.

Intrinsic motivation was regressed on all combined variables. The combined extrinsic motivation variable was regressed on the combined variables of background factors, environmental support, and nontraditional student status. The combined background factors variable was regressed on environmental support and nontraditional student status. The combined environmental support variable was regressed on the nontraditional student status. The causal alignment of the combined variables with standardized path coefficients is presented in Figure 4.

Figure 4

Path Diagram for Modified Path Model with Standardized Coefficients



Note: The solid lines indicate the statistically significant paths discussed in the next section. R^2 represents the squared multiple correlation for each endogenous variable.

The results of the modified path analysis are presented in Table 13 below.

Table 13

Path Coefficients for Modified Model

Paths			Beta	S.E.	C.R.	P
Environmental	<--	Low-Income and First Generation	.092	.081	1.137	.256
Background	<--	Low-Income and First Generation	-.088	.074	-1.186	.236
Background	<--	Environmental	.419	.074	5.625	.000**
Extrinsic Motivation	<--	Low-Income and First Generation	-.125	.074	-1.683	.092
Extrinsic Motivation	<--	Environmental	.251	.082	3.071	.002*
Extrinsic Motivation	<--	Background	.240	.081	2.947	.003*
Intrinsic Motivation	<--	Low-Income and First Generation	.144	.073	1.971	.049

Paths			Beta	S.E.	C.R.	P
Intrinsic Motivation	<--	Environmental Factors	-.049	.082	-.594	.553
Intrinsic Motivation	<--	Extrinsic Motivation	.457	.080	5.724	.000**
Intrinsic Motivation	<--	Background	.075	.082	.923	.356

Note: The arrows indicate the direction of the causal path measured.
* p < .05
** p <.001

Direct Effects

In the modified model with all variables regressed on intrinsic motivation, 23% of the variance was explained R^2=.225, F(4,146)= 10.571, p= .001 and ΔR^2= .169, F(1,146)= 31.895, p=.001. With nontraditional student status, environmental support, and background factors regressed on intrinsic motivation, 6% of the variance was explained. R^2=.055, F(3,147)= 2.862, p= .039 and ΔR^2= .028, F(1,147)= 4.354, p=.039. When nontraditional student status and environmental support were regressed on intrinsic motivation and nontraditional student status alone was regressed on intrinsic motivation, there were no statistically significant results. The results were respectively, R^2=.027, F(2,148)= 2.069, p= .130 and ΔR^2= .020, F(1,148)= 3.067, p=.082 and R^2=.007, F(1,149)= 1.055, p= .306 and ΔR^2= .007, F(1,149)= 1.055, p=.306.

The following analysis highlights only those paths with statistically significant direct effects. Extrinsic motivation was the only statistically significant direct

effect on intrinsic motivation β = .457, t (5.724), p = .001. For extrinsic motivation there were two variables with statistically significant direct effects, environmental support--β = .251, t (3.071), p = .002; and background factors--β = .240, t (2.947), p = .003. Finally, the statistically significant direct effect of environmental support on background factors was β = .419, t (5.625), p = .001.

Indirect Effects

There were three statistically significant indirect effects on intrinsic motivation via extrinsic motivation:

Environmental Support → Extrinsic Motivation: .114

Background Factors → Extrinsic Motivation: .109

Environmental Factors → Background Factors → Extrinsic Motivation: .045

Finally, there was a statistically significant indirect effect of environmental support on extrinsic motivation via background factors was:

Environmental Factors → Background Factors: .101

Table 14 provides a summary of all direct and indirect effects in the modified path analysis. The total effects were obtained by adding all statistically significant direct and indirect effects.

Table 14

Standardized Direct, Indirect, and Total Effects for Modified Model

Dependent Variables	Independent Variables: Low-Income/ First-Generation	Environmental Support	Background Factors	Extrinsic Motivation
Environmental Factors				
Direct	-	-	-	-
Indirect	-	-	-	-
Total Effects	-	-	-	-
Background Factors				
Direct	-	.419	-	-
Indirect	-	-	-	-
Total Effects	-	.419	-	-
Extrinsic Motivation				
Direct	-	.251	.240	
Indirect	-	.101	-	-
Total Effects	-	.352	.240	-
Intrinsic Motivation				
Direct	-	-	-	.455
Indirect	-	.159	.109	-
Total Effects	-	.159	.109	.455

Notes: Total effects are the sum of direct and indirect effects of each variable. The total effects presented are derived from the statistically significant direct and indirect effects.
A dash indicates no statistically significant effect.

Model Fit

For the modified path analysis, chi square was not statistically significant at .003 with p value of .954. The RMSEA value was.000 with a 90% confidence interval of .000-.020. The lower bound fit was less the .05 leading to

not rejecting the null hypothesis of close approximate fit. The upper bound fit did not exceed .10; therefore, the hypothesis of poor approximate fit can be rejected. The CFI value was 1.0 and the RMR value was .002, indicating a good fit of the model. The model fit indices indicated that the modified path model had a more satisfactory fit to the data.

Summary of Hierarchical Regression and Path Analyses

In the first and second block of the hierarchical regression, nontraditional student status and environmental influence respectively were not statistically significant in explaining intrinsic motivation. In the third block, background factors (locus of control) accounted for 7% of the variance over and above nontraditional student status and environmental influence. In the fourth block, extrinsic motivation (career goals) accounted for 26% of the variance over and above all other variables in the model. The full regression model accounted for 36% of the variance in intrinsic motivation. The variables with statistically significant contributions to the variance were, in order of contribution, career goals, locus of control, friends support, and low-income only.

The initial path analysis revealed that career goals had the largest total effect on intrinsic motivation (.602) followed by friends support (.362), locus of control (.193), low-income only (.200), self-efficacy (.112), and family support (.035). The variables with the largest total effects on the mediator variable career goals, were friends support (.338), self-efficacy (.187), family support (.044), and low-income-only (.008). The results also indicated that locus of control also served as a mediator variable for the effects of other endogenous variables in the model. The largest total effects on locus of control were low-income only (.165), followed by friends support (.233) and family support (.183). Self-efficacy mediated effects from other variables on career goals. The largest total effects on self-efficacy were family support (.236) and friends support (.233). Finally, family support mediated effects on self-efficacy and locus of control. The largest total effect on family support was low-income only (.186).

In the modified path analysis, the combined extrinsic motivation variable had the largest total effect on intrinsic motivation (.455) followed by environmental support (.159) then background factors (.109). The total effect of the combined extrinsic motivation variables was

not as large as the career goals variable alone in the initial path model which was (.602). The total effect of the combined environmental support variables was not as large as the friends support variable in the initial path model which was (.362) but was larger than the effect of the family support variable (.035). The total effect of the combined background support variables was not as large as the effect of the individual variables, locus of control (.193) and self-efficacy (.112).

The largest total effect on the mediator variable, extrinsic motivation, was environmental support (.352) followed by background factors (.240). The total effect of the combined environmental support variables was larger than the effects of the individual variables of friends support (.338) and family support (.044) in the initial path model. The total effect of the combined background factors variables was also larger than the individual self-efficacy variable (.187) in the initial path model.

Background support also mediated the effects of environmental support on extrinsic motivation. The total effect of environmental support on background factors was (.419). This total effect was larger than the individual effects of friends support on self-efficacy (.233) and locus of control (.233) in the initial model. The total

effect was also larger than the individual effects of family support on self-efficacy (.236) and locus of control (.183). Finally, the combined nontraditional student status variables did not have any statistically significant effects, contrary to the initial path model in which the individual variable of low-income only had statistically significant effects on family support (.186), locus of control (.165), and intrinsic motivation (.200).

The results of the hierarchical regression and path analyses support part of the second hypothesis, if background and environmental influences are positive, then intrinsic motivation levels will increase for nontraditional students who perceive college attendance as instrumental in obtaining a career goal and increasing socioeconomic mobility. The initial path model revealed that intrinsic motivation levels increased for those nontraditional students that had positive support from family and friends and positive self-efficacy. The effects of these variables were mediated on to intrinsic motivation through career goals. Their indirect effects on intrinsic motivation, through career goals, were larger than their individual direct effects. The effect of locus of control was not mediated through career goals, rather the direct effect was statistically significant. The variables,

socioeconomic mobility, perception of barriers, and first generation only, were not statistically significant in the regression or the initial path analysis.

In the modified path model intrinsic motivation levels increased for those nontraditional students that had positive background factors and environmental support. The effects of these variables were mediated on to intrinsic motivation through extrinsic motivation. None of the combined variables had statistically significant direct effects on intrinsic motivation. Nontraditional student status was not statistically significant in the modified path analysis.

Summary

In the first hierarchical regression equation nontraditional student status and the extrinsic motivators, career goals and socioeconomic mobility were regressed on intrinsic motivation. The extrinsic motivation variables were statistically significant in explaining 31% of the variance in intrinsic motivation. The career goal variable was the only variable with a statistically significant contribution to the variance.

For the second hierarchical regression analysis, in the third block, the background factors variables were

statistically significant in explaining 7% of the variance in intrinsic motivation. Within this variable set, only locus of control made a statistically significant contribution to the variance. In the fourth block, with all variables included, the model explained 36% of the variance in intrinsic motivation with 26% being explained by the extrinsic motivation variables alone. Career goals, low-income only, locus of control, and friends support all were statistically significant in contributing to the variance in intrinsic motivation levels for the overall model.

For the initial path analysis, there were four statistically significant direct effects on intrinsic motivation from career goals, friends support, locus of control, and low-income only. There were two statistically significant direct effects on career goals from friends support and self-efficacy. The statistically significant direct effects for locus of control were from friends support, low-income only, and family support. Low-income only had a statistically significant direct effect on family support. Finally, there were two statistically significant direct effects on self-efficacy from family support and friends support. All variables with statistically significant direct effects also mediated the

indirect effects of their preceding variables within the causal path. The model fit indices indicated that the initial path analysis obtained a reasonably good fit; however the ratio of parameter to cases was too small, jeopardizing the credibility of the statistical precision of the results. The model was modified by combining the variables to reduce the number of paths.

In the modified path model, there was one statistically significant direct effect on intrinsic motivation from extrinsic motivation and two statistically significant direct effects on extrinsic motivation from environmental support and background factors. Finally, there was one statistically significant direct effect on background factors from environmental support. The model fit indices indicated that the modified path analysis obtained a more satisfactory fit than the initial path. However, the initial path model explained more variance in intrinsic motivation than the modified model. A complete discussion of the results from the analyses is presented in the next chapter.

Chapter 5

DISCUSSION

The following chapter includes a discussion of the results. The organization of the chapter is as follows: a summary of the findings, conclusions, implications, limitations to the study, and recommendations for future research and practice.

The first purpose of this study was to determine how the perception of a college, as a means to obtain a desired career goal and improve one's socioeconomic mobility, can affect the intrinsic motivation levels of nontraditional students. The secondary purpose of this study was to determine how the influence of environmental and background factors on nontraditional students' perception of college, as a pathway to achieving career goals and increasing their socioeconomic mobility, can affect their levels of intrinsic motivation for pursing a college degree.

The population for this study consisted of 151 community college students that were identified as

low-income or first-generation and students that were both low-income and first generation.

The conceptual model for this study was the Self-Determination Theory (SDT) developed by Ryan and Deci (1985) and the Future-Oriented Motivation Theory, developed by Miller and Brickman (2004). Ryan and Deci maintain that intrinsically motivated behaviors are more sustainable than extrinsically motivated behaviors because the former are performed for inherent satisfaction without external outcome expectations, whereas the latter are performed as a means to an end, to obtain some outcome separate from the self.

Within the SDT framework, intrinsic motivation and well internalized extrinsic motivation are highly correlated with academic achievement. It is possible for extrinsically regulated behaviors to become intrinsically motivated if an individual internalizes the behavior and it becomes concurrent with other personal values and needs. In reference to higher education, when nontraditional students perceive college attendance as a vital means of obtaining their future goals and increasing their socioeconomic status, degree attainment becomes an invaluable motivation for persistence. According to SDT, this type of motivation is extrinsic. The Future-Oriented Motivation

Theory suggests that such an extrinsically motivated behavior can, in fact, become intrinsic.

Future-Oriented Motivation Theory asserts that behavior is regulated by valued future goals. These goals can provide incentives for behavior when current actions are aligned with the attainment of the future goal. Although a future goal is an extrinsic motivator, behavior is regulated toward becoming intrinsic because current activities become more meaningful when they are perceived as instrumental to the attainment of future goals (Miller and Brickman, 2004).

Self-Determination Theory provided a foundational explanation for motivation orientation for this study and Future-Oriented Motivation Theory provided a rational explanation for the regulation of motivated behaviors. The two combined frameworks were used to explain how nontraditional students' extrinsically motivated reasons for attending college (i.e. pursuit of career goals and socioeconomic mobility) could regulate college attendance toward becoming more intrinsically motivated.

Based on the twofold purpose of this study, the following hypotheses were tested at .05 significance level:

1) If nontraditional students perceive college attendance as instrumental in obtaining a career goal and

increasing their socioeconomic mobility, then they will have increased intrinsic motivation for attending college.

2) If background and environmental influences are positive, then intrinsic motivation levels will increase for nontraditional students who perceive college attendance as instrumental in obtaining a career goal and increasing socioeconomic mobility.

Summary of Findings

The following results were obtained from the statistical analyses of the data. The descriptive results of participants indicated that there were no statistically significant differences in mean scores across age ranges, gender, classification (first-time freshman, continuing freshman, or sophomore), and attendance status (full-time or part-time).

The utility of college in obtaining a desired career goal was statistically significant in increasing nontraditional students' intrinsic motivation levels. However, the proportion of variance accounted for by career goals was not very large, less than fifty percent. The perception of college as means to increased socioeconomic mobility was not statistically significant in increasing

students' intrinsic motivation levels. When career goals and socioeconomic mobility were combined, their effect was smaller however still statistically significant.

Low-income only students had higher intrinsic motivation levels than students that were both low-income and first-generation. Although the difference was very small, low-income only students' intrinsic motivation levels increased more than students that were both low-income and first generation. First-generation only status did not have any statistically significant direct or indirect effects on intrinsic motivation. When combined into one variable, the effect of nontraditional student status on intrinsic motivation was not statistically significant. This contrast in results was understandable given that the variance explained in the initial path model was extremely small.

The direct effects of locus of control (i.e. perceived control over college outcome expectations) was statistically significant in increasing nontraditional students' intrinsic motivation levels, though the proportion of the increase was small, only ten percent. The indirect effects of locus of control on intrinsic motivation, mediated through career goals and socioeconomic mobility, was not statistically significant. Additionally,

low-income only students had a higher locus of control than students that were both low-income and first generation.

Students' perception of barriers (perceived confidence that potential barriers cannot undermine a desired course of study) was not statistically significant in increasing intrinsic motivation levels. Additionally, none of the mediated effects of perception of barriers were statistically significant.

The direct effect of participants' levels of self-efficacy (students' perceived competence in completing college) was not statistically significant in increasing intrinsic motivation. However, the indirect effect of self-efficacy via career goals was statistically significant. Although the indirect effect was small, the results indicated that students' levels of self-efficacy increased their perception in the utility of college to obtain a desired career goal, and this in turn increased their intrinsic motivation scores. Also, low-income students who had increased family support also had increased self-efficacy.

When locus of control, perception of barriers, and self-efficacy were combined into one variable, background factors, the direct effect on intrinsic motivation was not was not statistically significant; however the mediated

effect through extrinsic motivation was statistically significant. This indicated that as students had more positive background factors, their perception of the utility of college to obtain an extrinsic goal increased, which in turn increased their intrinsic motivation.

The direct effect of friends support (the influence of friends on the student's decision to pursue college) was statistically significant in increasing nontraditional students' intrinsic motivation levels. Also, the indirect effects of friends support were statistically significant in increasing students' intrinsic motivation levels via locus of control, career goals, and via self-efficacy and career goals. Although all indirect effects were small, the highest increase in intrinsic motivation occurred through career goals, then locus of control, then via self-efficacy and career goals.

The effect of family support (the influence of family on the student's decision to pursue college) was not statistically significant in increasing intrinsic motivation levels directly. However, indirectly, family support via locus of control was statistically significant. Although the indirect effect was small, the results indicated that family support increased students' levels of locus of control, which in turn increased their intrinsic

motivation scores. There was also a statistically significant difference in levels of family support between the nontraditional student categories. Low-income only students had more family support than students in both the low-income and first-generation category. There were no differences between first-generation only students and students from both categories.

When friends support and family support were combined into one variable, environmental support, the direct effect on intrinsic motivation was not statistically significant; however the mediated effect through extrinsic motivation was statistically significant. Environmental support was also statistically significant in increasing background factors. Therefore, as students' environmental support increased, so did their perception of the utility of college to obtain their extrinsic goals which, in turn, increased their intrinsic motivation. Additonally, as students' environmental support increased, their background factors were more positive which increased their extrinsic motivation which, in turn, increased their intrinsic motivation.

The combined variables in the modified path model resulted in similar statistically significant paths as the original model. Both the initial and modified models

supported the theoretical foundation and hypotheses of the study.

Discussion of Results

Nontraditional Student Status

The results of this study indicate that nontraditional student status alone does not affect students' intrinsic or extrinsic motivation for attending college. However, the antecedents that influence their motivation can have positive effects. Although when the initial model was modified, there were no differences between the types of nontraditional student status categories, the results add to the current body of literature that identifies various types of profile characteristics among nontraditional college students by including motivation for college attendance and the antecedents that affect nontraditional students' motivation. (e.g., Astin, 1964; Bean & Metzner, 1985; Chaney et al., 1997; Choy, 2000; Cohen & Brawer, 2003; Coulson & Bradford, 1983; Gordon & Johnson, 1982; Green & Sturgeon, 1982; Hearn, 1992; Hughes, 1983; Metzner & Bean, 1987; Rossman & Kirk, 1970; Stage & Hossler, 1998; Terenzini et al., 2001; Valverde, 1986; Wei, 2002).

Extrinsic Motivation

This study supports the assertion in Ryan and Deci's (1985)Self-Determination Theory that extrinsically regulated behaviors, such as attending college for career attainment, can become intrinsically motivated when the behavior, of attending college, becomes concurrent with a student's other personal values and needs. Also supported is the claim from Miller and Brickman's (2004) Future-Oriented Motivation Theory, that a valued future goal, such as a desired career, can become a tool to regulate extrinsic behaviors (attending college to obtain a career goal) towards a more intrinsic motivation for attending college by making current activities (attending college) more meaningful when they are perceived instrumental to the attainment of a future goal (career goal).

This study contributes to existing research that focuses on how perceived instrumentality of current activities to achieve future goals can enhance students intrinsic motivation (Brickman & Miller, 2001; Brickman et al., 1997; DeBacker & Nelson, 1999; DeVolder & Lens, 1982; Green et al., 1999; Miller et al., 1996; Raynor & Entin, 1982) by supporting the assertion that the perception of college attendance, as a pathway to obtain a career goal,

can increase nontraditional students' intrinsic motivation for attending college.

Of the two extrinsic motivation constructs, career goals increased students' intrinsic motivation for college attendance. This result is consistent with Ryan and Deci's (1985) assertion that participation in an activity to attain a goal, such as career goal, is a type of extrinsic motivation associated with behavior that is consciously valued and self-determined, thereby capable of being transformed to an intrinsically motivated behavior.

The second extrinsic motivation construct, attending college to increase one's socioeconomic mobility, was included in this study because a college degree is perceived by many as a conduit to an improved economic status and social position. Such an extrinsically motivated reason for attending college could potentially be internalized by a nontraditional student and result in an increase in intrinsic motivation. However, the results of this study indicate that increased socioeconomic mobility, as a motivator for attending college, does not influence students' intrinsic motivation. This finding is consistent with Ryan and Deci's (1985) conclusion that participation in an activity in order to increase one's socioeconomic mobility is an extrinsically motivated behavior associated

with external rewards that are not internalized or self-determined and thereby, unlikely to become intrinsically motivated. Other studies also confirmed these findings. Ryan and Connell (1989) found that externally regulated behavior was negatively correlated with interest, value, and effort in achievement. Conversely, self-determined, extrinsically motivated behavior was associated with positive self-efficacy behaviors, more interest and enjoyment in school, and expending more effort(Connell & Wellborn, 1991). This finding was also confirmed by the results of the modified path model. When socioeconomic mobility was combined with career goals, their total effect on intrinsic motivation decreased indicating that the career goals variable alone had a stronger influence on intrinsic motivation.

Environmental Support

The results of this study in which the support of family and friends promotes an increase in career goals (extrinsic motivation), both directly and indirectly via self-efficacy and locus of control, is aligned with current literature that focuses on the antecedents of intrinsic motivation and internally regulated extrinsic motivation. Studies confirm that the elements that are associated with

extrinsically motivated behaviors that can be regulated into intrinsically motivated behaviors are influenced by the environmental and background factors that shape one's knowledge and experiences (Miller & Brickman, 2004; Miller et al., 2000). Vallerand, Fortier, and Guay (1997) also concluded that support from peers and family led to students feeling more autonomously motivated and self-efficacious, which resulted in less dropout behavior and more persistence. This result was further supported by the results of the modified path model which indicated that environmental support influences extrinsic motivation directly and indirectly through background factors.

Background Factors

The results of this study show that a positive locus of control can increase students' intrinsic motivation levels. This result was concomitant with Ryan and Deci's (1985, 2000) assertion that there is a correlation between one's locus of control and intrinsic motivation levels.

This study adds to the current research on students' self-efficacy by contributing the finding that an increase in a student's self-efficacy results in an increase in the student's perception of the utility of college to obtain a desired future career. This result is consistent with

current research (Bandura, 1986; Miller & Brickman, 2004; Ryan, 1995)which indicates that a student's level of self-efficacy in specific actions could influence the student's decision to select certain actions to obtain his or her target goal. In reference to higher education, students with low self-efficacy for completing college may not consider a college degree as a viable option to obtain their career, even though they may perceive college attendance as a viable pathway to career attainment. In this vein, self-efficacy has a significant influence on one's decision to pursue and complete college.

The results of this study deviates, however, from the current research (Bandura, 1986; Miller & Brickman, 2004; Ryan, 1995) which asserts that low outcome expectations for college completion could also decrease the likelihood that an individual would choose college as an option to obtain career goals. In the present study, the perception of barriers is defined as students' educational outcome expectations. The results indicate that perception of barriers does not significantly affect student's motivation levels directly or indirectly.

Perceived institutional barriers may be viewed by minority students as an extension of societal barriers.

Students' perceptions of barriers of this type have been well documented in the literature (Ogbu, 1978; Mickelson, 1990; Brint and Karabel, 1989, Ford, 1993; Fordham & Ogbu, 1986; Lent, Brown, & Hackett, 1994, 1996; Schunk, 1991). For minorities, systemic bias or interference can affect their willingness to commit to specific goals. Inequities in employment and education perceived by minorities, as cited in Ford (1993), Fordham & Ogbu (1986), Ogbu (1978), and Schunk (1991)can dissuade individuals from committing to goals that they feel are unattainable and out of their locus of control.

An inference from current research suggests that although students may perceive that there are societal and institutional barriers that serve as obstacles to their college completion, if however, students perceive that they ultimately have control over their college outcomes, i.e. a high level of locus of control, then their perception of the utility of college as viable option to obtain a desired career would increase regardless of their perception of the barriers to their success. Therefore, a student's perception of barriers to his or her educational outcome may not directly or indirectly influence extrinsic or intrinsic motivation for attending college if there is a positive locus of control. This assumption is supported by

the results of the modified path model when all three background factor variables were combined. The results indicated a direct effect on extrinsic motivation and an indirect effect on intrinsic motivation through extrinsic motivation.

Conclusions

On the basis of this study, two general conclusions can be deduced regarding the participants. First, nontraditional students that perceive college completion as instrumental to attain a valued career goal will have higher levels of intrinsic motivation for college attendance than their counterparts who do not perceive the completion of college as instrumental to the attainment of a valued career goal.

Second, nontraditional students with positive support from friends and family and positive levels of locus of control and self-efficacy will more likely perceive college as a viable pathway to obtain their career goals and will thereby have higher levels of intrinsic motivation than their counterparts that do not have positive background factors and environmental support.

Implications of the Findings

Based on the findings from this study, the following key implications are presented. First, the theoretical foundation for this research was Ryan and Deci's Self-Determination Theory and Miller and Brickman's Future-Oriented Motivation Theory. Given that research on the motivation orientation of nontraditional community college students is extremely limited this study extends the scope of motivation research to include the nontraditional student population.

Second, nontraditional students were found to have increased intrinsic motivation when their perception of college attendance was instrumental to obtaining their career goals. These findings contribute to prior findings that valued future goals can enhance students' motivation for attending college.

Third, nontraditional students that receive support from friends and family members were more likely to perceive college attendance as instrumental to achieving their career goals, thereby increasing their intrinsic motivation for attending college. This finding contributes to previous research results that suggest that the external environment to the college campus is an important factor for nontraditional college students.

Positive influences from outside the college can have positive effects on nontraditional students' academic motivation orientation.

Fourth, a positive correlation was found between nontraditional students' locus of control and their intrinsic motivation for college attendance, regardless of their perception of the instrumentality of college for attainment of their career goals. Locus of control also increased when students indicated positive support from family and friends. This finding contributes to current motivation research results that suggest that one's perceived locus of control in an activity can enhance one's intrinsic motivation in that activity. Although the proportion of the correlation between locus of control and intrinsic motivation was not very large, the significance of the relationship contributes to the current literature by extending the construct of locus of control to the motivation orientation of nontraditional students. There is a gap in current literature on the relationship between locus of control and the college success of nontraditional students. The findings of this study provide insight to this potential area of investigation and warrants further research.

Finally, self-efficacy was found to increase nontraditional students' perceptions that college attendance is instrumental to attaining their career goals, which positively influenced their intrinsic motivation levels for attending college. Self-efficacy was also positively influenced when students indicated support from family and friends. These finding contribute to prior research findings which suggest a positive self-efficacy in a particular behavior or activity is associated with higher levels of internalization of the activity, thereby increasing intrinsic motivation for the activity. These findings also suggest that postsecondary institutions interested in improving the retention of nontraditional students should provide services to enhance students' self-efficacy for college completion.

Limitations of the Study

The data in this study provided some insight into the variance of nontraditional students intrinsic motivation levels for attending college. However, the results indicate that a significant portion of the variance remains unexplained. The following methodological limitations may provide some explanation.

The number of parameters analyzed warranted a larger sample size. The small sample size may have contributed to potential sampling errors which could have negatively impacted the results. Also, the sample for this study consisted of 151 African-American community college students. The lack of diversity of the sample limits the generalizability of the results making the findings sample specific to African-American, nontraditional community college students.

Participants were not traditional-age college students. The median age range was 26-30 years. Although the constructs of family support and friends support were significant in increasing extrinsic and intrinsic motivation, the survey used to measure these constructs, the Factors Influencing Pursuit of Higher Education Questionnaire, was designed with traditional college students as the target population. Therefore, the scale for the family and friends support constructs did not include statements to determine support from students' spouses, children, employers, or co-workers. This omitted data would have provided vital information about the participants and perhaps allowed the investigator to disaggregate how different types of environmental support affected the other constructs in the study.

Multiple constructs were included in this study and all of the data were collected during one administration of the two surveys. The lengthiness of the surveys could have contributed to students losing focus on the items and not providing thoughtful responses, which could have skewed the result of the study.

Recommendations

Recommendations for Future Research

The results of this study are consistent with the research of Bean and Metzner (1985) and Tinto (1993) in which goal commitment and educational aspirations are important variables in measuring the persistence and motivation of nontraditional students. This study indicates that nontraditional students' career goals can significantly affect their motivation orientation by increasing their level of intrinsic motivation for attending college. Although the present study did not address persistence specifically, Deci and Ryan (1985) suggest behaviors that are intrinsically motivated are more sustainable and the likelihood of persistence in such behaviors is greater. Therefore, the results of this study warrants further investigation into how intrinsic motivation levels vary among the persistence rates of

nontraditional students. Particularly since this study complements Tinto's (1993) conclusions that student's reasons to attend college are important predictors of completion, if college completion is aligned with a career goal. The stronger this link the more likely the student will complete college. Vallerand and Bissonnette (1992) conducted a similar study with Canadian junior college students and concluded that dropouts had significantly lower scores on intrinsic motivation and internally regulated extrinsic motivation than those that persisted. However, no such investigation has been conducted with traditional or nontraditional students in the United States.

The findings of this study suggest that increases in nontraditional students' locus of control were associated with increases in intrinsic motivation levels. Although the proportion of intrinsic motivation explained by locus of control was small, further investigation is warranted because the current literature on the effect of locus of control on nontraditional students' college success is very limited. Further research would add insight to current literature on community college students, retention and persistence, and motivation.

This study found that support from family and friends increases nontraditional students' self-efficacy, locus of control, perception that college is instrumental to career goal attainment, and intrinsic motivation. As noted in the limitations section of this chapter, the community college students that participated in this study were not traditional college-age students and data reflecting the support from students' spouses, children, and work environment were not collected. Therefore, further investigation is warranted to determine how support from a nontraditional student's immediate family and work influences impact his or her background factors, extrinsic motivation, and intrinsic motivation.

Recommendations for Practice

The results of this study could guide community college administrators in gathering background information on their new and returning students, including the level of external support from their families and friends for their decision to attend college, their career goals (not just college majors), outcome expectations for achieving success, and their perceived barriers to their success. This information could be used to develop population profiles to determine how to better utilize academic and

support service resources to enhance students' intrinsic motivation levels.

As previously indicated, the results of this study confirm Miller and Brickman's (2004) assertion of how extrinsic motivation can lead to increases in intrinsic motivation. However, they warn that the instrumentality of current activities, such as college attendance, is crucial in the persistence of those activities. The current activity must be perceived as instrumental in obtaining the future goal for the individual to ascribe value to the activity and thereby persist in it. Therefore, the results of this study could be used to broaden the current knowledge of practitioners working specifically with nontraditional students. This could enhance their understanding of increasing the value of college attendance for students by reinforcing students' perceptions of the instrumentality of a college degree to obtain their desired career goals. This in turn, could regulate students' attendance and achievement towards becoming more intrinsically motivated, which according to Deci and Ryan (1985) could increase their persistence rates.

Oftentimes, career attainment is perceived as something that occurs when the college process is completed. However, this study along with the other

current research cited suggest that career attainment should be part of the college process, particularly for nontraditional students, if institutions are sincerely interested in their retention. Practitioners in academic advising, counseling, and career services could help students to determine their goals for attending college, assist them in setting proximal goals each semester as part of a larger target goal, and provide services that could help them to maintain their course towards graduation. This type of assistance, over time, would assist students in valuing the college process as an integral part of something they currently value, their career goals. This internalization process would increase their perception of the instrumentality of college completion to attain their career goals, thus encouraging them to maintain their course and persist.

Studies such as this one that provide more than just the risk factors that are associated with nontraditional, community college students are vital for community college administrators. The insights offered by this study can enhance community college services and provide institutions with more tools to combat the sustaining problem of low persistence rates among nontraditional students.

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Appendix A

Survey Instruments

PURPOSE: The following questionnaires will gather information regarding the factors that influence low income, first generation and/or community college students' decisions to pursue higher education and their motivation for attending college. It should take approx. 15 minutes to complete the questionnaires. Participation is voluntary and all responses will be confidential. Instructions are located at the top of each questionnaire. Be sure to complete each item and answer as honestly as possible. Return the questionnaires to the administrator when you are finished. Thank you for your participation.

For each demographic item below, mark an "X" in the parenthesis next to the response that applies to you.

1.) What is your age?
( ) 20 or less
( ) 21-25
( ) 26-30
( ) 31-35
( ) 36-40
( ) 41-45
( ) 46-50
( ) 51-55
( ) 56+

2.) What is your gender? ( ) Male ( ) Female

3.) What is your attendance status? ( ) Fulltime ( ) Part time

4.) What is your college classification?
( ) First-semester freshman ( ) Continuing freshman ( ) Sophomore

5.) Do either of your parents have an Associates or Bachelor's degree?
( ) Yes ( ) No

6.) What is your household income level?

( ) under $14,355
( ) $14,356 - $19,245
( ) $19,246 - $24,135
( ) $24,136 - $29,025
( ) $29,026 - $33,915
( )$33,916 - $38,805
( ) $38,806 - $43,695
( ) $43,696 - $48,585
( ) $48,586+

7.) What is your size of household? 1 2 3 4 5 6 7 8

ACADEMIC MOTIVATION SCALE (AMS-C 28)

COLLEGE 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

WHY DO YOU GO TO COLLEGE ?

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.

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?

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 education will help me to 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. For the pleasure I experience while surpassing myself in my studies.	1	2	3	4	5	6	7
6. In order to obtain a more prestigious job later on.	1	2	3	4	5	6	7
7. For the pleasure I experience when I discover new things never seen before.	1	2	3	4	5	6	7
8. Because eventually it will enable me to enter the job market in a field that I like.	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?

9. For the pleasure that I experience when I read interesting authors.	1	2	3	4	5	6	7
10. For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.	1	2	3	4	5	6	7
11. Because I want to have "the good life" later on.	1	2	3	4	5	6	7
12. For the pleasure that I experience in broadening my knowledge about subjects that appeal to me.	1	2	3	4	5	6	7
13. Because this will help me make a better choice regarding my career orientation.	1	2	3	4	5	6	7
14. For the pleasure that I experience when I feel completely absorbed by what certain authors have written.	1	2	3	4	5	6	7
15. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.	1	2	3	4	5	6	7
16. In order to have a better salary later on.	1	2	3	4	5	6	7
17. Because my studies allow me to continue to learn about many things that interest me.	1	2	3	4	5	6	7
18. Because I believe that a few additional years of education will improve my competence as a worker.	1	2	3	4	5	6	7
19. For the "high" feeling I experience while reading about various interesting subjects.	1	2	3	4	5	6	7
20. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.	1	2	3	4	5	6	7

FACTORS INFLUENCING PURSUIT OF HIGHER EDUCATION (FIPHE) QUESTIONNAIRE

Dr. Sandra M. Harris
Troy State University Montgomery

INSTRUCTIONS: Following is a series of statements regarding the factors that influence a person's decision to pursue higher education. There are no correct responses. Please respond to each item as honestly as possible. Complete the questionnaire by marking the response closes to your agreement or disagreement with each statement. If a statement does not apply to you mark not applicable. If a statement currently does not apply to you ***but*** has applied in the past, answer the statement as you would have in the past.
For Example:

- If you do not have siblings you should mark (NA) Not Applicable for those items.
- If a parent is *currently* deceased, but the statement applied to you in the past, respond to the statement based on your past experience. If the statement did not apply in the past mark (NA) Not Applicable
- If you live or have lived with only one parent in a single parent home do not simply mark (NA) Not Applicable for statements regarding your other parent. Mark the response that *actually* applies.

	(SA) Strongly Agree	(A) Agree	(D) Disagree	(SD) Strongly Disagree	(NA) Not Applicable
1. My father encouraged me to go to college.	(SA)	(A)	(D)	(SD)	(NA)
2. My mother encouraged me to go to college.	(SA)	(A)	(D)	(SD)	(NA)
3. My mother is excited about my being college.	(SA)	(A)	(D)	(SD)	(NA)
4. My father is excited about my being college.	(SA)	(A)	(D)	(SD)	(NA)
5. My mother did not stress the importance of having a college education.	(SA)	(A)	(D)	(SD)	(NA)
6. My father stressed the importance of having a college education.	(SA)	(A)	(D)	(SD)	(NA)
7. My mother told me about the demands I would face in college.	(SA)	(A)	(D)	(SD)	(NA)
8. My father did not tell me about the demands I would face in college.	(SA)	(A)	(D)	(SD)	(NA)
9. I can talk to my mother about my college experience.	(SA)	(A)	(D)	(SD)	(NA)
10. I can talk to my father about my college experience.	(SA)	(A)	(D)	(SD)	(NA)

	(SA) Strongly Agree	(A) Agree	(D) Disagree	(SD) Strongly Disagree	(NA) Not Applicable
11. I can talk to my mother about my career goals for after college.	(SA)	(A)	(D)	(SD)	(NA)
12. I cannot talk to my father about my career goals for after college.	(SA)	(A)	(D)	(SD)	(NA)
13. My father expects me to earn good grades in college.	(SA)	(A)	(D)	(SD)	(NA)
14. My mother expects me to earn good grades in college.	(SA)	(A)	(D)	(SD)	(NA)
15. My father was a good role model for influencing me to go to college.	(SA)	(A)	(D)	(SD)	(NA)
16. My mother was a good role model for influencing me to go to college.	(SA)	(A)	(D)	(SD)	(NA)
17. My grandparents tried to discourage me from going to college.	(SA)	(A)	(D)	(SD)	(NA)
18. My sister(s) encouraged me to go to college.	(SA)	(A)	(D)	(SD)	(NA)
19. My brother(s) encouraged me to go to college.	(SA)	(A)	(D)	(SD)	(NA)
20. My brother is excited about me being in college.	(SA)	(A)	(D)	(SD)	(NA)
21. My sister is excited about me being in college.	(SA)	(A)	(D)	(SD)	(NA)
22. My other relatives stressed the importance of having a college education.	(SA)	(A)	(D)	(SD)	(NA)
23. My grandparents are aware of the demands I face in college.	(SA)	(A)	(D)	(SD)	(NA)
24. My sister is aware of the demands I face in college.	(SA)	(A)	(D)	(SD)	(NA)
25. My brother is aware of the demands I face in college.	(SA)	(A)	(D)	(SD)	(NA)
26. My other relatives are not aware of the demands I face in college.	(SA)	(A)	(D)	(SD)	(NA)
27. I can talk to my grandparents about my college educational plans.	(SA)	(A)	(D)	(SD)	(NA)
28. My friends don't understand the demands I face in college.	(SA)	(A)	(D)	(SD)	(NA)

	(SA)	(A)	(D)	(SD)	(NA)
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**	**Not Applicable**
29. I find it easy to make friends in the college setting.	(SA)	(A)	(D)	(SD)	(NA)
30. I have not met any new friends during the time I have been in college.	(SA)	(A)	(D)	(SD)	(NA)
31. I cannot talk to my friends about my college experiences.	(SA)	(A)	(D)	(SD)	(NA)
32. I cannot talk to my friends about my career goals after college.	(SA)	(A)	(D)	(SD)	(NA)
33. I do not have a college student friend who I can talk to about my college educational plans.	(SA)	(A)	(D)	(SD)	(NA)
34. My race does not limit my choice of college majors.	(SA)	(A)	(D)	(SD)	(NA)
35. My gender does not limit my choice of college majors.	(SA)	(A)	(D)	(SD)	(NA)
36. Society limits my choice of college majors.	(SA)	(A)	(D)	(SD)	(NA)
37. My professors cannot limit my choice of college majors.	(SA)	(A)	(D)	(SD)	(NA)
38. The university administrators cannot limit my choice of college majors.	(SA)	(A)	(D)	(SD)	(NA)
39. I chose my college major because I am good at it.	(SA)	(A)	(D)	(SD)	(NA)
40. My father influenced my choice of college majors.	(SA)	(A)	(D)	(SD)	(NA)
41. My mother encouraged me to pursue my college major.	(SA)	(A)	(D)	(SD)	(NA)
42. I chose my college major because I like the subject matter.	(SA)	(A)	(D)	(SD)	(NA)
43. I chose my college major because I find the work challenging.	(SA)	(A)	(D)	(SD)	(NA)
44. I chose my college major because I find the work satisfying.	(SA)	(A)	(D)	(SD)	(NA)
45. I picked my college major because I find it interesting.	(SA)	(A)	(D)	(SD)	(NA)
46. I can major in any college major I want.	(SA)	(A)	(D)	(SD)	(NA)

	(SA)	(A)	(D)	(SD)	(NA)
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**	**Not Applicable**
47. I have the power to achieve my educational goals.	(SA)	(A)	(D)	(SD)	(NA)
48. If I become unhappy with my life, I can do something to change it.	(SA)	(A)	(D)	(SD)	(NA)
49. When bad things happen, I can make the best of the situation.	(SA)	(A)	(D)	(SD)	(NA)
50. The good things that happen in my life are the result of my working to make them happen	(SA)	(A)	(D)	(SD)	(NA)
51. Each person controls his or her own fate.	(SA)	(A)	(D)	(SD)	(NA)
52. Each person has the power to make life better or worst.	(SA)	(A)	(D)	(SD)	(NA)
53. I have no control over my future.	(SA)	(A)	(D)	(SD)	(NA)
54. No matter how hard I work, I won’t succeed at anything I do.	(SA)	(A)	(D)	(SD)	(NA)
55. I can be successful in any college major that I choose.	(SA)	(A)	(D)	(SD)	(NA)
56. I consider myself a good college student.	(SA)	(A)	(D)	(SD)	(NA)
57. I believe that I will be successful in my college major.	(SA)	(A)	(D)	(SD)	(NA)
58. I feel that I will be successful in my future career.	(SA)	(A)	(D)	(SD)	(NA)

THANK YOU!!!

Appendix B

Federal TRIO Programs Low-Income Guidelines

Federal TRIO Programs
2006 Annual Low Income Levels
http://www.ed.gov/about/offices/list/ope/incomelevels.html

(Effective February 2006 Until Further Notice)

Size of Family Unit	48 Contiguous States, D.C., and Outlying Jurisdictions	Alaska	Hawaii
1	$14,700	$18,375	$16,905
2	$19,800	$24,750	$22,770
3	$24,900	$31,125	$28,635
4	$30,000	$37,500	$34,500
5	$35,100	$43,875	$40,365
6	$40,200	$50,250	$46,230
7	$45,300	$56,625	$52,095
8	$50,400	$63,000	$57,960

For family units with more than 8 members, add the following amount for each additional family member: $5,100 for the 48 contiguous states, the District of Columbia and outlying jurisdictions; $6,375 for Alaska; and $5,865 for Hawaii.

The term "low-income individual" means an individual whose family's taxable income for the preceding year did not exceed 150 percent of the poverty level amount.

The figures shown under family income represent amounts equal to 150 percent of the family income levels established by the Census Bureau for determining poverty status. The poverty guidelines were published by the U.S. Department of Health and Human Services in the Federal Register, Vol. 71, No. 15, January 24, 2006, pp. 3848-3849.