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A Model Of Nontraditional College Student Motivation And Success

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A MODEL OF NONTRADITIONAL COLLEGE STUDENT
MOTIVATION AND SUCCESS

by

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A Dissertation

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of the

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In partial fulfillment of the requirements

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Doctor of Philosophy

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This dissertation, submitted by Masela A. Obade in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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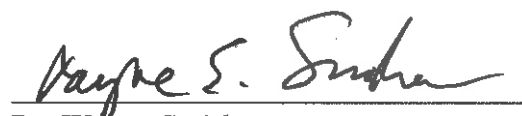Dr. Robert H. Stupnisky, Chairperson

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This dissertation is being submitted by the appointed advisory committee as having met all of the requirements of the Graduate School at the University of North Dakota and is hereby approved.

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Dr. Wayne Swisher
Dean of the Graduate School

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June 28, 2013
Date

PERMISSION

Title   A Model of Nontraditional College Student Motivation and Success

Department   Teaching and Learning

Degree   Doctor of Philosophy

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Masela A. Obade
August 2, 2013

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ABSTRACT

Despite the increase in their college enrollment, nontraditional students in U.S. postsecondary institutions are less likely to stay in college until they earn their degree. What could explain nontraditional student high attrition rates and overall success beyond what their demographic characteristics reveal? The purpose of this study was to examine the role of achievement motivation in predicting nontraditional student college success using the expectancy-value theory (Eccles et al., 1983) and achievement goals theory (Dweck, 1986; Maehr, 1989; Nicholls, 1984). A *Model of Nontraditional College Student Motivation and Success* was tested using a sample of undergraduate students enrolled in various majors at a High Research Activity University. The model comprised of nontraditional student status, balance self-efficacy, subjective task value, and achievement goals as the independent variables. Success expectancies, intent to persist, and well-being perceptions were the dependent variables. A 77-item online survey was administered one month into the fall semester and was completed by 377 students. The survey data were analyzed using quantitative statistical methods including t-tests, correlations, and multiple regressions. Findings demonstrated that although nontraditional students exhibited higher odds of failure in college than traditional students, their motivation factors were more robust predictors of their college outcomes. Balance self-efficacy, performance-approach goals, mastery-approach goals, and utility value were positive predictors of nontraditional student success outcomes. These results

have theoretical implications for further research on nontraditional student motivation and success, as well as practical implications for educators and practitioners who are looking for ways to enhance these students' success in college.

CHAPTER I

INTRODUCTION

Tales of unaccomplished dreams in the form of unfinished college degrees abound. These stories are rampant among nontraditional students who typically experience higher attrition rates from college when compared to their traditional counterparts (National Center for Education Statistics, NCES, 2002). I have personally interacted closely with nontraditional students in both formal and informal settings, and hearing about their struggles to balance the demands of college with family and/or employment obligations, I began to think about their college outcomes. I wondered which factors facilitate these students' persistence considering the odds against them. What qualities might distinguish the nontraditional student who persists in college from the majority who leave prematurely? Do these qualities consist of the often talked about demographic characteristics, such as age or social economic background? Or do they consist of less discernible traits and dispositions such as a student's motivation to succeed?

Who is Nontraditional?

Nontraditional students have been defined in the higher education research literature as undergraduates who have at least one or more of the following characteristics: delayed college enrollment after graduating high school, working full time while enrolled, financially independent, attend college part-time, have dependents,

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obtained a general education development certificate (GED) rather than a standard high school diploma, or single parenthood (Horn, 1996). In addition, undergraduate students older than 24 years of age and those who are married are typically classified as nontraditional (Kasworm & Pike, 1994), hence they are often also called adult learners (Merriam, Caffarella, & Baumgartner, 2007). These students' demographic profiles and attendance patterns depart from the historical prototype of a traditional student in the U.S. (Horowitz, 1987; Thelin, 2011).

Researchers have argued that nontraditional students are distinct from their traditional peers in ways that have negative implications for their success in college (Kim, Sax, Lee, & Hagedorn, 2010; Levin, 2007). As Deutsch and Schmertz (2011) noted, these students are entering postsecondary institutions with a heavier role burden based on their 'adult' life experiences than traditional students and thus have different sets of needs. Perhaps the most distinctive feature of nontraditional students is that they simultaneously combine their college education with other significant roles, such as caring for dependents and full-time employment.

Nontraditional Student Enrollment: Current Trends and Trajectories

Over the last four decades, the college student demographic in the U.S. has changed dramatically with the increase in nontraditional student enrollment. According to analyses of college student data from the National Center for Education Statistics (NCES, 2002) the majority of students enrolled in postsecondary institutions are nontraditional. Between 1970 and 1999, fall enrollment of nontraditional students almost doubled, growing from 7.4 to 12.7 million. In a 1999 - 2000 cohort of first-time (i.e., not reentry), first-year undergraduates enrolled in postsecondary institutions in the U.S., at

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least 73% were considered nontraditional. The study revealed that more students were enrolled part time (39% versus 28%), and 39% of all postsecondary students were at least 25 years or older in 1999 compared with only 28% in 1970.

Reeves and her colleagues (Reeves, Miller, & Rouse, 2011) conducted an analysis of a more recent data set (i.e., 2007-2008 NCES college student data) and provided support for the rising enrollment trends observed in the NCES (2002) study. The authors' analysis revealed that 70% of today's college students have one or more nontraditional characteristic(s). Almost half (47%) of college students were financially independent, and approximately one third (32%) reported working full-time and/or delaying college enrollment after high school. Approximately a quarter (26%) reported attending college part-time, and fewer than 15% indicated they had at least one dependent (14%), were single parents (12%), or did not have a high school diploma (11%). In another study (NCES, 2008), nontraditional students' enrollment in degree-granting postsecondary institutions grew by 18% from 1995 through 2000, and a steeper rise of 21% was projected to occur between 2005 and 2016.

Overall, these enrollment statistics demonstrate that nontraditional college students continue to represent the vast majority of undergraduates at today's postsecondary institutions and their enrollment is surpassing that of traditional students. In fact, the growth of nontraditional student enrollment has been observed globally and is thus not unique to the U.S. as demonstrated by a study of higher education enrollment trends in 10 countries namely: Austria, Australia, Canada, Germany, Ireland, Japan, New Zealand, Sweden, United Kingdom, and the U.S. (Schuetze, & Slowey, 2002).

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Disproportionately High Attrition Rates

Despite their dramatic and consistent growth however, nontraditional students in the U.S. are less likely to persist and graduate from college compared to their traditional counterparts (NCES, 2002, 2011). In fact, nontraditional students, when compared to traditional students, are twice as likely to leave college without earning a degree (NCES, 2002; NCES, 2011; Radford, Berkner, Wheeless, & Shepherd, 2010). Within a five year period, among the nontraditional students who had enrolled to obtain a bachelor's degree (rather than certificates), only 31% had earned one after five years, compared with 54% of traditional students (NCES, 2002). In addition, a larger proportion (33%) of nontraditional undergraduates compared to traditional students (19%) had left college without earning a degree (NCES, 2002). Recent evidence (NCES, 2011) shows that the trend of low persistence continues unabated as fewer nontraditional students had earned a degree six years after their initial enrollment than traditional students. It is essential that higher education stakeholders get a better understanding of factors that promote these students' success in college. What other factors could explain nontraditional students' success in college?

The Purpose of the Current Study

Student motivation has gained prominence as a viable explanation for student college success (Robbins et al., 2004), yet studies of nontraditional students' motivation are limited. The purpose of the current study was to examine the role of achievement motivation in predicting nontraditional student success using the expectancy-value theory of achievement motivation (Eccles et al., 1983) and achievement goals theory (Dweck, 1986; Maehr, 1989; Nicholls, 1984). My rationale was premised on the

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assumption that a better understanding of the achievement motivation factors of nontraditional students will enable colleges to respond to the needs of these students more appropriately and help them succeed.

Why Does Their Success Matter?

The fact that many nontraditional students enroll in college and fail to graduate is concerning for a number of reasons. First, by failing to earn their degrees, these students lose the benefits of a college education, which include psychological development (e.g., self-esteem, self-concept, and autonomy), improvements in interpersonal relations, and leadership skills (Pascarella & Terenzini, 2005). Second, nontraditional students are better served when they complete their degree because as Melguizo (2011) stated, a college education is an investment in human capital and represents a set of knowledge, skills, abilities, and attitudes that increase an individual's productivity and lifetime earnings.

Third, as Merriam et al. (2007) observed, more adult learners in the U.S. are seeking higher education mainly to survive in the job market. The authors contend that nontraditional students have been pushed to improve their skills because of the technologically advanced job market, an unpredictable global economy, rapidly changing skill sets needed to stay competitive, and the decrease in manufacturing jobs that did not require college training making a college degree vital. Finally, Hostetler, Sweet, and Moen (2007) have made similar observations and attribute the rising enrollments of nontraditional students to a desire to advance career goals and increase earning potential. Therefore, it is thus critically important that college educators and practitioners more fully understand the factors that impact nontraditional students' success in college.

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Important questions concerning nontraditional students' college success remain unanswered as most of the extant research has focused on the impact of their demographic characteristics to explain their college experiences and outcomes (Horn, 1996; NCES, 2002).

Student Achievement Motivation: A Theoretical Framework

Motivation is defined as the energy or catalyst that triggers a person to make choices, pursue certain purposes, and to focus in a particular direction (Brophy, 1983). A wealth of research suggests that student motivation factors constitute robust predictors of achievement outcomes. Atkinson (1957) offered one of the earliest models to explain the principles of motivation in achievement contexts in his expectancy-value model of achievement motivation. Atkinson postulated that motivation explains three critical issues related to human behavior. First, motivation accounts for an individual's selection of one course of action among a set of possible alternatives. Second, motivation accounts for the diligence or intensity of pursuit once an action is initiated. Third, motivation determines for how long involvement in the chosen task will persist. The strength of a person's motivation, Atkinson further explained, depends on the strength of the person's motive or reason for involvement, the expectancy or probability of success in the chosen task, and the incentive value that the task holds.

A large body of empirical research on student achievement motivation has substantiated achievement motivations' positive influence on student achievement related strivings and subsequent success. In a meta-analysis of 109 studies containing motivational variables (e.g., academic goals, institutional commitment, perceived social support, social involvement, academic self-efficacy, and general self-concept), Robbins

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and his colleagues (2004) found that achievement motivation was the best predictor of students' grade point averages (GPAs). Additional regression analyses from that study revealed the incremental contributions of the tested motivational factors over and above the variance explained by socioeconomic status, standardized achievement scores, and high school GPA in predicting college outcomes. More recently, Richardson, Abraham, and Bond (2012) conducted another meta-analysis in which they reviewed 13 years of research on the antecedents of university students' GPAs. Their findings demonstrated that motivational factors were some of the most substantive correlates of students' performance. More relevant to the current study, the mediating role of motivation was demonstrated in a meta-analysis that linked college success intervention strategies and college outcomes (Robbins, Oh, Le, & Button, 2009). The authors concluded that student motivation factors enhance the efficacy of success intervention strategies. However, most of the motivation studies that were included in the three aforementioned meta-analyses focused on traditional students without specific mention of nontraditional students.

To date, just a few empirical studies exist that have examined motivation factors with samples of nontraditional students (e.g., Bye, Pushkar, & Conway, 2007; Metzner & Bean, 1987; Quimby & O'Brien, 2006; Spitzer, 2000). In order to provide multiple-theme explanations, existing nontraditional student success models (e.g., Bean & Metzner, 1985; Metzner & Bean, 1987) include motivation as one factor among many other factors that influence college outcomes. I do not oppose such an approach because as Bean (2005) observed, student success and persistence in particular, is a complex issue that requires a multifaceted approach to explain. It is, in fact, reasonable to argue that no single set of factors can fully account for why some students fail in college and others

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succeed. However, by focusing on a wide explanatory paradigm of college success outcomes, researchers may have inadvertently missed the opportunity to delve deeper into the role of nontraditional student motivation specifically. In my literature search, I did not find a nontraditional student motivation model that is framed around a prominent achievement motivation theory. The current study aims to fill this research gap and is designed to apply the achievement motivation research to nontraditional students and their success in college.

The Model of Nontraditional College Student Motivation and Success

The proposed *Model of Nontraditional College Student Motivation and Success* (Figure 1) is based on the expectancy-value theory of achievement motivation (Eccles et al., 1983; Eccles & Wigfield, 2002; Wigfield & Eccles, 2000) and achievement goals theory (Dweck, 1986; Maehr, 1989; Nicholls, 1984). The two theories provided a useful framework for understanding the factors that may influence nontraditional student achievement motives, and subsequently how these factors impact their college success outcomes. The current model is based on the basic premise that although nontraditional students face daunting challenges in their pursuit of a college education as a result of their demographic characteristics, their motivational dispositions could mediate their college outcomes.

Nontraditional Student Motivation and Success: A Conceptual Framework

In developing the conceptual framework of the current Model of Nontraditional College Student Motivation and Success, the work of Bean and Metzner (1985) proved very informative. In their Conceptual Model of Nontraditional Student Attrition, Bean and Metzner proposed a number of factors as central to nontraditional student attrition in

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College Success outcomes

- Intent to persist
- Expected term GPA
- Perceived course success
- Perceived college success
- Life satisfaction
- Health

Motivation factors

- Balance Self-efficacy
- Subjective Task-Value
- Achievement Goals

Nontraditional Status
- 8 Characteristics
- 3 Intensity levels
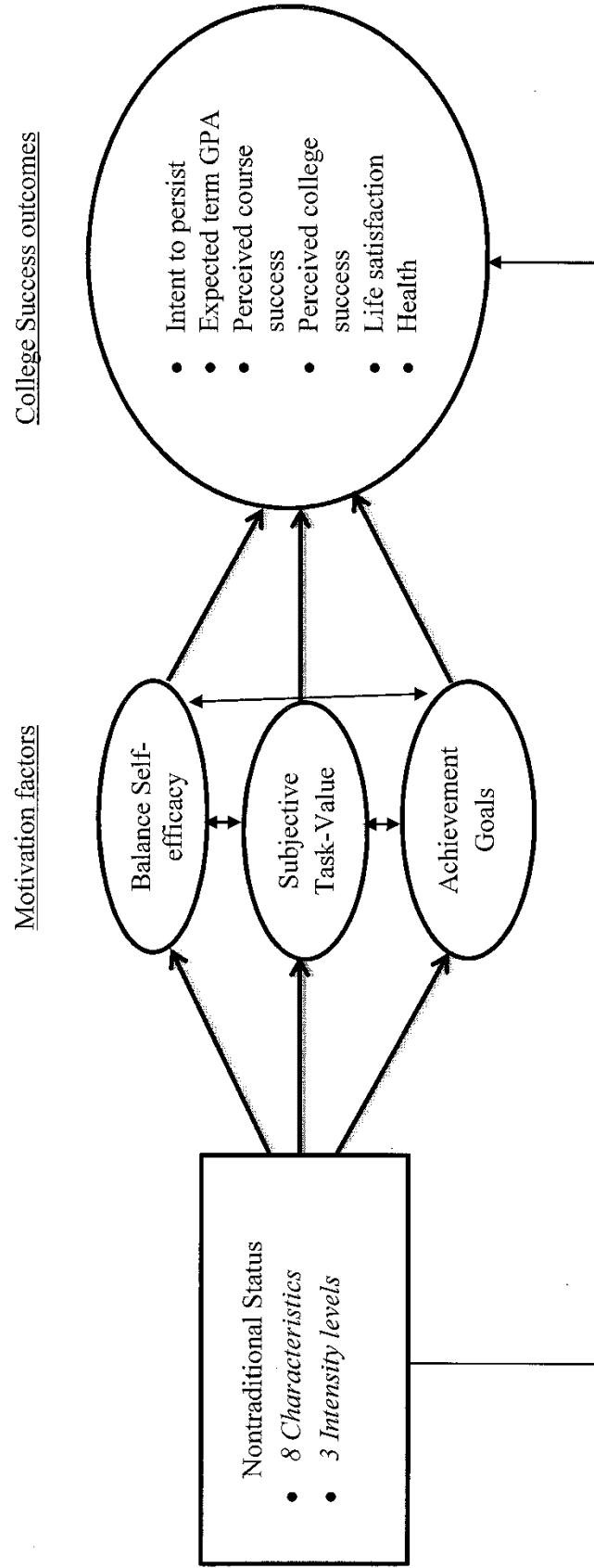
Figure 1. The Model of Nontraditional College Student Motivation and Success.

college including background (demographic), academic, environmental, social, and psychological factors. Particularly relevant to the current study's model was Bean and Metzner's (1985) emphasis on two key compensatory or mediating effects in their model: nontraditional students' characteristics and student motivation (psychological) factors.

Bean and Metzner argued that although environmental variables (e.g., hours of employment, family responsibilities) and academic variables (e.g., GPA) are both important, environmental factors supersede academic outcomes when it comes to influencing nontraditional students' intent to leave or stay in college. For instance, the authors reiterated that if a student cannot find adequate childcare, adequate finances, or flexible work schedules, they simply will not persist, even if they receive adequate academic support or get good grades. In other words, the barriers presented by nontraditional student demographic characteristics deter college persistence despite adequate academic support and performance. Second, Bean and Metzner (1985) also noted the mediating role of motivational factors on persistence and argued that students may drop out of college despite high GPAs if they perceive low levels of utility, satisfaction, goal commitment, or have high levels of stress. The currently proposed Model of Nontraditional College Student Motivation and Success builds on and extends Bean and Metzner's work.

First, the current model is based on Bean and Metzner's (1985) assumption that nontraditional characteristics constitute a critical component of whether these students will stay in college or not. Nontraditional student status, however, is operationalized using a more comprehensive definition that encompasses eight characteristics that have specifically been shown to deter persistence in college. The effects of these

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nontraditional student characteristics are integrated into the current model using Horn's (1996) definition of nontraditional students, to account for the barriers that nontraditional students face in college.

Second, the current model is based on the assumption that nontraditional students can still be successful in college, despite their reduced odds of success, depending on their motivational dispositions. In the current model, three motivational factors, namely, balance self-efficacy, subjective task value, and achievement goals are included as mediators between nontraditional student status and college success outcomes. Thus, unlike in Bean and Metzner's model, where motivation factors do not constitute a major component of the model, the current model is conceptualized on the mediating role of student motivation, in the relationship between nontraditional status and college success. In summary, the current model is conceptually informed by Bean and Metzner's (1985) work and theoretically based on the expectancy-value theory and achievement goal theory. A detailed discussion (including definitions and a review of related literature of each component of the current model) will be presented in Chapter II.

Research Questions

The following three research questions were designed to guide the testing of the proposed model:

1. What are the relationships between nontraditional student status and motivational factors, intent to persist, success expectations, and well-being perceptions?

2. Do nontraditional students differ from their traditional counterparts in their motivational dispositions (balance self-efficacy, subjective task value, and achievement goals), intent to persist, success expectancies, and well-being perceptions?

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3. Can nontraditional students' intent to persist, success expectations, and well-being perceptions be predicted by their balance self-efficacy, subjective task value, and achievement goals? And if so, what is the relative importance of each of the motivation variables in explaining the outcome variables?

Significance of the Current Study

The current research was intended to fill existing gaps within the nontraditional student literature and to extend the existing body of knowledge in four important ways. First, instead of the widely studied demographic, institutional, and academic factors as predictors of college outcomes, the current study will focus on student motivational dispositions and their effect on college success. Second, the current study will broadly define success in college to include not only academic achievement, but also persistence and well-being. These three dimensions of success provide a more comprehensive depiction of nontraditional student college outcomes. Third, whereas many studies of nontraditional students have used age as the predominant defining criterion, a more inclusive definition is comprised of eight nontraditional characteristics is used in the current study. This definition broadens the scope of nontraditional student research, furthers our understanding of who these students are and their needs. Finally, even though it has been demonstrated that nontraditional characteristics deter college success, the relationship between nontraditional intensity level (i.e., the number of nontraditional characteristics a student possess) and student motivation and success outcomes remain unexplored. Delineating which nontraditional students are most vulnerable to failure in college would inform strategic planning of success interventions and help focus resource

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allocation. With these contributions in mind, the current study should be interpreted within the confines of its limitations.

Limitations of the Current Study

The current study's design was limited in some respects. First, the sample was drawn from a single institution with a predominantly Caucasian student body population, which could limit the generalizability of the results to a more diverse ethnic, cultural, and geographical student population. Second, the use of a cross-sectional rather than a longitudinal design could limit our understanding of student motivation from a developmental perspective when we consider that students' experiences change and their perceptions evolve as they progress through college. Third, the use of students' intention to persist and performance expectations as outcome variables rather than actual persistence (reenrollment and persistence numbers) and academic performance (actual grades/GPA) indices, limits the precision of the study results and subsequently, the conclusions that can be drawn thereof.

Summary

The current research was designed to examine the motivational dispositions of nontraditional students and the effect of those dispositions on nontraditional student college outcomes. This chapter contained an overview of the salient features of the study, which include the definition of nontraditional students, the need and purpose of the study, and an introduction to student motivation research. It also contained an introduction of the proposed Model of Nontraditional College Student Motivation and Success, and an explanation of the theoretical and conceptual context of the model. Finally, the research questions were presented, as were the study's significance and

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limitations. Subsequent chapters are organized as follows: Chapter II contains a review

of the relevant literature. Chapter III outlines the methods used in the current research,

which include the methodology, participants, and data collection procedure. Chapter IV

provides explanation of the empirical analysis of the data, and the results. Finally,

chapter V has the discussion of the results, limitations, future research directions, and

practical implications of the study.

CHAPTER II

LITERATURE REVIEW

The purpose of this dissertation research was to examine the role of motivation in predicting nontraditional students' college success using the expectancy-value theory of achievement motivation (Eccles et al., 1983) and achievement goal theory (Dweck, 1986; Maehr, 1989; Nicholls, 1984). These achievement motivation theories provided a useful framework for investigating questions about how nontraditional college students' motivation impacts their college success. The current study's purpose was inspired by the need to provide additional insight into nontraditional students' college outcomes by focusing on factors that drive their will to succeed and how that may affect their academic performance, college persistence, and well-being.

This chapter contains a review of the literature related to the development of the current research and is organized as follows. First, I discuss the definition of nontraditional students and the relationship between some of the defining characteristics and college success. Second, I provide an overview of the motivation theories beginning with expectancy-value theory and focus on the self-efficacy beliefs and subjective task value components. This overview is followed by a discussion achievement goal theory, and a review of the empirical backgrounds of the three motivational characteristics in turn. Third, I discuss the multiple dimensions of success for nontraditional students that are included in the proposed model, which are persistence, performance, and well-being.

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Fourth, I present the proposed Model of Nontraditional College Student Motivation and Success focusing on its rationale, relevance to nontraditional students, and potential in explaining their college outcomes. Finally, I restate the specific research questions that are designed to guide model testing, followed by a summary of the chapter.

Defining Nontraditional College Students

A common definition of nontraditional students is lacking in the extant literature. Within the college student research, nontraditional students have been defined in a number of divergent ways based on disparate factors related to student's age, socioeconomic status, ethnicity, first-generation, or employment status. The lack of a clear definition is admittedly problematic (Galvin, 2006), and Levin (2007) posited that it diminishes our understanding of these students and the challenges that they face in college. Nonetheless, the unifying theme in the literature is that nontraditional students differ considerably from *traditional students* who enroll in college directly after graduating high school, are usually between 17 to 19 years of age, attend college full-time often with no interruption, depend on their parents financially, and do not work full-time during the school term (Horn, 1996; Kasworm & Pike, 1994; NCES, 2002).

In the current study, I define *nontraditional students* as undergraduate college students who have at least one or more of the following characteristics: being 24 years or older, delayed college enrollment after graduating high school, working full-time while enrolled, being financially independent, attending college part-time, having dependent children, being married, and having a GED rather than a standard high school diploma. The currently used definition was adopted from Horn's (1996) definition of a

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nontraditional student and is specifically based on demographic characteristics that have been shown to present barriers to college success.

Age was also included as a defining characteristic, even though it is not part of Horn's definition for two reasons. First, age has been used widely in the extant literature to distinguish nontraditional students from their traditional peers (Kasworm, 1990; Kasworm & Pike, 1994). Second, as Horn observed, age is closely connected to other nontraditional characteristics and she noted that older students (24 and above) are also likely to have dependents, work full-time, enter college later in life, and to be financially independent.

In the current study, nontraditional students were further categorized into three groups based on how many nontraditional characteristic they have. According to Horn (1996), nontraditional students are considered *minimally nontraditional* if they have only one nontraditional characteristic, *moderately nontraditional* if they have two or three, and *highly nontraditional* if they have four or more. The logic behind this classification is that students with more nontraditional characteristics face more barriers and have lower odds of success in college. This notion of diminishing success due to an increase in nontraditional characteristics is consistent with Cross's (1981) taxonomy of learning barriers. According to Cross, college barriers can be situational (e.g., cost, lack of time), institutional (e.g., scheduling, transportation), and dispositional (e.g., age). These factors complicate progress in college by constraining the resources that these students need to succeed. Nontraditional students, for instance, have to play the role of student while at the same time manage employment and family responsibilities. The depiction of nontraditional students as a vulnerable college student sub-group is well established in

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the literature (Galvin, 2006; Levin, 2007) and has received wide empirical support (Deutsch & Schmertz, 2011; Dickerson & Stiefer, 2006; Frone, 2003; Giancola, Grawitch, & Borchert, 2009; Kim, 2002; NCES 2002, 2011).

Overall, the definition used in the current study is unique and contributes to the nontraditional student research in two ways. First, the definition is comprised of multiple characteristics as opposed to a single identifier, which makes it more comprehensive and inclusive. As Kim (2002) reiterated, using a single characteristic such as age alone (e.g., 24 or older) excludes a substantial segment of students who may be of traditional age, but have other nontraditional characteristics such as being enrolled part-time, having dependent children, or working full-time. Second, by focusing on the characteristics that have been found to pose barriers to college success, the current definition of nontraditional students aligns well with the purpose of the current study to examine nontraditional students' success. In order to more fully understand nontraditional students, the challenges they face, and the factors that could enhance their college experience and eventual success, it is imperative that we carefully identify these students.

Nontraditional Student Characteristics and College Success

Higher attrition rate is the biggest college success issue for nontraditional students today. Only about half of those who enter college for the first time graduate within a six-year period (NCES, 2002, 2011). Findings consistently show that nontraditional students are less likely to stay in college long enough to graduate when compared to their traditional counterparts, and this has mainly been attributed to their defining characteristics. Characteristics such as part-time enrollment, full-time employment, and

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having dependents, have particularly featured prominently in empirical studies of nontraditional students as factors that deter success in college.

Part-time enrollment. Johnson and Muse (2012) tested a college departure model and found that in any given semester, part-time enrollment status almost doubles the odds of student departure. Part-time enrollment, according to a national study of postsecondary institutions in the U.S. (Chen, 2007), was negatively correlated with persistence and long-term degree attainment, even after controlling for a wide range of factors related to college outcomes (e.g., student demographic and family backgrounds, academic preparation, employment status, etc.). Chen (2007) compared students who attended college exclusively part-time with those who attended exclusively full-time for the duration of their enrollment and found that only 27% versus 72% persisted, a total of 73% versus 28% had left without earning a degree, and 46 % versus 12% had left during the first year. In another study, Taniguchi and Kaufman (2005) found that college completion rates for men and women, respectively, were lower among part-time students (28% and 33%) compared to full-time students (59% and 65%). These findings, together with several others (e.g., Berkner, He, & Cataldi, 2002; O'Toole, Stratton & Wetzel, 2003), collectively demonstrate the inverse relationship between student part-time enrollment and college persistence.

Full-time employment. Employment while attending college has also been shown to negatively impact persistence rates. Employment is an important part of nontraditional student life as most of them are financially independent, are typically the sole breadwinner for their dependents, and often have to work full-time or at least for more than 20 hours a week. The benefits of student employment are well documented

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(Robotham, 2012), but working seems to be beneficial only to a certain extent (i.e., up to about 20 hours a week) and gets increasingly problematic as work hours and demands increase towards full-time (Furr & Elling, 2000). Furr and Elling found that students who did not work at all reported slightly lower GPAs and were also less satisfied with their lives than students who were employed between 11-20 hours per week. They also found, however, that students who were employed for more than 20 hours a week reported that they often had difficulty dividing their time between school and work.

Similar findings from a higher education project that investigated the effects of working on college students showed that even though working while enrolled full-time helped some students prepare for their future career, and helped others with their coursework; many students reported that working longer hours negatively affected their grades and college experience (King & Bannon, 2002). Furthermore, among full-time students who worked for 25 hours or more per week, 42% reported that working negatively impacted their grades, 53% reported that employment affected their class schedule, and 38% said that work limited their class choice. Most importantly, the study demonstrated that students who worked full-time were also more likely to interrupt their college enrollment. Finally, Kulm and Sheran (2006) found a negative correlation between GPA and extent of employment, and a significant positive correlation between interference with study time/student time and extent of employment. The negative impact of employment could be exacerbated when the working student also bears additional obligations such as caring for dependent children as most nontraditional students do.

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Having dependents. Stratton, O'Toole, and Wetzel (2008) demonstrated that students' who have dependents (children under 18 years of age) encounter additional difficulties in college, which deter college success. They found that parental status increased the odds of college departure, both stop-out and drop-out, for both men and women. Interestingly but not surprisingly, Stratton and colleagues also observed that the presence of a young child increased the odds of departure for women more than for men. Their findings corroborate similar results from Taniguchi and Kaufman's (2005) research, which showed that nontraditional students who failed to complete their degree, had more children than those who completed regardless of age and gender. Even more revealing from Taniguchi and Kaufman's study was the finding that one additional infant or toddler reduced the odds of degree completion by 50%.

A consistent pattern of findings show that low income students, who were financially independent, had dependents, and had to work while attending college were less likely to graduate (King, 2003). Furthermore, Horn (1996) also demonstrated that having a G.E.D., or delaying college enrollment presents barriers to nontraditional students' success in college. It is worth noting that although nontraditional students' age is commonly mentioned as a defining characteristic (Kasworm, 1990), and is also used in the current study, Horn (1996) observed that age per se does not constitute a barrier to college success for nontraditional students. Horn, however, acknowledged that age becomes an important consideration for these students, to the extent that it is inextricably connected to the other nontraditional characteristics.

Taken together, the evidence from the aforementioned empirical studies underscores the relationship between nontraditional student characteristics and higher

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incidences of college departures, as well as unfavorable college experiences. The findings support the notion that nontraditional students are predisposed to failure in college as a result of the difficulties posed by their demographic characteristics, and face diminishing odds of success with each additional nontraditional characteristic. Nontraditional students' resources such as their time, finances, and energy are constrained in ways that limit their ability to more fully focus on college tasks (Horn, 1996). However, not all nontraditional students fail in college. In fact, nontraditional students typically obtain good grades that are often comparable to and at times better than traditional students (Carney-Crompton & Tan, 2002; Justice & Dornan, 2001; McKenzie & Gow, 2004; Morris, Brooks, & May, 2003; Spitzer, 2000).

In spite of nontraditional students' good performance, it has also been adequately established that success in college, and particularly persistence, requires more than good grades. Student motivation, for instance, has been established as an important predictor of college success, and a wealth of research findings have demonstrated the positive role of student motivation (Richardson et al., 2012; Robbins et al., 2004). Based on this premise, the focus of the current study was to examine whether or not motivation factors can mediate the relationship between nontraditional student demographic characteristics (i.e., success barriers) and college success.

Theoretical Framework

The current research brings together two influential student-motivation theoretical frameworks: (1) expectancy-value theory, and (2) achievement goals theory. These theories were used to frame the understanding of nontraditional student motivation as factors that could facilitate their college success.

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Expectancy-Value Theory

The crux of the expectancy-value theory (Eccles et al., 1983) is that when faced with an achievement related task, people's choices and level of involvement are influenced mainly by the degree to which they (1) believe they can do the task (self-efficacy), and (2) want to do the task (subjective value). In other words, first, it is essential for students to have the belief that they can successfully execute actions that will lead to a successful completion of a task. Second, it is equally critical that students deem a specific achievement task as important enough to justify their involvement.

Originally based on children's achievement related choices, the expectancy-value theory is a prominent framework for understanding the nature of students' achievement motivation. Eccles and colleagues (1983) built the expectancy-value theory based on Atkinson's (1957) seminal work, in which Atkinson suggested that expectancy-related beliefs and task-value appraisals motivate human behavior by influencing the decision to engage in a task, choice of task, amount of effort to expend on a task, and persistence in a task. Eccles and colleagues (e.g., Eccles, 2005; Eccles et al., 1983; Eccles & Wigfield, 2002; Wigfield & Eccles, 2000) extended Atkinson's work and have made significant contributions by adding richer definitions of the expectancy and value components of the theory and linking these components to student's psychological, social, and cultural factors. Figure 2 shows the most recent version of the full expectancy-value theory as conceptualized by Eccles and Wigfield (2002).

To characterize the components of the model very broadly, expectancies of success and subjective task value are theorized to influence performance and task choice directly. In turn, success expectancies and subjective task value themselves are

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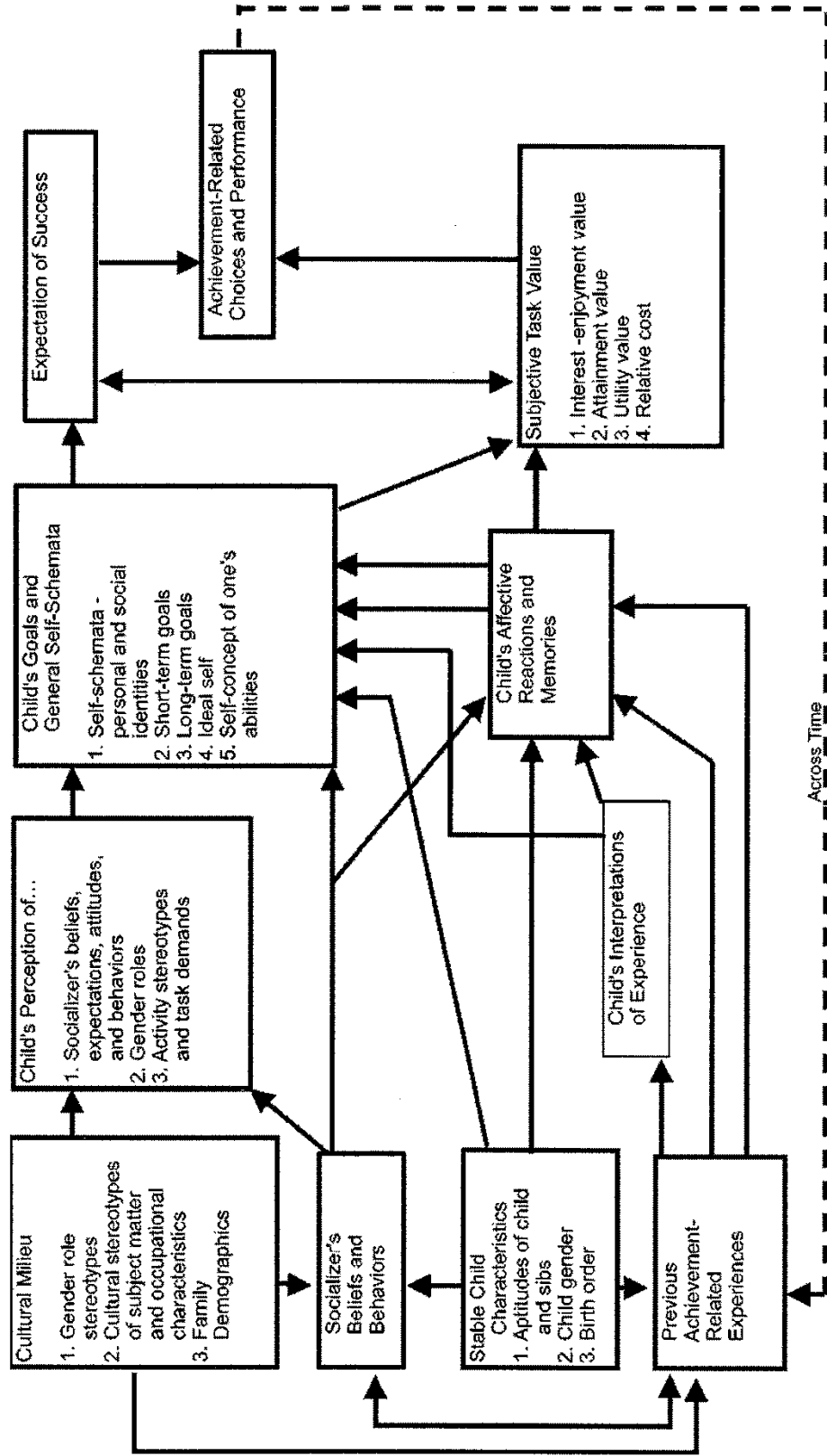
Figure 2. The Expectancy Value Theory of Achievement Motivation. Taken from "Motivational Beliefs, Values, and Goals," by J. S. Eccles, and A. Wigfield, 2002, Annual Reviews of Psychology, 53, p. 119. Copyright 2002 by the Annual Reviews of Psychology.

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influenced by task-specific beliefs such as perceptions of competence, perceptions of the difficulty of various tasks, and individuals' goals and self-schema, along with students' affective reactions to different achievement-related events. In addition, the model implies that competence beliefs (e.g., self-efficacy), goals, and affective memories do not occur in isolation as they are influenced by individuals' perceptions of other peoples' attitudes and expectations for them, and interpretations of their previous achievement outcomes. Finally, competence and value appraisals, together with how they are interpreted, are influenced by an array of social and cultural factors, which include parents' and teachers' beliefs and behaviors, student's specific achievement experiences and abilities, and the prevailing cultural norms. A detailed elaboration of the full model is beyond the scope of the current research and will not be discussed further.

Of particular interest to the current research are two components of the expectancy-value theory: self-efficacy (i.e., expectancies of success) and subjective task value. Research applications of the expectancy-value theory have spanned a cross-section of educational settings ranging from elementary school children achievement (Wigfield & Eccles, 1992) to adolescents' achievement choices and experiences (Greene, DeBacker, Ravindran, & Krows, 1999; Eccles, 2005; Wigfield & Eccles 2000, 2002). Among college students in particular, the expectancy-value theory has been used to examine outcomes such as student adjustment, learning experiences, and academic achievement (Bong, 2001; Gore, 2007; Xie & Andrews, 2013). In the section below, I will define and discuss the theoretical, conceptual, and empirical backgrounds of self-efficacy and subjective task value.

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Self-efficacy beliefs. For clarity purposes, self-efficacy as defined by Bandura (1997), and expectancies of success defined by Eccles et al. (1983) are considered to be conceptually synonymous constructs. Bandura (1997, 1986) defined self-efficacy as the belief in one's capabilities to execute actions leading to successful accomplishment of a specific task, while Eccles et al. (1983) characterized competence beliefs about ability as individuals' subjective (rather than objective) evaluations of their competence in different areas. In that regard, Eccles and colleagues theorized that competency beliefs are situated within 'expectancy of success' in the expectancy-value theory.

In terms of its structure, Bandura (1986) observed that self-efficacy is a multidimensional construct that varies in strength, generality, and level of difficulty; implying that self-efficacy beliefs can be strong or weak, can vary from one situation to another, and also varies according to the level of task difficulty. Put differently, a student's beliefs about his/her ability may range on a continuum from weak to strong, may be higher in Math but not in Science, and may be stronger in Geometry than in Algebra. Empirical evidence supports the need to differentiate the various domains and dimensions of self-efficacy during measurement in order to enhance measurement precision and, in turn, help to more precisely delineate the effects of specific (rather than general) self-efficacy beliefs (Bong & Skaalvik, 2003; Gore, 2006; Zimmerman, 2000).

Balance self-efficacy. In the current research, I specifically focus on a students' confidence in his/her ability to effectively manage multiple obligations (i.e., parental, employment and student), hereafter known as *balance self-efficacy*. Balance self-efficacy is a novel construct within the student achievement motivation research as no studies were found that have investigated this construct among nontraditional students. As a

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motivational factor, balance self-efficacy was inspired by the work of Hennessy and Lent (2008) who investigated how self-efficacy to manage work-family conflict could be used to explain inter-role conflict and well-being outcomes of 159 working mothers in the United States. The issue of role conflict has been extensively investigated in the career/vocational and applied psychology literature, and the findings have indicated how family life and career obligations conflict and becomes problematic (Byron, 2005; Cinamon, 2006; Ford, Heinen, & Langkamer, 2007; Mesmer-Magnus & Viswesvaran, 2005).

There is a similarity between the work-family conflict that parents encounter and the role-conflicts that nontraditional students face as they strive to balance college work with employment and family obligations. The rationale for choosing balance self-efficacy is thus based on its relevance to nontraditional student's lifestyles, which is characterized by multiple obligations that demand simultaneous attention. Nontraditional students experience more pressure trying to divide their time and energy to meet academic expectations, along with parental and employment responsibilities. Managing school, employment, and family roles all at the same time can be difficult and has been associated with negative consequences such as stress (Giancola et al., 2009), role-conflict, and role-overload (Butler, 2007; Fairchild, 2003; Frone, 2003; Home, 1998).

It is logical to assume that achieving balance among multiple roles would benefit nontraditional students. Chartrand (1990) found that nontraditional students who were highly committed to the student role, relative to their other roles, experienced more distress. In light of this finding, Chartrand concluded that it may be more adaptive for

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nontraditional students to maintain an equitable focus on their different roles, rather than over-committing to one particular role. Furthermore, college in itself can be difficult for students regardless of whether they are traditional or nontraditional, and the resultant stress associated with college is widely documented (Robotham, 2008; Robotham & Julian, 2006). Furthermore, as Zimmerman (2000) pointed out, navigating college requirements demands higher levels of independence, initiative taking, self-regulation, and use of creative coping strategies. Is it possible that nontraditional students' confidence in their ability to balance multiple roles could promote their college success outcomes? A wealth of conceptual logic and empirical evidence on the role of self-efficacy beliefs provide important clues.

Conceptually, self- efficacy beliefs influence the particular courses of action individuals choose to pursue, the amount of effort they are willing to expend, perseverance when faced with challenges and failures, and the ability to cope with the demands associated with a specific task (Bandura, 2001). To that extent, Bandura (2001) reiterated that the contribution of self-efficacy to educational achievement is based both on the increased use of specific cognitive strategies, and on the positive impact of self-efficacy beliefs on metacognitive skills and coping abilities.

Chemers, Hu, and Garcia (2001) classified the mediating role of self-efficacy into cognitive, motivational, and affective processes. Cognitively, Chemers and colleagues argued that self-efficacy influences achievement outcomes by facilitating the use of effective metacognitive strategies such as planning and self-regulation skills. As a motivational process, the authors agreed with Bandura (1997) that self-efficacy motivates students through goals, which in turn influences self-regulation of effort and provides a

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standard for evaluation of the required effort and strategy needed to complete a task. Finally, affectively, Chemers et al. (2001) concur with Lazarus and Folkman (1984) that individuals appraise the demands of a task or a situation based on their beliefs about their ability to cope. In that sense, these authors argue that a highly efficacious individual appraises a difficult situation positively as a challenge to be overcome and is less threatened by it, whereas a less efficacious individual appraises the same situation negatively and finds it more threatening and stressful.

Empirical findings widely support a consistent pattern of positive relations between self-efficacy beliefs and achievement related outcomes, and thus underscore the usefulness of this construct in educational settings. Academic self-efficacy, defined as individuals' confidence in their ability to successfully perform specific academic tasks (Schunk, 1991), is one example. In an early meta-analysis of research in educational settings, Multon, Brown, and Lent (1991) found that academic self-efficacy was related both to academic performance and to persistence.

Pintrich (1999) presented a motivational model of self-regulated learning and summarized several studies that have shown positive relations between self-efficacy beliefs and self-regulated tendencies such as monitoring, controlling, and regulating cognitive activities and actual behavior, for both middle school and college level students. Pintrich concluded that by using self-regulation strategies, highly self-efficacious students performed better than their peers who exhibit low academic self-efficacy. Related studies (Pintrich & De Groot, 1990) showed that students who felt more self-efficacious about their ability to do well in a course were more likely to report using cognitive strategies such as rehearsal, elaboration, and organizational strategies.

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These students were also more likely to be cognitively involved in trying to learn the material in comparison to those with low self-efficacy beliefs. Self-efficacious students have also been shown to be more likely to persist in a task, show more tenacity, and perform better academically (Bandura, 1986; Gore, 2006). Bandura and Jourden (1991) also found that MBA students who exhibited higher decision-making self-efficacy were more thoughtful, skillful, and analytical in their strategy use for improving performance than did less efficacious participants. The authors thus argued that self-efficacy promotes cognitive acuity and creative problem solving in complex situations.

With regard to promoting self-regulation, which may be particularly relevant to nontraditional students as they navigate multiple roles, self-efficacy beliefs enhance self-regulation by facilitating planning, monitoring, and self-evaluation. Students with high academic self-efficacy were found to make greater use of effective cognitive strategies in learning, manage their time and learning environments more effectively, and exhibit better monitoring and regulation of their own effort (Zimmerman, 2000). The authors also observed that self-efficacy enhances metacognition, which involves the appraisal and control of one's cognitive activity, and making use of resources available to achieve desired outcomes. In addition, Zimmerman (2000) underscored the importance of self-regulation skills especially in an educational environment that has limited supervision such as college.

In aggregate, the evidence presented is overwhelmingly supportive of the benefits of self-efficacy beliefs and suggest that self-efficacious students participate more readily, work harder, persist longer, more readily use effective problem-solving and decision-making strategies, and manage their personal resources more efficiently, compared to

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their less self-efficacious peers. Considering that self-efficacy is a personal psychological resource that students can draw upon when they are faced with a complex situation (Bandura, 1986), such as balancing multiple obligations, I expect balance self-efficacy beliefs to be positively related to nontraditional student success outcomes.

Subjective task value. Subjective task value is the second motivational construct that is examined in the current study under the expectancy-value theory (Eccles et al., 1983, Eccles & Wigfield, 2002). Eccles and her colleagues (Eccles et al., 1983; Eccles &Wigfield, 2002) defined subjective task value as the quality of a task that an individual finds either attractive or unattractive, which subsequently determines whether they engage in the task on not. Higgins (2007) also defined subjective value as a person's psychological state of being drawn to (or put-off by) an object or activity. Finally, Wigfield, Tonks, and Klauda (2009) depicted subjective task value as a motivational force, arguing that it not only determines whether or not a task will be initiated, but also if involvement will be sustained until the task is completed.

Eccles and colleagues proposed and defined four components of subjective task value: (1) attainment, (2) intrinsic, (3) utility, and (4) cost. *Attainment value* is defined as the personal importance for engaging in a task in order to achieve a desired social or professional identity. In this regard, tasks are posited to have higher attainment value to the extent that they allow a person to achieve a desired status or identity (e.g., being a good parent, a competent doctor, or an effective leader).

Intrinsic value is defined as the enjoyment that a person gets from involvement in an activity, or the subjective interest that a person derives from involvement in a task. Intrinsic value is seen to be synonymous with intrinsic motivation (Deci & Ryan, 1985),

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as well as with the concepts of interest (Hidi, & Renninger, 2006), and flow (Csikszentmihalyi, 1990), which imply engaging in a task out of sheer enjoyment. For example, a chemistry major student who enrolls in a music course that is totally unrelated to his/her chosen major may be seen as having a high intrinsic value for music.

Utility value implies how useful a task is with regard to fulfilling a person's current or future goals. A task is perceived as having a high utility value if it provides a means for achieving a desire or need, even though the person may not find the specific task interesting. For example, although a student who is aspiring to enter medical school may dislike anatomy, she/he would still perceive anatomy as valuable and would put forth effort in it simply because it is a prerequisite for entry into medical school. In a sense, utility value captures the more "extrinsic" reasons for engaging in a task (Deci & Ryan, 1985); however, some authors also suggest that utility value can also be a means to an intrinsic goal (Eccles, Elliot, & Dweck, 2005; Wigfield & Cambria, 2010). For instance, while entering medical school may be an intrinsic desire for a student, anatomy, as a prerequisite, would be a means to an intrinsic goal.

Finally, *cost value* is defined as a person's evaluation of the relative worth of a task in relation to what she/he may have to sacrifice, or what they may have to invest in order to engage in the task. That is, a student is faced with making one choice rather than the other based on a relative evaluation of the importance of the tasks at a particular time. For example, a parent of young children who is also a college student, may decide to sacrifice spending more time with his/her children, but only to the extent that he/she believes college is worth the sacrifice. Together, attainment, intrinsic, utility, and cost value are theorized to motivate human behavior and more specifically influence the

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choices that people make, the effort they are willing to put forth in a task, and their persistence in pursuing those tasks (Eccles et al., 1983). The compelling question raised in the current study is whether or not nontraditional students' subjective task value has an influence on their college success.

A wealth of empirical evidence supports the positive relationship between students' subjective task value appraisals and positive educational outcomes. Battle and Wigfield (2003) found that attainment and utility value were positive predictors of college students' intentions to enter graduate school, although they also noted that the perceived psychological cost of graduate school attendance was a negative predictor. DeBacker and Nelson (1999) studied a sample of high school students and found that utility and intrinsic value were positively correlated with favorable motivation factors (e.g., endorsement of learning goals and performance goals, perceived instrumentality, and perceived ability). In the same study, utility and intrinsic value negatively correlated with unfavorable factors such as science difficulty and negative stereotyped views of science. These findings were consistent with results found by Miller, DeBacker, and Greene (1999), which demonstrated that when academic tasks are seen as relevant to the attainment of chosen future goals, they facilitate both intrinsic and extrinsic value of the task. Pintrich and De Groot (1990) also found that higher intrinsic value was significantly related to higher achievement, both for specific exams and for overall grades.

In more recent studies, Brickman (2004) argued that perceiving a task as instrumental encourages students to take initiative for their learning, suggesting that utility value provides a reason for students to engage in the current task, and also

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influences the achievement goals that they adopt. In a physical education class, Simons, Dewitte, and Lens (2003) demonstrated that explicitly stating the usefulness of an activity and how it could help students achieve their future goals was associated with increased persistence and performance. Similarly, Bong (2001) found that utility value in a course enhanced self-efficacy beliefs, which (in turn) predicted exam performance. Greene, Miller, Crowson, Duke, and Akey (2004) found that when students perceive utility value, they were willing to study harder to master and develop competence in the subject, exert more effort, and in turn performed better than their peers. Malka and Covington (2005) also found that the relevance of school work to students' future goals (i.e., utility value) predicted classroom performance.

With regard to the relationship between subjective task value and other motivation factors, subjective value was positively correlated to students' perception of their ability. Specifically, students who exhibited higher intrinsic value in the task were more confident in their ability to perform the task (DeBacker & Nelson, 2000). In other studies, intrinsic and utility value have been found to predict course enrollment decisions (Harackiewicz, Durik, Barron, Linnenbrink-Garcia, & Tauer, 2008), self-reported effort in science classes (Cole, Bergin, & Whittaker, 2006), and classroom interest (Durik, & Harackiewicz, 2007). Finally, students' mastery goals and task values have also been shown to relate positively to one another in different academic settings (DeBacker & Nelson, 1999).

In aggregate, subjective task value is an important factor affecting achievement outcomes; as students who hold higher subjective value in a task are typically more motivated, in turn they perform better and persist in tasks longer than their counterparts.

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Based on this evidence, I expect nontraditional students' subjective task value to positively predict their success expectancies, intent to persist, and well-being perceptions. Together, the literature reviewed depicts the expectancy-value theory as being relevant to nontraditional students' college success. As the evidence presented here suggests, if nontraditional students have confidence in their ability to balance multiple roles (self-efficacy) and see college as important (subjective task value), they are more likely to be successful in college.

Achievement Goal Theory

Achievement goals are defined as the purpose for engaging in an achievement related task (Maehr, 1989). Taken broadly, achievement goals are theorized to focus students' attention and cognitive resources towards the desired and anticipated success, thus playing a prominent role in triggering and sustaining action. Goals are relevant in the current study considering that even when students believe that they can perform academic tasks and also perceive the tasks as important, they could still face a myriad of distractions that interfere with successful completion of academic tasks (e.g., course assignments, tests, or exams). Distractions are more likely to be expected for nontraditional students who typically have to divide their attention among college, family, and work. In their work on goal setting, Locke and Latham (2002) observed that goals affect performance through four mechanisms: by directing attention, energizing action toward greater effort, facilitating task persistence, and encouraging the application of task relevant skills and strategies. To this end, goals serve as powerful motivators of achievement and are posited to be influenced by a person's self-efficacy beliefs and subjective task value (Bandura, 2001).

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Historically, achievement goal theory stems back to the 1980s (Ames, 1984; Dweck, 1986; Maehr, 1989; Nicholls, 1984) and has since gained prominence as a means to understand student motives and response patterns on academic tasks. Achievement goal research has focused extensively on the role that goals play in motivating students' achievement-striving behavior and the associated educational outcomes such as academic performance and task persistence. There is consensus among goal theorists that achievement goals influence achievement outcomes through a combination of cognitive, behavioral, and affective mechanisms. These mechanisms shape student attitudes towards tasks, determine the choice of task-strategy, intensity of effort engagement, and persistence in tasks (Dweck, 1986; Maehr, 1989; Nicholls, 1984). Researchers disagree, however, on a few issues such as the naming of goals, and more importantly, the exact effects of goals on student achievement.

One of the most enduring questions in goal research has to do with the types of goals that students pursue when they are engaged in an academic task and the influence of those goals. Consequently, goals research has led to a proliferation of terminology that is often a source of confusion (Pintrich, 2000a). For instance, there is learning, performance, task, ego, mastery, intrinsic, and extrinsic goals. In fact, it is not uncommon to find one goal having more than one name; for example, performance goals have also been called ego-involved goals (Nicholls, 1984) and ability goals (Ames, 1992), whereas mastery goals are sometimes called learning goals (Ames, 1992; Butler, 1993; Elliot & Harackiewicz, 1996). For the purposes of the current research, the focus will be on mastery and performance goals, and their avoidance-approach dimensions. Together, this classification yields four conceptually distinct types of goals

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as defined by Elliot and McGregor (2001): (1) mastery-approach, (2) mastery-avoidance, (3) performance-approach, and (4) performance-avoidance. In the next section, I review the literature on the mastery/performance and approach/avoidance specifications, their theorized effects, conceptual differences, and empirical evidence of their effects on student educational outcomes.

The performance/mastery distinction. The basic conceptual distinction between mastery and performance goals is that mastery goals are driven by an internal motive, whereas performance goals are externally driven (Nicholls, 1984). Dweck and Leggett (1988), as well as Nicholls (1984), further proffered that mastery goals indicate a desire to develop competence and self-improvement by mastering course content, while performance goals focus on the evaluation and demonstration of competence relative (normative) to peers within the same achievement setting. Subsequent empirical research on the two goals has substantiated that because mastery goals emphasize learning, they enhance student motivation and facilitate interest and persistence in a task (Daniels et al., 2008; Hidi & Harackiewicz, 2000, Pintrich, 2000a). Conversely, performance goals with their emphasis on a normative demonstration of ability (e.g., outperforming peers) has been theorized to lead to maladaptive motivational tendencies, especially when students encounter challenges or negative feedback (Grant & Dweck, 2003; Midgley, & Urdan, 2001). The emerging picture from the mastery/performance goal distinction was that mastery goals facilitate optimal motivation and are, therefore, adaptive; alternatively, performance goals inhibit motivation and are thus maladaptive.

Developments in goal research have shown, however, that the antecedents and consequences of adopting mastery or performance goals are much more complex than

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originally conceptualized. First, although optimal motivation is often associated with mastery goals, these goals do not always necessarily lead to higher academic performance (Senko & Miles, 2008). Second, performance goals are not always linked to maladaptive motivational dispositions and behaviors (Harackiewicz, Barron, Tauer, & Elliot, 2002). In order to provide a better understanding of the mastery and performance goals, Elliot and his colleagues (Elliot & Church, 1997; Elliot & Harackiewicz, 1996) further specified the goals on the basis of approach and avoidance orientation. This specification formed what is known today as the 2×2 achievement goals framework (Elliot & McGregor, 2001).

Theoretically, approach goals orient students' to strive toward achieving success, whereas avoidance goals orient students to focus on avoiding failure. Elliot and Harackiewicz (1996) observed that although at certain times students aim to approach success, other times they are merely interested in avoiding failure or looking incompetent. In their argument, Elliot and his colleagues have underscored the functional differences that underlay approach and avoidance goals. Elliot (2006) for instance, observed that approach goals energize behavior and focus attention toward a positive outcome, whereas avoidance goals focus achievement behavior away from a negative possibility and is driven instead by fear of failure. In this regard, while students who endorse performance-approach goals aim to obtain higher grades than their peers, those who adopt performance-avoidance goals aim to avoid performing poorly compared to their peers (Elliot & Church, 1997).

Mastery-approach oriented students on the other hand, strive to learn and master the course material, while mastery-avoidance oriented students focus on "avoiding not

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learning" the course material (Elliot & McGregor, 2001). Research findings have yielded

support for the approach-avoidance distinction and have revealed that maladaptive

outcomes are associated with avoidance goals, whereas adaptive outcomes are linked to

approach goals (Harackiewicz et al., 2002). This means that a student who is striving for

success (approach tendencies) is better situated for success than the one who is

preoccupied with failure (avoidance tendencies) as evidenced by a wealth of empirical

findings presented below.

Mastery-approach goals. Although I measured both mastery-approach and

mastery-avoidance goals in the current study, mastery-avoidance goals are believed to be

less common, less impactful, and relatively less studied (Hulleman, Schrager, Bodmann,

& Harackiewicz, 2010); thus, I will not review them here.   I will focus instead on the

mastery-approach goals, which are often simply referred to as mastery goals. Research

findings show that mastery oriented students, when compared to their peers who do not

endorse mastery goals exhibit more positive emotions toward academic tasks such as

hope and pride, and less boredom (Pekrun, Elliot, & Maier, 2006); consider their

academic tasks valuable (Barron & Harackiewicz, 2003; Wolters, 2004); use

self-regulation strategies more often (Harackiewicz, Barron, Pintrich, Elliot, & Thrash,

2002a; Levy, Kaplan, & Patrick, 2004); find their classes more interesting, persist when

they encounter difficulties (Darnon, Butera, & Harackiewicz, 2007; Harackiewicz,

Barron, Tauer, Carter, & Elliot, 2000); and cooperate with peers more and seek help

when needed (Karabenick, 2003; Levy et al., 2004). Furthermore, mastery goals have

been found to positively predict enjoyment of learning, which in turn positively predicted

achievement, but negatively predicted boredom (Daniels, et al., 2009; Pekrun et

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al., 2006). Finally, there is also evidence that students who endorse mastery goals are more thoughtful, effortful, and use more self-regulated learning strategies, have higher intrinsic motivation, and cope better under challenging circumstances (Barron & Harackiewicz, 2000; Pintrich, 1999, 2000a).

There is, however, one important exception to the trail of positive educational outcomes associated with mastery goals. Research findings have not established a consistent direct link between mastery-approach goals and higher academic performance (e.g., course grade, GPA, etc.). In fact, mastery oriented students have typically been found to receive lower course grades and GPAs compared to their peers who endorse performance-approach goals (Barron & Harackiewicz, 2001; Durik, Lovejoy, & Johnson, 2009; Elliot & McGregor, 2001; Harackiewicz et al., 2000; Hulleman et al., 2010; Senko & Harackiewcz, 2005).

Senko and colleagues (Senko & Miles, 2008; Senko & Harackiewcz, 2005) offered a compelling argument to explain why mastery oriented students perform less favorably compared to their performance-approach oriented peers. They posit that students who are mastery oriented, and are thus more intrinsically interested in the course material than in the course evaluation, fail to be vigilant to the evaluation cues in the course. According to Hulleman et al. (2010), there is a mismatch between the material that the mastery oriented student is interested in and what the instructor considers important and, in turn, evaluates.

Only a few studies have found that mastery-approach goals, and not performance approach goals, predict academic performance (Grant & Dweck, 2003; Linnenbrink, 2005). These two studies reveal important insights about mastery goals, the

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learning context, and the interaction therein. For instance, the studies were conducted with samples of college students enrolled in a class that required deep processing of the learning material. Based on their findings, the authors argued that mastery goals can still directly predict high academic performance, if the evaluative criteria applied emphasizes deep processing of the material rather than surface learning and rote memorization. This argument is consistent with the views of other researchers who have also drawn attention to the differences in the learning context and evaluation criteria when examining the effects of mastery goals (Brophy, 2005; Midgley, Kaplan & Middleton, 2001; Wolters, 2004). The conclusion drawn is that mastery goals may still have a direct influence on academic performance, depending on the type of evaluation criteria used (Barron & Harackiewcz, 2003; Grant & Dweck, 2003; Hulleman, et al., 2010; Senko, Hulleman, & Harackiewicz, 2011; Midgley et al., 2001). Taken broadly, mastery-approach goals enhance success in college by promoting a pattern of adaptive behavioral, cognitive, and affective tendencies; and in certain cases, these goals predict higher academic performance.

Performance-approach/avoidance goals. Broadly speaking, performance-approach goals are associated with positive learning outcomes and behaviors, whereas performance-avoidance goals are associated with maladaptive outcomes. Research shows that students who endorse performance-avoidance goals tend to: get lower grades than their peers (Elliott & Church, 1997; Elliot & McGregor, 1999, 2001); view assessments as threatening and experience more anxiety (Conroy & Elliot, 2004); and use unfavorable study strategies such as memorization when studying for exams (Elliot et al., 1999; McGregor & Elliot, 2002). Furthermore, these students exhibit self-

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handicapping tendencies (Midgley & Urdan, 2001), engage in surface learning, experience task disengagement, exhibit negative peer relationships (Liem, Lau, Nie, 2008); and finally, experience negative achievement related emotions such as anxiety, hopelessness, and shame (Pekrun et al., 2006).

With regard to performance-approach goals, findings have particularly demonstrated positive relations with course achievement (Church et al., 2001; Elliot & McGregor, 2001; Harackiewicz et al., 2000) in college students. In a longitudinal study, performance-approach goals positively predicted overall college GPA, even after controlling for high school ability (Durik et al., 2009). Elliot et al. (1999) found that performance-approach but not performance-avoidance goals were related positively to college students' self-reported effort and persistence. In a consistent trend, performance-approach goals were related to desirable motivational orientations such as task value (Bong, 2001; Church, Elliot, & Gable, 2001), more effort expenditure, and higher academic performance (Barron & Harackiewicz, 2001; Elliot & McGregor, 2001; Harackiewicz et al., 2000).

There is, however, a less desirable side to performance-approach goals, especially when they are compared to mastery-approach goals. Performance-approach goals have been demonstrated to be adaptive mostly when the course does not require deep processing of the material and when difficulties or set backs are not encountered (Grant & Dweck, 2003). In fact, performance-approach goals are often unrelated to deep processing of the learning material (Elliot et al., 1999; Harackiewicz et al., 2000) and intrinsic motivation (Church et al., 2001). Furthermore, when compared to mastery-approach goals, performance-approach oriented students focus on the extrinsic reward of

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grades rather than enjoyment and interest in course material, they have a more negative view of the task to be done, are less cooperative with peers in the classroom, are reluctant to seek help, experience higher anxiety, and are more likely to cheat in tests (Darnon et al., 2007; Elliot & McGregor, 1999; Karabenick, 2003). In summary, achievement goal research shows that mastery-approach goals are linked to adaptive motivational patterns of behavior and thinking, but not consistently with higher academic performance. On the other hand, performance-approach goals more often relate to higher academic performance, but also to undesirable motivational tendencies. As a result of the mixed findings, some researchers have provided divergent suggestions. For example, some argued that the costs of performance-approach goals outweigh their benefits, and that students should focus exclusively on mastery-approach goals in learning situations (Brophy, 2005; Midgley et al., 2001). This notion has been met with opposition from researchers who have demonstrated the advantages of performance-approach goals (Senko & Miles, 2008). Yet other researchers have argued for a 'best of both worlds' scenario that can be achieved through a multiple goals perspective (Harackiewicz & Linnenbrink, 2005; Pintrich, 2000b). These researchers make the case that students should be encouraged to pursue both performance-approach and mastery-approach goals, as this would promote academic performance as well as achievement motivation.

In the present study utilizing the 2×2 achievement goals framework (Elliot & McGregor, 2008), I expect that performance-approach and mastery-approach goals will be positive predictors of college success, whereas performance-avoidance and mastery-avoidance goals will be negative predictors. Cumulatively, the student motivation literature reviewed under the expectancy-value theory and the achievement goal theory

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provide evidence to suggest that motivation does facilitate student performance, persistence, and performance-striving behaviors, and are thus critical for their success. As such, it is my premise that balance self-efficacy beliefs, subjective task value appraisals, and achievement goals constitute potential factors for nontraditional students' college success.

Multiple Dimensions of College Success

The current study focuses on three dimension of success: (1) Academic performance (2) college persistence, and (3) student well-being. This approach departs from the extant research that predominantly focuses on academic achievement as an indicator of success. It is not my contention that academic performance is an unimportant success outcome; in fact, there are good reasons for its prevalent use as an indicator of college success and these are well documented. For instance, high school grades have been shown to be one of the best predictors of first semester college GPA and final college GPA (McKenzie & Gow, 2004). The authors noted that students who come into college with higher high school GPAs tend to also get higher first term college GPAs and this was especially the case for traditional students. Among nontraditional students specifically, GPA was found to be a statistically significant predictor of reenrollment trends and intent to persist (Sandler, 2001). Lastly, Metzner, and Bean (1987) tested a nontraditional undergraduates' attrition model and found that GPA was one of the strongest predictors of persistence.

For all its virtues, however, academic performance alone cannot fully capture the concept of college success, especially for nontraditional students whose number one issue is persistence in college. Using academic achievement as the sole indicator of college

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success is particularly inadequate, considering that nontraditional students on the one hand typically attain high GPAs (Carney-Crompton & Tan, 2002; Justice & Dornan, 2001; McKenzie & Gow, 2004; Morris et al., 2003); yet on the other hand, they are consistently less likely to persist in college (Horn, 1996; Horn, 1998; NCES, 2002; 2011). Entwistle and Wilson (1977) provided a comprehensive depiction of success in college that included factors such as progress, competence, satisfaction, fitness, and adjustment. It therefore makes sense to broaden the scope of college success beyond academic achievement to include persistence as well as well-being.

Diener, Oishi, and Lucas (2009) define well-being as a person's cognitive and affective evaluation of his or her life as a whole. Diener et al. (2009) reiterated that subjective well-being evaluations include emotional reactions to events, as well as cognitive judgments of satisfaction and fulfillment. Nontraditional students may be especially vulnerable to stress and psychological distress, considering their overextended lifestyles whereby multiple roles compete for limited time, finances, and energy (Frone, 2003).

Student well-being has been conceptualized and measured using various constructs such as academic emotions, health behaviors and future optimism (Ruthig, Haynes, Perry, & Chipperfiled, 2007), perceived stress and depression (Ruthig, Haynes, Stupnisky, & Perry, 2009), and life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). In the current study, well-being was evaluated using students' general life satisfaction and self-reported health status. Research has shown that many students find college stressful (Robotham, 2008; Robotham & Julian, 2006), despite the numerous opportunities for growth, development, and fulfillment that it presents (Pascarella &

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Terenzini, 2005). Findings have demonstrated a positive correlation between students' subjective well-being perceptions and outcomes such as students' optimistic expectations of success, motivation, and performance (Ruthig et al., 2007; Ruthig, Perry, Hall, Hladkyj, 2004). For instance, in a sample of first-year college students, low well-being (depression) predicted lower end of year degree commitment and lower cumulative GPAs (Ruthig et al., 2009). I expect that well-being perceptions will be positively related to adaptive motivation factors, success expectancies and intent to persist for nontraditional students.

Taken together, in light of the literature reviewed here about the individual components of the currently proposed Model of Nontraditional College Student Motivation and Success, I expect that: (1) nontraditional student status will be negatively related to college success outcomes (i.e., intent to persist, expected term GPA, perceived course success, perceived college success, life satisfaction, and health), and (2) student motivation factors (i.e., balance self-efficacy, subjective task value, and achievement goals) will positively predict college success outcome, thus acting as mediators in the relationship between nontraditional student status and success outcome.

Research Questions

1. What are the relationships between nontraditional student status and motivational factors, intent to persist, success expectations, and well-being perceptions?

2. Do nontraditional students differ from their traditional counterparts in their motivational dispositions (balance self-efficacy, subjective task value, and achievement goals), intent to persist, success expectancies, and well-being perceptions?

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3. Can nontraditional students' intent to persist, success expectations, and well-being perceptions be predicted by their balance self-efficacy, subjective task value, and achievement goals? And if so, what is the relative importance of each of the motivation variables in explaining the outcome variables?

Chapter Summary

The literature reviewed in this chapter highlighted the issues surrounding the identity of nontraditional students and the barriers that they face as they pursue their education in college. The review also highlighted the disproportionately high attrition rates experienced by nontraditional students, when compared to their traditional counterparts. Evidence suggested that nontraditional characteristics predispose these students to failure by introducing an additional set of challenges beyond the pressures of college. Nevertheless, nontraditional students are likely to experience college success based on their balance self-efficacy beliefs, subjective task value, and achievement goals. The next chapter contains the methodology of the current study, which includes the methods used, data collection, participants, measures, and data analysis.

CHAPTER III

METHODS

The purpose of this dissertation research was to examine the role of motivation in predicting nontraditional college students' success, using a combination of the expectancy-value theory of achievement motivation (Eccles et al., 1983) and achievement goal theory (Dweck, 1986; Maehr, 1989; Nicholls, 1984). In this chapter, I review the specific research questions addressed in the current study, followed by an explanation of the study design, participants, data collection procedure, measures used, and data analysis.

Research Questions

1. What are the relationships between nontraditional student status and motivational factors, intent to persist, success expectations, and well-being perceptions?

2. Do nontraditional students differ from their traditional counterparts in their motivational dispositions (balance self-efficacy, subjective task value, and achievement goals), intent to persist, success expectancies, and well-being perceptions?

3. Can nontraditional students' intent to persist, success expectations, and well-being perceptions be predicted by their balance self-efficacy, subjective task value, and achievement goals? And if so, what is the relative importance of each of the motivation variables in explaining the outcome variables?

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Study Design

This dissertation study was cross-sectional by design, which means that data were collected from the participants only at one point in time. A cross-sectional design was deemed appropriate, because the purpose of the study was to test student motivational dispositions as predictors at one point in time, rather than to track change in motivation or in the predictive effects over time (in which case a longitudinal design would have been necessary). The research questions were investigated using quantitative research methods, which were executed with a web-based survey. The measurement instrument used for data collection was an online survey prepared in and administered using Qualtrics, a survey software package freely accessible to the University of North Dakota (UND) faculty, staff, and students.

Participants and Procedure

Prior to conducting the study, the researcher obtained requisite approval from UND's Institutional Review Board (IRB). A copy of the IRB approval can be found in Appendix A. The population for this dissertation study consisted of undergraduate college students enrolled in the fall 2012 semester at a four-year, research high activity (RH) university. The specific sample of the population was drawn from two sources. First, UND's office of institutional research (IR) provided the researcher with names and email addresses of 800 randomly sampled undergraduates who were 24 years of age or older and/or enrolled part-time. It was not possible for IR to sort out students using any other nontraditional student characteristics aside from age and enrollment status; additional nontraditional characteristics were identified using survey questions.

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Second, undergraduate students enrolled in various undergraduate psychology courses were invited to participate through the Psychology department's SONA research system. The current study was open to any student enrolled in undergraduate psychology courses that were eligible for extra credit via research participation. It was anticipated that the psychology student subject pool would include a number of traditional students to be used to compare nontraditional students. It is worth noting that psychology students were specifically approached to participate in the current study because they were more conveniently accessible to the researcher. However, many of the introductory psychology classes from which these students were recruited are required by programs across campus, therefore, students were believed to be representative of the general UND student population.

In September, soon after computing the final official student enrollment for the fall 2012 semester, IR provided me with email addresses of 800 students. On October 1st I activated the link to the survey in Qualtrics, at which time email invitations were sent to the 800 IR students. Simultaneously, the same survey was made available to Psychology students via the UND Psychology department's SONA system. In order to access the survey, Psychology students signed in to the SONA system, located the current study, and then clicked on to the link provided by Qualtrics. The survey questions were preceded by a statement that introduced the study, provided an indication of approximate time needed to complete the survey (20 minutes), and an assurance that the study was voluntary and confidential. A copy of the full invitation statement can be found in Appendix B.

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Because sample size is often a concern in quantitative research methodology and most multivariate analyses require large samples (Mertler & Vannatta, 2010), I took steps to maximize the response rate. First, the survey was left active for a period spanning one month (from October 1st through October 31st) to allow students ample time to respond. Second, three reminders were sent out after the initial invitation encouraging students to take the survey. The first reminder went out two weeks after the initial invitation, followed by a second reminder a week later, and a final reminder was sent one week prior to closing the survey. Finally, students were assured of incentives for their participation. Participants who were recruited through IR had their names entered into a drawing for a chance to win a $50 gift card, which occurred and was awarded at the conclusion of the study. Participants who took the survey through the psychology department earned one research credit hour, which they could apply toward an eligible psychology course of their choice.

<div align="center">**Instrument and Measures**</div>

A copy of the survey questions and the codebook prepared for data analysis can be found in Appendix C. The entire survey consisted of 77 individual question items, of which 58 items were used in the current study. The items assessed a wide array of student information that included demographic characteristics, motivation, success expectancies, intent to persist, and well-being perceptions. The survey questions represented various constructs that are described in the subsections that follow.

Nontraditional student status. Demographic questions were used to distinguish nontraditional students from their traditional counterparts. Participants were asked to indicate: (1) age in years, (2) enrollment status, (3) age when they first enrolled in

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college, (4) financial status (dependent or independent), (5) if they have dependent children, (6) marital status, (7) if they earned a G.E.D. (as opposed to a high school diploma), and (8) the number of hours they currently work in a week. The aforementioned characteristics were identified by Horn (1996) and have been used widely in the literature to define nontraditional students. Student age was also included in the definition because of its common use in the nontraditional student literature (Kasworm, 1990; Kasworm & Pike, 1994).

Balance self-efficacy. A revised version of Cinnamon's (2006) Work-Family Conflict Self-efficacy Scale was used to assess students' confidence in their ability to effectively manage the demands presented by multiple obligations such as simultaneously being a college student, parent, spouse, and/or employee. This scale was originally designed to assess individuals' beliefs regarding confidence in their ability to manage conflict between work and family roles. The revised scale used in the current study contained eight items asking students to rate their confidence in their ability to simultaneously handle the demands of college, family, personal life, and work obligations. An example item was, "I am confident in my ability to complete my college tasks effectively after a demanding day at work or at home." All items were measured on a nine-point Likert-type scale (1 = *Complete lack of confidence*; 9 = *Total confidence*). Higher scores indicated higher confidence to manage multiple roles.

Achievement goals. The Achievement Goal Questionnaire-Revised (AGQ-R) by Elliot and Murayama (2008) was used to measure the achievement goals that students have to pursue within their courses during the fall semester. The scale had two broad goal categories (i.e., mastery and performance), that were each specified into approach

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and avoidance components, thus creating four goal constructs: mastery-approach (e.g., "My aim is to completely master the material presented in this class."), mastery-avoidance (e.g., "My goal is to avoid learning less than it is possible to learn."), performance-approach (e.g., "My aim is to perform well relative to other students."), and performance-avoidance (e.g., "My aim is to avoid doing worse than other students."). In total, the scale contained 12 questions, three questions for each construct measured on a five-point Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*). The responses were summed up into their respective constructs, and a higher score indicated endorsement of a specific goal.

Subjective task value. Students' appraisals of the value of their college education was measured using a version of the Value of Education (VOE) Scale originally constituted and tested by Battle and Wigfield (2003). The scale contained four conceptually independent constructs measuring subjective task value: attainment (e.g., "Knowing that I completed all the work to get a degree would make me feel good about myself."), intrinsic (e.g., "I am excited about the idea of being in college."), utility (e.g., "I want to get a college degree so that I can better support myself and my family."), and cost (e.g., "Having a degree would be worth it even if pursuing it will cost me money or time away from my family"). There were 12 questions total, with each construct consisting of three items measured on a five-point Likert scale (1 = *Strongly disagree;* 5 = *Strongly agree).* Higher scores indicated greater value of the respective subjective task value construct.

Perceived course success and perceived college success. Students' perceptions of their success, both in their courses and in college generally, were measured using one

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item each ("How successful do you feel in your courses [college] so far?") on a 10-point Likert-type scale (1 = *Very unsuccessful*; 10 = *Very successful*). Higher scores indicated higher perceptions of success.

Expected grade point average (GPA). Students were asked to report the term GPA scores they expected to get at the end of the fall semester on a scale ranging from 0.0 and 4.0 (i.e., A = 4.00, B = 3.00, C = 2.00, D = 1.00, E = 1.00, F = 0.00). Term GPA is a measure of a student's average performance across all courses in which he/she is enrolled. Similar measures of expected GPA or expected course grades have been used to assess students' subjective evaluation of their academic performance in previous research (Hall, Hladkyj, Perry, & Ruthig, 2004; Ruthig et al., 2007).

General life satisfaction. Students' level of satisfaction with life in general was assessed using Diener et al.'s (1985) five-item scale (e.g., "The conditions of my life are excellent.") measured on a Likert-type scale (1 = *Strongly disagree*; 7 = *Strongly agree).*

Health. Students' self-reported health status was assessed with a single item ("In general, would you say your health is…?") measured on a five-point scale (i.e., 1 = *Bad*, 2 = *Poor*, 3 = *Fair*, 4 = *Good*, 5 = *Excellent*) adopted from Benyamini, Leventhal, and Leventhal (1999).

Intent to persist. Students' likelihood to persist in college was measured using three questions (e.g., "It is likely that I will complete my degree and graduate.") measured on a five-point Likert-type scale (1 =*Very definitely will not*; 5 =*Very definitely will*). The scale was created based on Bean and Metzner's (1985) conceptualization of students' college persistence intentions as part of their nontraditional undergraduates' attrition model.

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Explanation of Data Analysis

Preliminary Analyses

The data generated from the survey were downloaded from Qualtrics into an SPSS 19 file. SPSS is a quantitative software package that is commonly used for data screening and analysis in the Social Sciences. Next, the data set was coded by assigning variable names to response sets using a codebook that was specifically prepared for the current study. As suggested by Mertler and Vannatta (2010), pre-analysis data screening was conducted to ascertain the accuracy of the data collected, deal with missing values, assess the presence and effects of extreme values (outliers), and check for normality of the data. Data normality was assessed by examining frequency distributions and other descriptive statistics such as means, standard deviations, ranges, skewness, and kurtosis, which were generated for all of the survey questions. Next, multi-item scales were computed by summing item responses into their respective scales. The scales were then analyzed for reliability and validity.

Missing data. As with any survey data collection, missing data in the form of unanswered questions was anticipated and several cases were observed. For instance, 49 participants opened the survey but did not answer a single question. Consistent with one suggestion for dealing with missing data offered by Tabachnick and Fidell (2007), the 49 cases were deleted and excluded from the final sample and from further analyses. Also, in the process of classifying students into traditional/nontraditional groups, 25 students' responses were found to be missing the demographic information needed to classify them as either traditional or nontraditional. The 25 cases were retained in the data set, but were noted as 'missing' under participants' descriptive summary.

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Normality. Normality of data is the degree to which responses (scores) are normally spread around the mean, for which a normal distribution is represented by a symmetric bell shaped curve. Skewness and kurtosis are the two commonly used statistical options for assessing normality (Mertler & Vannatta, 2010). Skewness measures how far outside the normal distribution curve values are distributed; in other words, it is an indicator of symmetry. For a distribution to be considered normal the values for skewness should fall within the range of +1.00 to -1.00, with values outside these ranges indicating a skewed distribution. Kurtosis, on the other hand, is a measure of the peakedness or flatness of a distribution. A kurtosis value near zero indicates a shape close to normal; specifically, a value of +/-1 is considered good for most psychometric uses, +/-2 is acceptable, and > +/-3) is considered non-normal (Mertler & Vannatta, 2010). Skewness and kurtosis values were computed for all study variables and were used to screen for the distribution of responses.

Scale reliability. A scale is said to be reliable if it consistently measures what it is supposed to measure. Cronbach's alpha (α) is the most common internal consistency metric used in quantitative research and was used in the current study to assess multi-item scale reliability. Typically, Cronbach's alpha values range from -1 to +1, and the closer the score is to 1, the more reliable the scale is said to be. George and Mallery (2003) provided the following interpretation guidelines for Cronbach's alpha values: > .9 = excellent, > .8 = good, > .7 = acceptable, > .6 = questionable, > .5 = poor, and < .5 = unacceptable.

Validity. The validity of a scale tells us the extent to which a scale measures what it purports to measure. Ascertaining the validity of a scale enables a researcher to

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properly interpret results and in turn to draw accurate conclusions based on those results (Brown, 1976). Although the motivational constructs used in the current study (i.e., achievement goals and subjective task values) are well established in the respective literature, factor analyses were nonetheless conducted to assess the underlying internal structure of the scales based on the current study sample.

Factor analysis is used to determine if, and how well, a set of items represent a particular construct (Gall, Gall, & Borg, 2005). In that regard, factor analysis measures the correlation between the items with the overall construct, as well as the amount of total variance of the construct that is being accounted for by the items. Because factor loadings are correlations, possible values range from -1 to +1 and the closer a value is to either -1 or +1 the stronger the factor loading is said to be. Recommended item factor loading from a factor analysis should be higher than .30, and total variance should be at least 40% or more (Hatcher, 1994). Eigen value is another important index in factor analysis and it is defined as the amount of total variance explained by each factor, where the total amount of variability in the analysis equal to the number of original variables in the analysis (Hatcher, 1994). As a rule, only the components with eigen value greater than one are considered meaningful and eigen values should be greater than 1.0 for each extracted factor. Together, the higher the item factor loadings, eigen values, and total variance accounted for, the higher the validity of the construct in question is said to be.

Main Analysis

Correlations. Correlation is a measure of the strength and direction of the relationship between two variables. Pearson product-moment correlation coefficient (*r*) is the most commonly used correlation metric. Correlation values range from

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-1.00 (a perfect inverse relationship) to 1.00 (a perfect direct relationship), and an *r* value of .00 indicates a complete absence of a relationship. Thus, the closer a value is to either -1.00 or +1.00, the stronger the relationship between the two variables under consideration (Pyrczak, 2009).

Despite the aforementioned guidelines, Pyrczak (2009) notes that the interpretation of correlation values vary from study to study, based on the nature of variables under investigation. He also cautions that a correlation simply represents the relationship between two variables, regardless of whether the relationship is dependent or independent, and does not imply causation. In the current study, the correlations between all of the variables were computed to assess the strength of their relations, which includes motivational factors, intent to persist, success expectations, and well-being. Correlations were computed with the overall sample, as well as separately for the nontraditional and traditional students' samples to allow for a comparison between the correlation coefficients.

Independent samples *t*-tests. Another objective of the current study was to assess if nontraditional students differ from their traditional counterparts in motivation, success expectancies, well-being, and intent to persist in college. Mean differences on the study variables between nontraditional and traditional students were assessed using *t*-tests. A 95% confidence level was set as the minimum standard for claiming statistical significance of the mean differences observed. In other words, any difference in mean values observed at the .05 significance level or lower was considered substantial enough to reject the null hypothesis (i.e., no difference between groups) in support of the alterative hypothesis that a 'true' difference existed in the population. In addition to

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statistical significance, to assess the practical significance of the mean differences

observed between nontraditional and traditional students, Cohen's *d* (Cohen, 1988) was

used to measure effect size. Cohen's *d* values are usually interpreted as either small

($d = .2$), medium ($d = .5$), or large ($d = .8$) effects to characterize the magnitude of mean

differences in practical (rather than statistical) terms.

Multiple regressions. The final objective of the current study was to examine the

predictive effects of motivation factors (independent or predictor variables) on measures

of college success outcomes (dependent or criterion variables). Multiple regressions

were used to assess the effect of the overall combination of variables together as a model,

as well as the unique contribution of each independent variable in predicting the

dependent variable. According to Mertler and Vannatta (2010), it is good practice to

determine the best set of predictor variables as a way to achieve a parsimonious (best and

simplest) model, rather than including every conceivable predictor variable in the

regression equation. In the current study, multiple regressions were used to test which

motivational variables predicted students' intent to persist, success expectations, and

well-being perceptions. The regressions were done with the overall sample, as well as

separately for the traditional and nontraditional student samples to allow for comparison

of the models and the regression coefficients.

Chapter Summary

In this chapter, first, a description of and rationale for the cross-sectional design

used in the current study was given. Second, a description of the study population and

sample, which was comprised of undergraduate students enrolled in various courses in

the fall 2012 semester was provided. Third, the chapter contained an explanation of the

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data collection, which was accomplished using an online survey. Finally, I explained the measures that were used, how the data were screened to ensure accuracy, and the types of data analysis procedures that were used. The results of data analyses are presented next in Chapter IV.

CHAPTER IV

RESULTS

The purpose of the current dissertation study was to examine the role of motivation in predicting nontraditional students' college success, using two motivational theories; namely, the expectancy-value theory (Eccles et al., 1983) and achievement goals theory (Dweck, 1986; Maehr, 1989; Nicholls, 1984). In the current chapter, I begin by providing a review of the specific research questions which the study was designed to answer. Next, I present the findings in the following order: (1) the characteristics of the study sample, (2) descriptive statistics and the psychometric properties of the measures used, (3) mean differences between nontraditional and traditional students on study variables, (4) correlations between variables as well as differences in correlations between nontraditional and traditional students, and (5) predictive effects and differences in predictive effects between nontraditional and traditional students. These results are intended to provide empirically based insight for educators and practitioners who are looking to enhance the experiences of nontraditional students and to optimize their success in college.

Research Questions

1. What are the relationships between nontraditional student status and motivational factors, intent to persist, success expectations, and well-being perceptions?

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2. Do nontraditional students differ from their traditional counterparts in their motivational dispositions (balance self-efficacy, subjective task value, and achievement goals), intent to persist, success expectancies, and well-being perceptions?

3. Can nontraditional students' intent to persist, success expectations, and well-being perceptions be predicted by their balance self-efficacy, subjective task value, and achievement goals? And if so, what is the relative importance of each of the motivation variables in explaining the outcome variables?

Results

Sample Characteristics

A total of 377 students participated in the current study. Of the 800 students invited via email (addresses provided by IR), 165 took the survey, and constituted a 20.6% response rate for this particular group of students. In addition, 212 students who accessed the study through the psychology department also responded to the survey. After excluding 49 participants who did not answer a single question on the survey, the final sample was 328 participants.

Participants' characteristics. The study participants included more females ($n = 228$, 69.5%) than males ($n = 100$, 30.5%). The students ranged in age from 17 to 54 years old, with a mean age of 24.11, and a standard deviation of 7.06. Seventeen participants did not indicate their age. With regard to year of study, participants were nearly evenly distributed into first (82), second (70), third (56), and fourth (95) year; 25 students did not specify their class level.

As the focus of the current study was on nontraditional students, the sample was broken down by nontraditional student characteristics in order to separate them from their

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traditional peers, based on the criteria described in Chapter II. There were more

nontraditional students (*n* =179, 54.6%; i.e., students with at least one nontraditional

characteristic) than traditional students (*n* = 124, 37.8%). However, 25 students could

not be classified as either traditional or nontraditional, because their responses were

missing the required demographic characteristics. Table 1 shows a summary of the

participants, presented by nontraditional student characteristics and other demographics.

The most frequently reported nontraditional student characteristic was financial

independence, as a total of 168 students constituting 51.2% of the sample indicated that

they were financially independent. This means that these students did not rely on their

parents or guardians for financial support. The second most common nontraditional

characteristic was working for more than 20 hours a week, which was reported by 159

students, making up 48.5% of the current student sample. Finally, the third most

common characteristic was nontraditional student age, as 139 students, making up 42.4%

of the sample, reported that they were 24 years or older.

One interesting finding was that, while 139 students reported that they

were 24 years or older, only 30 students indicated that they delayed enrollment (i.e.,

enrolled in college at the age of 20 years or older for the first time). This indicates that

although a substantial number of students in the current sample were older than 24 years,

most of them enrolled in college for the first time at the traditional age of less than 20

years. The discrepancy between the high number of older students (139) and those who

delayed college enrollment (30) may be related to a number of factors. For instance,

there may have been a large number of transfer and/or reentry students (returning after

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taking a break), or it may simply mean that students are taking a longer period of time to

go through college.

Table1. Summary of Participants' Demographic Information.

Characteristic	No.	%
Nontraditional status		
Age (24 years or older)	139	42.4
Works for more than 20 hours a week	159	48.5
Earned a GED	7	2.1
Financially independent	168	51.2
Delayed college enrollment	30	9.1
Enrolled part-time	50	15.2
Married	71	21.6
Has dependent child(ren)	66	20.1
Other demographics		
Gender		
Female	228	69.5
Male	100	30.5
Year of study		
1st	82	25
2nd	70	21.3
3rd	56	17.1
4th	95	29
Other	25	7.6
Student sub-group		
Nontraditional	179	54.6
Traditional	124	37.8
Missing	25	7.6

It is also possible that nontraditional aged students may have enrolled in college

for the first time at a 2-year college and later transferred to UND, in which case they

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would be older than the traditional student who enrolled at UND immediately after high school. Similarly, most of the older students may have enrolled in college straight after high school at the traditional age (below the age of 20 years), but may have departed from college and returned later, in which case they would also be older than their traditional peers.

Nontraditional students were further grouped into three categories, based on the number of nontraditional characteristics that they each identified: minimally (1-2), moderately (3-4), and highly (5 or more) nontraditional. The three categories of nontraditional students were approximately evenly represented in the current study's sample as follows: highly ($n = 57$, 31.8%), moderately ($n = 60$, 34.5%), and minimally ($n = 62$, 34.6%) nontraditional. This classification was deemed relevant to the current study because, as Horn (1996) observed, nontraditional characteristics deter success in college and the more nontraditional characteristics students have the more susceptible to failure they are believed to be.

Scale Validity

Factor analyses were conducted on all of the multi-item scales, which included achievement goals, subjective task values, balance self-efficacy, and students' intent to persist in college. For the multi-dimensional constructs (i.e., scales with more than one sub-construct) such as achievement goals and subjective task values, a procedure recommended by Hatcher (1994) was used for factor analysis. Responses for the achievement goals and subjective task value scales were factor analyzed using exploratory factor analysis with squared multiple correlations as prior communality estimates.

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Principal component analysis was used to extract the factors and interpretation of factor loadings were aided by a varimax rotation. In interpreting the rotated pattern, an item was said to load on a given factor if the factor loading was .35 or greater for that factor, and was less than .35 for the other factor. Next, confirmatory factor analyses were performed on each of the achievement goals and subjective task value constructs to assess the strength of item loadings, which is an indicator of how well responses on an item represent the construct that they are supposedly measuring.

Achievement goals. Using the previously described criteria, three meaningful factors were extracted rather than the expected 4. Specifically, three of the performance-approach goal items loaded on one factor (factor 1), all three mastery-avoidance goals loaded another factor (factor 2), and all the three items making up mastery-approach goals loaded on one factor (factor 3). This implies that participants were able to conceptually identify performance-approach, mastery-approach, and mastery-avoidance goals items as measuring their respective distinct constructs.

Performance-avoidance goal items, however, cross loaded on more than one factor; specifically, all of the three performance-avoidance goals loaded on to the same factor (factor 1) as the performance-approach goals, as well as on factor 2 with mastery avoidance items. It is worth noting that loadings for performance-avoidance items were stronger in factor 1 (with performance-approach items) than in factor 2 (with mastery-avoidance items). The cross loading of performance-avoidance items indicate that participants were unable to clearly distinguish performance-avoidance items, indicating lack of empirical distinction for performance-avoidance goals.

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Despite the overlapping factor loadings for performance-avoidance goals items they were treated as an independent construct as theorized in the 2×2 goals framework (Elliot & McGregor, 2001). Goal researchers, including Elliot and Murayama (2008), have provided ample theoretical and empirical support to justify the conceptual independence of each of the four achievement goal scales. In the next step, confirmatory factor analysis was performed on the achievement goals scales (performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance) to assess how strongly the items that constitute the scales load on to their respective constructs. According to Hatcher (1994), confirmatory factor analysis is typically conducted when a researcher has a good idea regarding the number of factors being assessed, as well as knowledge of which items load on which factors, as was the case in the current study.

As shown in Table 2, each of the goal items loaded strongly on their respective constructs; the lowest loading item had a correlation of .79 and the highest was .91. Each set of items led to the extraction of only one factor, based on only one factor with an eigen value greater than 1. The items accounted for a substantial amount of variance (ranging from 70% to 80.29%) in explaining the constructs that they each represent.

Subjective Task Value. Responses to the 12-item subjective task value scale were also analyzed using an exploratory factor analysis. A scree test suggested three (rather than the expected 4) meaningful factors. First, items making up attainment value loaded on one factor (factor 1), yet items making up utility value also loaded on the same factor (factor 1), which suggests that student participants could not clearly distinguish between attainment and utility value items as belonging to separate constructs. Second,

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all of the intrinsic value items loaded on factor 2, which means that the items were

identified as

Table 2. Summary of Confirmatory Factor Analysis Results for Achievement Goals
(N = 328).

Variable Item	Factors loadings			
	PAP	PAV	MAP	MAV
I am striving to do well compared to other students	.91			
My aim is to perform well relative to other students	.91			
My goal is to perform better than the other students	.87			
My goal is to avoid performing poorly compared to others		.79		
I am striving to avoid performing worse than others		.88		
My aim is to avoid doing worse than other students		.89		
My aim is to completely master the material presented in this class			.81	
My goal is to learn as much as possible			.86	
I am striving to understand the content of this course as thoroughly as possible			.87	
My aim is to avoid learning less than I possibly could.				.88
My goal is to avoid learning less than it is possible to learn.				.90
I am striving to avoid an incomplete understanding of the course material.				.73
Eigen values	2.41	2.20	2.14	2.15
% of variance	80.29	73.15	71.28	70.0

Note. Achievement goals abbreviated as: PAP = performance-approach; PAV = performance-avoidance;
MAP = mastery-approach; MAV = mastery-avoidance.

conceptually belonging to the same distinct value construct. Finally, out of the three cost

value items, one item loaded on factor 1, and the remaining two items loaded on factor 3.

This result indicated an overlap between factors 1 and 3 for cost value, suggesting lack of

distinction for cost value.

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Next, confirmatory factor analyses were conducted on each of the four subjective task value constructs to assess the strength of item loadings. As shown in Table 3, all of the items loaded strongly onto their respective factors. Despite the lack of empirical distinctions as evidenced by mixed factor loadings in two constructs in the exploratory factor analysis results, all of the four subjective task value constructs were treated as conceptually distinct just as they are theorized (Eccles et al, 1983) and based on the confirmatory factor analysis results.

Balance self-efficacy. Responses to the 8-item balance self-efficacy scale were also subjected to an exploratory factor analysis. Using principal component analysis, one factor (as expected) was extracted. As illustrated in Table 4, all of the items showed high loadings on the one factor with values ranging from .83 to 91. The factors showed good Eigen value, and also accounted for substantial variance in explaining the balance self-efficacy construct.

Intent to persist. Responses to the three-item intent to persist scale were analyzed using exploratory factor analysis. As shown in Table 5, all of the items showed strong loadings onto the construct. The three items accounted for a good amount of variance in explaining students' intent to persist construct.

Descriptive Summary of Study Variables

After confirming the underlying structure of the constructs used in the study, descriptive statistics were generated. Table 6 displays Cronbach alphas (α), means, standard deviations, actual response ranges, skewness, and kurtosis values. Considering that the criteria described in Chapter III for good reliability, most of the summed scales in

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the current study showed good internal reliability. Two exceptions that had low

reliabilities were cost value (α = .65) and intent to persist (α = .62). It is worth

Table 3. Summary of Confirmatory Factor Analysis Results for Subjective Task Value
(N = 328).

Subjective task value items	Factor loadings			
	Attainment	Cost	Utility	Intrinsic
I feel that attaining my degree is a necessary part of what will make me feel good about myself in the future	.92			
Getting my college degree is of great personal value to me.	.92			
Knowing that I completed all the work to get a degree would make me feel good about myself.	.91			
Having a degree would be worth it even though sometimes I have fears about my ability to manage college work.		.57		
Having a degree would be worth it even if I have to sacrifice involvement in personal, family, or community events that I like.		.86		
Having a degree would be worth it even if pursuing it will cost me money or time away from my family.		.85		
I think a college degree will be very useful for achieving my future career aspirations.			.87	
I want to get a college degree so that I can better support myself, and my family.			.89	
A college degree is important to me because it will provide better job opportunities.			.92	
I like the idea of attending stimulating lectures and classes in college.				.79
I am excited about the idea of being in college.				.81
It is exciting to think about the challenge of college level work.				.82
Eigen values	2.51	1.78	2.38	1.94
% of variance	83.64	59.39	79.59	64.66

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Table 4. Summary of Confirmatory Factor Analysis Results for Balance Self-efficacy (N = 328).

Balance self-efficacy items	Factor loadings
Fulfill college responsibilities without letting it interfere with your family/personal responsibilities.	.86
Complete pressing tasks in college without it affecting your ability to attend to your family obligations.	.83
Manage incidences where college obligations interfere with work, family/personal life.	.85
Fulfill all your college responsibilities despite going through a demanding period in your work, or family/personal life.	.91
Fulfill your college tasks effectively after a demanding day at work or at home.	.90
Stay focused in your college tasks even when under heavy pressure from family/personal or work responsibilities.	.89
Succeed in your assignments at college although there are many difficulties in your family/personal, or work life.	.89
Complete college tasks even though family/personal and work issues are disruptive.	.89
Eigen value	6.15
% of variance	76.90

Table 5. Summary of Confirmatory Factor Analysis Results for Intent to Persist (N = 328).

Intent to persist items	Factor loadings
It is likely that I will reenroll at UND next semester	.67
It is likely that I will complete my degree and graduate	.83
It is likely that I will pursue my degree continuously until the end without interruptions	.83
Eigen value	1.82
% variance	60.79

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Table 6. Descriptive Summary of Study Variables With the Overall Sample.

Variables	No. of Items	Scale Anchors	α	M	SD	Response Range	Skew	Kurtosis
Balance	8	1 = Complete lack of confidence 9 = Total confidence	.96	52.5	12.36	8 - 72	-.70	.34
Subjective task value		1 = Strongly Disagree 5 = Strongly Agree						
Attainment	3		.90	13.49	2.11	4 - 15	-1.78	3.64
Cost	3		.65	12.37	2.07	5 - 15	-.82	.73
Utility	3		.87	13.85	1.80	4 - 15	-1.89	4.26
Intrinsic	3		.73	11.42	2.36	4 - 15	-.48	.08
Achievement Goals		1 = Strongly Disagree 5 = Strongly Agree						
PAP	3		.87	12.14	2.50	3 - 15	-1.11	1.69
PAV	3		.81	11.46	2.87	3 - 15	-.76	.22
MAP	3		.80	12.69	2.03	3 - 15	-1.42	3.76
MAV	3		.79	10.57	3.11	3 - 15	-.52	-.29
Perceived Success		1 = Very unsuccessful 10 = Very successful						
In course	1			7.41	1.87	1 - 10	-.94	1.06
In college	1			7.51	1.83	1 - 10	-.91	1.01
GPA	1	0.00 - 4.00		3.79	.48	1 - 4	-2.81	10.31
Persist	3	1 = Very definitely will not 5 = Very definitely will	.62	13.68	1.80	7 - 15	-1.29	.81
Health	1	1 = Bad 5 = Excellent		3.92	.76	1 - 5	-.80	1.27
GLS	5	1 = Strongly Disagree 7 = Strongly Agree	.87	25.27	5.87	5 - 35	-.78	.45
Nontraditional status	8	Demographic questions		3.55	1.92	1-7	.23	-1.11

Note. PAP = performance-approach; PAV = performance-avoidance; MAP = mastery-approach; MAV = mastery-avoidance; GLS = general life satisfaction.

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noting that low reliability for cost value was expected, because it was one of the subjective task value constructs that was not clearly distinguished by participants in the current study as shown by factor analysis results.

With regard to data normality, considering that any values outside the range of -1.00 and + 1.00 is considered skewed, the distributions of all of the responses were negatively skewed with values ranging from -.48 to -2.81. At the same time, kurtosis values ranged from as low as .27 to as high as 10.31. The most extreme values for skewness (-2.82) and kurtosis (10.31) were observed on 'expected term GPA' question. This indicates that the majority of students reported very high (4.00) term GPA values, but also a few students reported very low (1.00) GPAs.

Students' responses concerning nontraditional status ranged from 1-7, indicating that some students reported only one nontraditional characteristic, but some also reported as many as seven characteristics out of the eight used to define a nontraditional student in the current study. More precisely, most of the nontraditional students reported having three or four nontraditional characteristics as shown by a mean of 3.55 on nontraditional student status.

Correlations

As shown in Table 7, most of the correlations within the overall sample were significant, and they ranged from weak ($r = .11$) to strong ($r = .88$). The most interesting finding was that, as expected, nontraditional student status was negatively related to almost all of the adaptive motivation factors, success expectancies, and well-being perceptions. Specifically, nontraditional student status was significantly negatively

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Table 7. Correlation Matrix for all Study Variables With the Overall Sample.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Nontradiitional status
1. Balance	-															-.19**
2.Attainment	.26**	-														-.18**
3. Cost	.20**	.58**	-													-.23**
4. Utility	.17**	.70**	.56**	-												-.10
5. Intrinsic	.41**	.41**	.43**	.27**	-											-.05**
6. PAP	.34**	.38**	.31**	.31**	.35**	-										-.16**
7.PAV	.23**	.28**	.33**	.21**	.27**	.66**	-									-.12**
8. MAP	.36**	.40**	.24**	.25**	.48**	.54**	.34**	-								-.02
9. MAV	.16**	.09	.12*	.06	.22**	.24**	.56**	.33**	-							.06
10. PS course	.48**	.25**	.16**	.25**	.32**	.34**	.23**	.32**	.14*	-						-.04
11. PS college	.48**	.26**	.18**	.25**	.33**	.31**	.25**	.35**	.18**	.88**	-					-.06
12. GPA	.34**	.20**	.21**	.22**	.19**	.31**	.17**	.18**	.04	.59**	.55**	-				-.21**
13. Persist	.29**	.45**	.33**	.50**	.24**	.20**	.15**	.23**	.10	.28**	.27**	.25**	-			-.13**
14. Health	.32**	.16**	.17**	.07	.15**	.14**	.12*	.36**	.04	.30**	.26**	.14**	.07	-		-.04
15. GLS	.43**	.27**	.11*	.08	.23**	.15**	.15**	.24**	.12*	.20**	.25**	.09	.18**	.46**	-	-.15**

Note. PAP = performance-approach; PAV = performance-avoidance; MAP = mastery-approach; MAV = mastery-avoidance; PS course = perceived course success; PS college = perceived college success; GLS = general life satisfaction.

$* p < .05$. $** p < .01$. $*** p < .001$.

to intrinsic value, expected term GPA, intent to persist in college, and general life satisfaction. These findings indicate that the more nontraditional a student is the lower their confidence in their ability to manage multiple roles; the less they pursue performance-approach and performance-avoidance goals; the less they see college as an important attainment, a worthy investment (cost), and as enjoyable (intrinsic); the lower their expectations of term GPA; and the lower their general life satisfaction. However, nontraditional student status did not significantly correlate with mastery-approach goals, mastery-avoidance goals, utility value, perceived course and college success, or self-reported health.

Furthermore, all of the motivation variables in the current study were also positively correlated with one another, as well as with success outcomes (i.e., intent to persist, expected term GPA, perceived course and college success, student self-reported health, and general life satisfaction). This finding indicates that the higher the students' motivation, the better they expect to perform, the higher their perceptions of success in their courses and in college, the more they intend to persist in college, and the more highly they appraise their health and general life satisfaction. A noteworthy finding was that balance self-efficacy was consistently positively related to all the subjective task values namely, attainment, cost, utility and intrinsic.

Unexpectedly, performance-avoidance goals, which according to goal theory are considered to be maladaptive motivational tendencies, were consistently positively (rather than negatively) correlated with all of the other adaptive achievement motivation tendencies, college success expectations, intent to persist, and well-being. This finding, although contrary to theory, is not surprising considering that factor analysis results

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revealed an overlap between performance-approach and performance-avoidance goals. In fact, the current findings show that the two constructs were positively (rather than negatively) correlated in the overall sample (.66), as well as in both the traditional (.58) and nontraditional student samples ($r = .68$). The contrary findings with regard to performance-avoidance goals are not unique to the current study (see Elliot and Murayama, 2008) and will be explained in more detail later in the discussion section.

Correlation differences across student status. As shown in Table 8, two additional sets of correlations were computed: one for traditional students and another for nontraditional students. Specifically, performance-approach goals were more positively related to expected term GPA, perceived course success, and perceived college success for nontraditional students than for traditional students. Second, performance-avoidance goals were significantly more positively related to expected term GPA for nontraditional students than for traditional students. Third, mastery-approach goals were more closely positively related to perceived course success and perceived college success for nontraditional students than for traditional students. Fourth, intrinsic value was more closely positively related to expected term GPA and perceived college success for nontraditional students than for traditional students. These findings suggest that the aforementioned student motivation factors (i.e., performance-approach, performance-avoidance, mastery-approach, and intrinsic value) were more strongly positively related to success outcomes for nontraditional students than for traditional students.

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Table 8. Correlations Matrix: Nontraditional (upper diagonal) and Traditional (lower diagonal) Students.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Balance	-	.24**	.15*	.12	.42**	.31**	.23**	.39**	.19*	.49**	.50**	.35**	.28**	.32**	.41**
2. Attainment	.22*	-	.53**	.63**	.43**	.38**	.29**	.48**	.16*	.26**	.25**	.16*	.37**	.19*	.13
3. Cost	.23**	.62**	-	.50**	.44**	.33**	.42**	.25**	.21**	.10	.12	.17*	.27**	.18*	.02
4. Utility	.20*	.84**	.56**	-	.27**	.26**	.21**	.26**	.14**	.23**	.21**	.14**	.47**	.04	-.02
5. Intrinsic	.35**	.31**	.45**	.20*	-	.37**	.30**	.49**	.22**	.32**	.38**	.26**	.18**	.14	.16*
6. PAP	.31**	.37**	.23**	.32**	.34**	-	.68**	.51**	.28**	.44**	.44**	.36**	.17*	.14	.04
7. PAV	.16	.25**	.17	.18*	.25**	.58**	-	.37**	.60**	.25**	.25**	.21**	.14	.15*	.04
8. MAP	.33**	.34**	.29**	.32**	.36**	.64**	.32**	-	.37**	.43**	.47**	.23**	.20*	.17*	.24**
9. MAV	.10	.03	.05	.00	.27**	.13	.49**	.24**	-	.19*	.21**	.08	.11	.12	.10
10. PS course	.41**	.28**	.29*	.27**	.30**	.11	.18	.21*	.05	-	.91**	.64**	.25**	.25**	.12
11. PS college	.37**	.27**	.28**	.29**	.21**	.05	.21*	.20*	.11	.83**	-	.60**	.22**	.30**	.20*
12. GPA	.23*	.17	.14*	.20*	.06	.09	-.04	.09	-.08	.44**	.38**	-	.27**	.23**	.06
13. Persist	.26**	.45**	.37**	.49**	.27**	.19*	.11	.28*	.11	.31**	.29**	.09	-	.10	.09
14. Health	.34**	.18*	.17	.16	.11	.14	.12	.20*	-.02	.21*	.25**	.05	.09	-	.36**
15. GLS	.49**	.25**	.25**	.22*	.30**	.27**	.33**	.27*	.17	.36**	.39**	.16	.37**	.52**	-

Note. PAP = performance-approach; PAV = performance avoidance; MAP = mastery approach; MAV = mastery-avoidance; PS course = perceived course success; PS college = perceived college success; GLS = general life satisfaction.
* * $p < .05$. ** $p < .01$. *** $p < .001$.

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Generally, both sets of correlation coefficients showed similar relationships between the variables. However, the correlations coefficients for nontraditional and traditional students' were tested to examine if statistically significant differences exist between the two student sub-groups. A number of significant differences were found as shown on Table 9.

Table 9. Significant Differences in Correlations Between Nontraditional and Traditional Students.

Motivation variable	Expected term GPA	p	PS course	p	PS college	p	GLS	p
			Success Outcome					
PAP	.36** vs. .09	.007	.44** vs. .11	.001	.44*** vs. 0.5	.000		
PAV	.21** vs. -.04	.01					.04 vs.33**	.00
MAP			.43** vs. .21*	.01	.47** vs. .20*	.004		
Cost							.02 vs. .25**	.02
Utility							-.02 vs. .22**	.01
Intrinsic	.25** vs. .06	.04			.38** vs. .21*	.05	-	

Note. Only statistically significantly different correlations are reported. Coefficients for nontraditional students are reported first. PAP = performance-approach; PAV = performance-avoidance; MAP = mastery-approach; PS course = perceived course success; PS college = perceived college success, GLS = general life satisfaction. p = probability level.
$* p < .05.$ $** p < .01.$ $***p < .001.$

However, it is worth noting the reverse trend in the correlation results with regards to general life satisfaction. For instance, three motivational factors (i.e., performance-avoidance goals, cost value, and utility value) were more closely positively related to general life satisfaction for traditional students than for nontraditional students. These findings suggest that when compared to nontraditional students, traditional

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students' satisfaction with life is more closely positively related to performance-avoidance goals, cost value, and utility value.

Mean Differences between Nontraditional and Traditional Students

Using independent sample *t*-tests, differences between nontraditional (179) and traditional students (124) were tested on all the study variables. The analyses revealed seven significant differences as shown on Table 10. Effect sizes (Cohen's *d*) were also computed, and small to medium effects ranging from .28 to .41 were found for the significant differences.

Student motivation. With regard to differences in student motivation, several statistically significant differences were found between nontraditional and traditional students. Specifically, nontraditional students, compared to traditional students, exhibited lower levels of balance self-efficacy, attainment value, cost value, and performance-approach goals. These results suggest that nontraditional students have less confidence in their ability to manage multiple roles, they see their college education as less important to the extent that it defines who they are, see college as a less worthy investment in exchange for the things that they have to sacrifice such as time with family, and also less often endorse the goal of out-performing their peers. In terms of practical significance in motivation factors, cost value had the largest effect size, followed by attainment value, balance self-efficacy, and finally, performance-approach goals. There were no statistically significant differences between nontraditional and traditional students on utility value, intrinsic value, or mastery-approach goals.

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Success expectancies. With regard to students' expectations of success,

statistically significant differences were observed between nontraditional and traditional

students on

Table 10. Mean Differences Between Nontraditional and Traditional Students on Study
Variables.

| Variable | Nontraditional | | | Traditional | | | | |
	M (N)	SD	M (N)		SD	t	Cohen's d
Balance	51.54 (176)	13.4	54.87 (120)		9.90	2.31 *	.28
Attainment	13.26 (178)	2.26	13.97 (123)		1.57	2.99***	.36
Cost	12.09 (177)	1.80	12.93 (124)		1.66	3.60***	.43
Utility	13.81 (178)	1.70	14.08 (124)		1.62	1.36	.16
Intrinsic	11.44 (178)	2.40	11.54 (122)		2.21	.38	.04
PAP	11.95 (177)	2.55	12.62 (121)		2.35	2.30*	.27
PAV	11.24 (178)	2.90	11.87 (124)		2.80	1.88	.22
MAV	12.64 (176)	2.12	12.80 (124)		1.95	.68	.07
PS course	7.48 (170)	2.00	7.50 (123)		1.60	.08	.01
PS college	7.59 (169)	1.93	7.63 (123)		1.61	.18	.02
GPA	3.76 (178)	.50	3.90 (124)		.32	2.73***	.33
Persist	13.61 (177)	1.79	13.90 (122)		1.73	1.40	.17
Health	3.86 (178)	.75	4.03 (124)		.77	1.94*	.22
GLS	24.42 (176)	5.96	26.76 (123)		5.41	3.46***	.41

Note. PAP = performance-approach; PAV = performance-avoidance; MAP = mastery-approach; MAV =
mastery-avoidance; PS course = perceived course success; PS college = perceived college success; GLS =
general life satisfaction.
* *p* < .05. ** *p* < .01. ***p < .001.

expected term GPA, as nontraditional students expected lower term GPAs compared to

their traditional counterparts. These findings suggest that nontraditional students were

less optimistic about their aggregate end of term performance. There were, however, no statistically significant differences on measures of perceived course or college success.

Well-being. On the two measures of well-being tested in the current study, nontraditional students reported less life satisfaction and poorer health compared to their traditional peers. The findings suggest than nontraditional students are generally less satisfied with the conditions of their lives, and also feel that their health is poorer than traditional students.

Intent to persist. In terms of students' intentions to persist in college as measured by their likelihood to reenroll the following semester and likelihood to complete and graduate, there were no statistically significant differences between nontraditional and traditional students. This was unexpected; however, there was a trend in the results showing lower means for nontraditional (13.61) compared to traditional (13.90) students on intent to persist in college. Because persistence has been identified as a significant problem among nontraditional students (NCES, 2002, 2011), differences on students' intent to persist was further examined based on individual nontraditional characteristics.

Out of the eight nontraditional characteristics used to identify these students in the current study, five showed statistically significant differences on intent to persist as shown in Table 11. Specifically, nontraditional students were less likely to intend to persist than traditional students if they were: 24 years or older, financially independent, worked for more than 20 hours a week, enrolled part-time, and delayed college enrollment after high school. Of the aforementioned five nontraditional characteristics, delayed college enrollment had the biggest effect size (d =.48), followed by part-time

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enrollment ($d = .38$), and then financial independence ($d = .37$), implying that students

with these characteristics face the lowest odds of persisting in college. No statistically

Table 11. Mean Differences on Intent to Persist for Specific Nontraditional
Characteristics.

Nontraditional characteristic	Nontraditional		Traditional			
	M	*SD*	*M*	*SD*	*t*	Cohen's *d*
Work more than 20 hours a week	13.32 (97)	1.93	13.85 (223)	1.73	2.39*	.28
Age (24 or older)	13.47 (137)	1.84	13.92(170)	1.66	2.23**	.26
Financially independent	13.44 (166)	.92	13.93(158)	1.64	2.46*	.37
Enrolled part-time	13.06 (48)	2.11	13.79(275)	1.72	2.62***	.38
Delayed college enrollment (20 years +)	12.83 (30)	2.18	13.77(293)	1.74	2.75***	.48
Married	13.54 (70)	.22	13.72 (252)	.11	.73	-
Has dependents	13.63 (65)	1.73	13.69 (257)	1.83	.23	-
GED	13.57 (7)	1.99	13.69 (317)	1.80	.17	-

Note. * *p* < .05. ** *p* < .01. ***p* < .001.

significant differences were observed on intent to persist with regard to marital status,

having dependents, or having a G.E.D (rather than a high school diploma).

Multiple Regression Analyses

Multiple linear regressions were used to test the proposed nontraditional student

motivation model in three stages. First, the predictive effects of the motivational factors

on success outcomes were examined with the overall sample. Second, the data was split

by nontraditional and traditional student status to conduct separate regressions for the two

groups. Finally, the regression coefficients for nontraditional and traditional students

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were compared for statistically significant differences using interaction terms in a regression analysis.

Regressions with overall sample. Multiple regressions were conducted to test the current model with the overall sample (not divided by nontraditional/traditional). As shown in Table 12, the motivational factors included in the model accounted for 19% in explaining expected term GPA, 31% in perceived course success, 32% in perceived college success, 27% in intent to persist, and 24% in general life satisfaction.

Table 12. Multiple Regression Analyses Predicting College Success From Motivational Factors (overall sample).

Predictor	Standardized Beta Coefficients (β)				
	GPA	PS course	PS College	Persist	GLS
Balance	.23***	.34***	.33***	.16***	.41***
PAP	.26***	.14	.13	-.00	-.17*
PAV	-.05	.03	.06	-.02	.13
MAP	-.02	.14*	.16*	-.02	.14
MAV	-.03	.00	.03	.01	-.02
Attainment	-.03	.04	.00	.09	.14
Cost	.05	-.09	-.10	.00	-.02
Utility	.03	.08	.12	.39***	-.06
Intrinsic	.03	.08	.08	.03	-.02
Nontraditional status	-.12*	.07	.04	-.06	-.10
R^2	.19	.31	.32	.27	.24

Note. PAP = performance-approach; PAV = performance-avoidance; MAP = mastery-approach; MAV = mastery-avoidance; PS course = perceived course success; PS college = perceived college success; GLS = general life satisfaction.
* $p < .05$. ** $p < .01$. ***$p < .001$.

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With regard to individual motivation factors, four out of the nine factors included in the model were statistically significant predictors of at least one college success outcome. First, balance self-efficacy was the most consistent predictor by positively predicting all the success outcomes: expected term GPA, perceived course success, perceived college success, intent to persist, and general life satisfaction. This implies that students who have greater confidence in their ability to balance multiple roles also expect higher term GPAs, perceive greater success in their courses and in college, have stronger intentions to persist in college, and are more satisfied with their lives generally.

Second, performance-approach goals positively predicted expected term GPA, but negatively predicted general life satisfaction. According to this finding, students who endorse the goals of attaining higher grades and outperforming their peers in class expect higher term GPAs, but are less satisfied with their lives. Third, mastery-approach goals were significant positive predictors of perceived course success and perceived college success, which means that students who endorse the goals of gaining competence in their course content perceive that they are more successful in their courses and in college generally. Finally, utility value was the only other significant predictor of intent to persist out of all the motivational factors other than balance self-efficacy, and yielded a positive prediction. This result suggests that students who perceive their college education as useful for a future purpose (e.g., career) more strongly intend to persist in college.

Because nontraditional student status is considered an important college success factor, it was included in the regression model as a predictor variable and was found to be a significant negative predictor of expected term GPA. This means that nontraditional

student status predicts lower students' expectations of their aggregate end of semester performance. There was also a trend showing a modest negative predictive effect between nontraditional student status and general life satisfaction, implying that nontraditional student status predicts lower life satisfaction; although the effect did not reach a significant level ($\beta = -.10$, $p =. 098$).

Regressions with traditional student sample. After testing the motivation model with the overall sample, the data was divided into nontraditional and traditional student samples. Within the traditional student sample, see Table 13, the motivational factors in the proposed model accounted for 9% of total variance in explaining expected term GPA, 26% in perceived course success, 28% in perceived college success, 35% in intent to persist, and 36% in general life satisfaction. Five out of the nine motivational factors in the model were significant predictors of success outcomes. First, balance self-efficacy positively predicted four out of five success outcomes (i.e., expected term GPA, perceived course success, perceived college success, and general life satisfaction); however, it did not predict student intent to persist in college. This indicates that traditional students who have higher confidence in their ability to balance multiple roles expect higher term GPAs, perceive that they are successful in their courses and in college generally, and are more satisfied with their lives.

Second, unexpectedly, performance-approach goals negatively predicted perceived college success, implying that traditional students who aim to obtain higher grades and to outperform their peers perceive that they are less successful in college. Third, also unexpectedly, performance-avoidance goals were positive predictors of perceived course success, perceived college success, and general life satisfaction, which

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Table 13. Multiple Regression Analyses Predicting College Success From Motivational Factors (Traditional Students).

Predictor	Standardized Beta Coefficients (β)				
	GPA	PS course	PS college	Persist	GLS
Balance	.21*	.30***	.29***	.08	.38***
PAP	.13	-.28*	-.27*	.08	-.01
PAV	-.11	.25*	.35**	-.04	.30**
MAP	-.12	.23	.18	-.09	-.02
MAV	-.01	-.14	-.08	.01	-.01
Attainment	-.00	.00	.03	.27**	.15
Cost	.08	.05	.02	-.04	.01
Utility	.09	.12	.18	.29*	.02
Intrinsic	-.05	.15	.03	.02	.10
Total R^2	.09	.26	.28	.35	.36

Note. PAP = performance-approach; PAV = performance avoidance; MAP = mastery approach; MAV = mastery-avoidance; PS course = perceived course success; PS college = perceived college success; GLS = general life satisfaction.
*$p < .05$. ** $p < .01$. ***$p < .001$.

means that traditional students who endorse the goals of avoiding failure and looking

incompetent in their courses relative to their peers, perceive that they are successful in

their courses and in college generally, and are more satisfied with their lives.

Fourth, attainment value positively predicted intent to persist, suggesting that

traditional students who see getting their college degree as an important part of who they

are, also are more likely to intend to persist in college. Finally, utility value was a

positive predictor of intent to persist, suggesting that traditional students who regard their

college education as important for a future purpose (e.g., career) are more likely to intend

to persist in college. It is worth noting that mastery approach goals, although did not

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reach significance, were trending ($p = .073$) as positive predictors of perceived course success.

Regressions for nontraditional student sample. As shown in Table 14, for nontraditional students, the motivational factors included in the model accounted for 21% of total variance in explaining expected term GPA, 40% in perceived course success, 43% in perceived college success, 23% in intent to persist, and 22% in general life satisfaction. In terms of individual motivation factors, four out of nine factors included in the current model predicted at least one success outcome. First, balance self-efficacy predicted all success measures. This indicates that nontraditional students who have higher confidence in their ability to balance multiple roles expect higher term GPAs, perceive that they are more successful in their courses and perceive that they are more successful in college, have stronger intentions of persisting in college, and are more satisfied with their lives.

Second, performance-approach goals were positive predictors of expected term GPA, perceived course success, and perceived college success. In other words, nontraditional students who endorse the goal of outperforming their peers in class expect higher term GPAs, and perceive that they are more successful in their courses and in college generally. Third, mastery-approach goals positively predicted perceived college success, which means that students who endorse the goal of mastering course content perceive that they are more successful in college. Finally, utility value was a positive predictor of intent to persist, which indicates that nontraditional students who think that their college education is important in so far as achieving future goals, more strongly intend to persist in college.

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Table 14. Multiple Regression Analyses Predicting College Success From Motivational
Factors (Nontraditional Students.)

	Standardized Beta Coefficients (β)				
Predictor	GPA	PS course	PS college	Persist	GLS
Balance	.24***	.34***	.32***	.22***	.42***
PAP	.33***	.35***	.37***	-.10	-.17
PAV	-.04	-.12	-.18	-.00	-.01
MAP	.00	.15	.18*	.02	.18
MAV	-.03	.08	.12	-.01	.01
Attainment	-.07	-.01	-.07	.07	.15
Cost	.05	-.12	-.10	.02	-.00
Utility	.02	.08	.08	.38***	-.12
Intrinsic	-.06	.05	.11	-.08	-.08
R^2	.21	.40	.43	.23	.22

Note. PAP = performance-approach; PAV = performance-avoidance; MAP = mastery-approach; MAV =
mastery-avoidance; PS course = perceived course success; PS college = perceived college success; GLS =
general life satisfaction.
* $p < .05$. ** $p < .01$. ***$p < .001$.

As shown in Table 15, together, the motivational factors included in the model

accounted for greater variance in explaining expected term GPA, perceived course

success, and perceived college success for nontraditional students than for traditional

students. However, the model was not more robust in explaining intent to persist or

general life satisfaction, as there was almost the same amount of variance explained for

both student groups.

Comparing predictive effects for nontraditional and traditional students.

The next set of analyses was directed at evaluating the difference between regression

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coefficients for nontraditional and traditional students. The tests were done with a

procedure described by Cohen (1983) in which interaction terms are created by

multiplying the nontraditional student variable with the respective predictor variable,

Table 15. Comparison of Total Variance Explained (R^2) in Predicting Success Outcomes Based on Student Sample.

Student sample	GPA	PS course	PS College	Persist	GLS
Overall	.19	.31	.32	.27	.24
Traditional	.09	.26	.28	.35	.36
Nontraditional	.21	.40	.43	.23	.22

Note. PS course = perceived course success; PS college = perceived college success; GLS = general life satisfaction.

which was then entered into a multiple regression equation to predict each dependent

variable. A significant interaction term provided evidence that the regression coefficients

between nontraditional and traditional students were statistically significantly different.

It is important to note that the coefficients were examined individually in separate

regression analyses rather than as a group with all of the variables in the model.

Five statistically significantly different predictive effects were observed between

nontraditional and traditional students. First, there was a significant interaction between

nontraditional student status and performance-approach goals in predicting expected term

GPA ($\beta = .81$, $p < .001$), perceived course success ($\beta = .91$, $p < .001$), and perceived

college success ($\beta = 1.0$, $p < .001$). These findings indicated that performance-approach

goals were a stronger predictor of expected term GPA, perceived course success, and

perceived college success for nontraditional students than for traditional students. It is

worth noting that there was a trend showing an interaction between nontraditional status

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and performance-approach goals in negatively predicting general life satisfaction (β = -.54, p =.065), suggesting that nontraditional students who endorsed performance-approach goals were less satisfied with their lives than traditional students with similar goals.

Second, there was a significant interaction between nontraditional student status and mastery-approach goals in predicting perceived course success (β = .80, p < .05), and perceived college success (β = .95, p < .001), which indicated that mastery-approach goals were more robust predictors of perceived course success and perceived college success for nontraditional students than for traditional students. Together, the findings demonstrate that performance-approach goals and mastery-approach goals are better predictors of success expectancies for nontraditional students than for traditional students.

Summary

The results of all the data analyses were presented in this chapter and they provided adequate information to address the research questions raised in the current study. Most of the factors included in the Model of Nontraditional College Student Motivation and Success were correlated in the expected positive direction with success expectancies, intent to persist, and well-being perceptions for both nontraditional and traditional students. Several significant differences in the bivariate correlations were found between nontraditional and traditional students. Three performance achievement goals (i.e., performance-approach, performance-avoidance goals, and mastery-approach goals) were more strongly related to success outcomes for nontraditional students than for traditional students. Second, intrinsic value was also more closely related to success

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outcomes for nontraditional students than for traditional students. With regard to predictive effects for nontraditional students, four out of the nine motivational factors included in the tested model were significant; these were balance self-efficacy, performance-approach goals, mastery-approach goals, and utility value. The rest of the variables (i.e., performance-avoidance, mastery-avoidance, attainment value, intrinsic, and cost value) were not significant predictors of success outcomes for nontraditional students.

In summary, nontraditional students reported lower motivation as evidenced by lower balance self-efficacy, performance-approach goals, attainment value, and cost value. Furthermore, with regard to success outcomes, nontraditional students expected lower term GPAs, appraised their health poorer, and reported lower general life satisfaction compared to traditional students. Particularly interesting was the finding that nontraditional students were less likely to persist in college compared to traditional students if they were 24 years or older, financially independent, worked for more than 20 hours a week, enrolled part-time, and delayed college entry after high school.

Also of importance was the finding that the Model of Nontraditional College Student Motivation and Success was more robust in predicting success outcomes for nontraditional than for traditional students with regard to expected term GPA, perceived course success, and perceived college success. Furthermore, there were stronger positive relations and predictive effects between motivation factors and college success outcomes for nontraditional students compared to traditional students. Within the nontraditional student sample, balance self-efficacy was the most robust and consistent predictor of success outcomes, followed by performance-approach goals, utility value, and then

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mastery-approach goals. Between the two student sub-groups (traditional/nontraditional), performance-approach goals and mastery-approach goals were stronger predictors of success outcomes for nontraditional students than for traditional students. Taken together, the current results demonstrated that although nontraditional students exhibited less motivation and lower chances of success in college than their traditional peers, most of the motivation factors examined in the current study were more robust predictors of their college success compared to traditional students. The next chapter contains a discussion of the results, limitations of the study, future research directions, and implications for practice.

CHAPTER V

DISCUSSION

The purpose of this dissertation was to examine the role of motivation in predicting college success for nontraditional students using the expectancy-value theory (Eccles et al., 1983) and achievement goals theory (Dweck, 1986; Maehr, 1989; Nicholls, 1984). In testing the hypothesized Model of Nontraditional College Student Motivation and Success, a comprehensive definition of nontraditional students comprising eight demographic characteristics was used. Overall, the current findings provide evidence to suggest that nontraditional students face lower odds of success in college compared to their traditional peers. The results also demonstrated the facilitative role of motivation factors including balance self-efficacy beliefs, achievement goals, and subjective task value in predicting college success outcomes.

In this chapter, I discuss the results by focusing on the major findings, provide possible explanations, and relate the current findings to extant literature. This chapter is organized under the following sections: (1) Lower odds of success for nontraditional students, (2) balance self-efficacy: consistent and robust role, (3) achievement goals: relative importance of performance-approach goals and (4) subjective task value: importance of utility and intrinsic value.   Finally, I discuss limitations, future research directions, and implications of the current study.

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A Review of Major Findings

1. Nontraditional students were found to be consistently less motivated, had lower expectations of academic success, were less likely to intend to persist in college, and had lower well-being compared to traditional students.

2. The most vulnerable nontraditional students in terms of low persistence were those who delayed their college entry, enrolled part-time, were financially independent, aged 24 years or older, and worked more than 20 hours a week.

3. Balance self-efficacy was the most consistent predictor of college success outcomes for nontraditional students, as it positively predicted all of the success outcomes included in the motivation model; intent to persist, perceived course success, perceived college success, expected term GPA, and general life satisfaction.

4. Performance-approach goals were the most robust achievement goals in predicting success for nontraditional students, and they were also more robust predictors than mastery-approach goals.

5. Of the four subjective task value constructs, utility value was the only significant predictor of success for nontraditional students; it positively predicted intent to persist in college.

Lower Odds of Success for Nontraditional Students

As expected from the currently tested model, there was a negative relationship between being a nontraditional student and (1) level of motivation as measured by balance self-efficacy, achievement goals, and subjective task value; (2) success expectancies, measured by expected term GPA, perceived course and college success;

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(3) intent to persist in college; and (4) general life satisfaction. The current findings are consistent with the depiction of nontraditional students in the literature as being at risk of failure in college (Bean & Metzner, 1985; Horn, 1996; Levin, 2007). Studies have shown that nontraditional students have higher attrition rates from college (Kim, 2002; NCES, 2002; 2011; Radford et al., 2010), report higher stress levels (Giancola et al., 2009), and also experience substantial role conflict and role overload (Butler, 2007; Fairchild, 2003; Frone, 2003). In particular, the negative relationship between nontraditional student status and college success outcomes lend support to Horn's (1996) idea that the more nontraditional a student is, the less his/her chances of success in college.

Less motivation. Considering the positive relations between motivation factors and college success outcomes such as performance, persistence, and well-being (Eccles et al., 1983), the current findings of lower motivation among nontraditional students, compared to traditional students, show that nontraditional students could be at risk of failure in college. Nontraditional students reported lower balance self-efficacy beliefs, attainment value, cost value, and performance-approach goals compared to traditional students. With regard to the lower balance self-efficacy, it is possible that the sheer volume of responsibilities that nontraditional students manage compromises their balance self-efficacy beliefs more than traditional students, who may have fewer roles that demand their attention. This finding is consistent with Cinnamon's (2006) findings, which demonstrated that women (college students) anticipated higher levels of work interfering with family, and family interfering with work, and consequently reported lower efficacy in managing the related conflicts than did men. Thus, much like the women in Cinnamon's study who had more conflicting roles compared to the men,

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nontraditional students in the current study typically had more roles and this could explain why they reported less confidence in their ability to balance multiple roles than traditional students.

It is also possible that traditional students overrated their confidence in their ability to balance multiple roles because they have less experience balancing college with family and/or employment, and thus lack an appreciation of what it takes to succeed. This argument is consistent with Bandura's (1997) view that the accuracy of self-efficacy beliefs develops over time, based on experience. Bandura suggested that students' self-efficacy appraisals become more accurate as they gain a better understanding of the demands of a task and what they require to successfully perform the task.

The fact that nontraditional students have less confidence in their ability to balance multiple roles is problematic considering that their lifestyle demands that they navigate the demands of college alongside family and employment roles simultaneously. These students are better served if they can be able to prioritize tasks, manage their time wisely, and carefully negotiate how to expend effort among various tasks. According to the expectancy value theory, low ability belief in executing a required task is debilitating (Eccles et al., 1983). For instance, low ability beliefs inhibit the activation of coping strategies, the cognitive acuity required to strategize solutions and solve problems, and the self-regulation required to control ones efforts and use of available resources to perform required tasks (Bandura, 2001; Pintrich , 1999). The problem here is that the aforementioned coping strategies are the very dispositions that nontraditional students need to exhibit in order to stay engaged in college while also attending to other obligations.

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In terms of subjective task value, nontraditional students also exhibited lower attainment value, which means that they considered getting their college degree less important as part of their identity than did traditional students. Considering that attainment value was conceptualized as the importance of a task because it is seen to be of personal importance, one explanation for the current finding may be that as a result of being older, having families, and careers, nontraditional students may have multiple dimensions of identity. I do not contend that nontraditional students do not consider a college education as being of personal importance; in fact, nontraditional students have been found to cite the personal prestige of attaining a college education as one of the reasons for enrolling in college (Chao & Good, 2004). However, these students may have simply ranked the attainment value of a college education lower within a broader context, after taking into consideration the other important things in their lives.

Nontraditional students also exhibited lower cost value suggesting that they were less likely to see a college education as worthy of the sacrifices that it requires (e.g., time, effort, or finances) compared to traditional students. The current finding is contrary to what would be expected from an investment perspective. Brown (2002) argued that if nontraditional students perceive college outcomes (grades, career options, financial security) as a worthy exchange for their time, financial, and effort investment, they would be more committed to stay in college through degree attainment. One would expect nontraditional students to have higher cost value considering that they still choose to pursue a college education, despite the enormous sacrifices they would have to make compared to traditional students.

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It also possible that nontraditional students may have appraised college as being less worthy of their investment than traditional students because of the greater opportunity cost of college attendance on their family or employment. Proponents of resource scarcity theories (Greenhaus & Beutell, 1985; Major, Klein, & Ehrhart, 2002) argue that resources are finite, and that any additional role demand puts further constrains on the already limited resources, thereby causing role conflicts. Considering that nontraditional students have several other important life roles, it is conceivable that they may have taken these into account when they evaluated the importance of their investment in college. Based on the theorized motivational role of subjective task value on college success (Eccles et al., 1983; Eccles & Wigfield, 2002) the fact that nontraditional students have lower attainment and cost value compared to traditional students is a success concern. When students perceive less value in their college education, generally they are less motivated and are more disengaged in their daily college tasks and would further be predisposed to failure.

Nontraditional students also reported lower endorsement of performance-approach goals, which means that they reported the goal of obtaining higher grades and outperforming their classmates less often than traditional students. Taking an adult learners developmental perspective (Merriam et al., 2007), this finding may mean than nontraditional students, as a result of being older may have focused less on peer comparison than traditional students who are younger. Merriam et al. (2007) contrasted older students with younger students arguing that, while peer comparisons are critical for traditional students' identity and self-worth appraisals, nontraditional students have more responsibilities at work and at home. This view point would make peer comparison

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between nontraditional students and their classmates less prominent. In fact, nontraditional students do not always consider their classmates as peers per se; according to Kasworm (2010), nontraditional students reported that they often were not viewed as part of the dominant culture by their traditional-aged classmates. Therefore, it makes sense that nontraditional students would aim to out-perform their classmates less often than traditional students.

The current lower endorsement of performance-approach goals by nontraditional students is consistent with findings in extant literature. Nontraditional students have been found to less often endorse performance-approach goals and more often endorse mastery goals (Eppler & Harju, 1997; McKenzie & Gow, 2004; Morris, et al., 2003). It is worth noting, however, that nontraditional and traditional students did not differ in their endorsement of mastery goals in the current study. From a motivation and success stand point, lower endorsement of performance-approach goals for nontraditional students is problematic. The positive role of performance-approach goals on college student success, especially academic performance has been sufficiently established (Elliot & McGregor, 2008). The argument is that performance-approach goals help focus students' attention, energy, and resources towards activities that optimize performance such as applying greater effort on tasks.

Lower intent to persist. Nontraditional student literature has sufficiently demonstrated the negative relations between nontraditional student characteristics and lower likelihood of persistence in college (e.g., Berkner, et al., 2002; O'Toole et al., 2003, & NCES, 2002). The current findings extended this extant research by pinpointing the most vulnerable nontraditional students. In particular, students who were

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24 years or older, financially independent, worked for more than 20 hours a week, were enrolled part-time, and also delayed their college enrollment after high school had lower intentions of persisting in college compared to their traditional counterparts. These findings are especially important when we consider that the five aforementioned nontraditional characteristics were among the top three most frequently reported by students in the current study. For instance, a substantial proportion of students in the current sample were financially independent (51.2%), worked for more than 20 hours a week (48.5%) and were 24 years of age or older (42.4%). This means that the majority of nontraditional students in the current sample are at great risk of not persisting in college, and by extension, have lower odds of success.

It is not surprising that each of the five aforementioned nontraditional characteristics would undermine college completion. It is logical to assume that these students, as a result of working longer hours and being financially independent may have less time to commit to their studies. In addition, these students may be facing financial worries, which make college persistence intentions less certain. Furthermore, it is also possible that being enrolled part-time makes it difficult for nontraditional students to complete their education in a timely fashion, typically within a 4-6 years period. Finally, being older (24 years or older) is usually inextricably linked to having dependent children or a full time job, which compete for the same resources as college tasks.

Unexpectedly, students who reported having dependents or being married did not differ in their persistence intentions from traditional students. This is interesting, considering that extant research has demonstrated that having dependents and being married inhibit college persistence (Horn, 1996; Taniguchi & Kaufman, 2007). The

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current findings may have been related to the specific characteristics of the current sample. Most of the students with children in the current sample were also married (48 out of 66), and it is possible that these students enjoy the benefit of sharing childcare responsibilities with their spouses, as opposed to what would be the case for a single parent.

Lower expected term GPA. With regard to academic performance expectancies, nontraditional students reported lower expectations for their fall semester GPA, meaning that they expected lower grades in their courses overall compared to traditional students. To the extent that expected term GPA was used as a proxy for academic performance in the current study, the current findings contradict previous studies that have shown that nontraditional students often perform at par with or better than their traditional counterparts (Carney-Crompton & Tan, 2002; McKenzie & Gow, 2004; Morris et al., 2003). However, it is important to note that in the aforementioned extant studies, nontraditional students were mostly defined using age alone and as Horn (1996) observed, age per se does not deter success in college. Therefore, unless the students in the extant studies also had dependents or fulltime jobs (other than being older than 24 years) there would be no reason for them to perform less favorably than traditional students.

The majority of the students in the current study were not only older, they also worked for more than 20 hours a week and had dependents. It is plausible to assume that these students would be more likely to miss class because of family or work responsibilities, may have less time to commit to completing assignments, and may also experience numerous distractions at home or at work. Such demands may have

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compromised both the quality and quantity of time that a student would otherwise devote to college assignments, hence their pessimistic expectations of academic performance.

Viewing the current results of this study from a motivational stand point, the finding that nontraditional students reported lower expectations of term GPA is maladaptive. According to the expectancy-value theory (Eccles & Wigfield, 2002), expectancy of success is an adaptive psychological disposition that helps energize a student engage in behaviors that lead to the attainment of the expected success. Therefore, when students have pessimistic expectations of success, their motivation is likely to decrease and they risk disengaging from their achievement tasks. Because motivation increases students' odds of success in college, it would have been better for nontraditional students to have higher expectations of their term GPA.

Lower general life satisfaction. Finally, nontraditional students reported less satisfaction with their lives than traditional students. This finding is not surprising and may be explained by the fact that it is difficult for students to feel highly satisfied with life when they are pulled in many different directions by a hectic lifestyle that makes it difficult to find balance. According to Diener et al. (2009), life satisfaction constitutes a person's well-being perceptions and evaluation of life as a whole. Studies have demonstrated that nontraditional students experience more psychological distress (Quimby & O'Brien, 2006) and lower perceptions of well-being and life satisfaction (Giancola et al., 2009). Furthermore, increases in role demands, and time conflicts have been associated with higher stress, anxiety, and depression among female college students (Carney-Crompton & Tan, 2002). Considering that college students' well-being

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has been considered as an important dimension of success the lower life satisfaction by nontraditional students is concerning and therefore, worth addressing.

Balance Self-Efficacy: Consistent and Robust Role

Balance self-efficacy was the most consistent motivational predictor of success outcomes in the tested *Nontraditional Student Motivation Model* as it positively predicted all of the success outcomes for nontraditional students. This result is consistent with the theorized positive role of self-efficacy beliefs on achievement outcomes including persistence and performance. Bandura (2001) noted that self-efficacy beliefs not only influence choice of task, but also persistence in a task when an individual faces challenges. Self-efficacious students, as Chemers et al. (2001) found, used more creative strategies to solve problems compared to their less self-efficacious peers. It is therefore expected that nontraditional students who have higher balance self-efficacy beliefs would be more likely, than those with less, to develop and utilize effective problem-solving strategies to find solutions to tasks and persist in college.

Balance self-efficacy also positively predicted expected term GPA, perceived course success, and perceived college success for both nontraditional and traditional students. The current finding is consistent with the trend of findings on the role of self-efficacy beliefs as a predictor of higher academic performance (Chemers et al., 2001; Zimmerman, 2000). Based on Bandura 's logic on the role of self-efficacy beliefs, it is conceivable that nontraditional students who have more confidence in their abilities to manage multiple roles would be more likely to actively engage in problem solving strategies. Relevant strategies for nontraditional students may include prioritizing tasks, managing time more efficiently, seeking help with childcare, or negotiating a more

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flexible work schedule with an employer. As Bandura (2001) reiterated, students with a higher sense of self-efficacy anticipate success and engage in success striving tendencies, while those who doubt their efficacy visualize failure and focus on the things that could go wrong.

Finally, on general life satisfaction, it is possible that students who have more confidence in their ability to balance college roles with their other roles would feel less overwhelmed, feel more in control of their circumstances and, in turn, more satisfied with the conditions of their lives. Interestingly, the predictive effect of balance self-efficacy on general life satisfaction was not only the largest effect observed among all of the predictor effects in the tested model, balance self-efficacy was the only significant motivational predictor of general life satisfaction in the model for nontraditional students. This finding underscores just how important it is for nontraditional students to have confidence in their ability to balance their various obligations to experience higher life satisfaction. The current finding lends support to Quimby and O'Brien (2006) whose research demonstrated that female nontraditional students who had more confidence in managing parental and college work reported less psychological distress. It is affirming to know that nontraditional confidence in balancing multiple roles could facilitate their success in college, even though they may have a difficult time negotiating the inherent demands.

Achievement Goals: Relative Importance of Performance-Approach Goals

One of the most interesting findings with respect to achievement goals was that performance-approach goals were more robust predictors of success outcomes for nontraditional students than for traditional students. Furthermore, these goals were also

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more robust compared to mastery goals. Performance-approach goals predicted three success outcomes for nontraditional students (i.e., expected term GPA, perceived course success, and perceived college success); yet, only predicted perceived college success (negatively) for traditional students. Generally, the current results suggesting a positive influence of performance-approach goals on students' success outcomes are consistent with a wealth of empirical evidence (Hulleman et al., 2010). The current finding extends the body of knowledge by adding to the list of positive achievement outcomes associated with performance-approach goals. The findings of this study also demonstrate the relative importance of performance-approach goals for nontraditional students compared to traditional students.

The stronger relationships and predictive effects with respect to performance-approach goals for nontraditional students, relative to traditional students, were unexpected. First, nontraditional students typically do not endorse performance-approach goals more often when compared to their traditional counterparts (Eppler & Harju, 1997; McKenzie & Gow, 2004; Morris et al., 2003). Also, one would not expect the goal of getting higher grades relative to classmates to play such a prominent role in predicting nontraditional students' performance expectations, considering that these students are typically neither keen on peer comparison (Merriam et al., 2007) nor do they view their classmates as peers per se (Kasworm, 2010).

One explanation for the seemingly aforementioned contradictory findings may be that nontraditional students experience more anxiety and pressure to achieve higher grades than traditional students, and therefore more closely associate the goal of getting good grade/outperforming peers with success in college. As Chao and Good (2004)

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found in their qualitative study, nontraditional students expressed initial apprehension about their ability to manage college level work. Carlin (2001) also reported similar results and demonstrated that nontraditional students worry about not being able compete favorably with traditional-age students, often citing concerns about rusty academic skills upon their return to college. In this regard, the relative importance of performance-approach goals for nontraditional students makes sense especially when we consider that these students face self-doubts about their ability to compete favorably with traditional students (Carlin, 2001; Kasworm, 2010) and may, in turn, be anxious about their performance outcomes.

It is also possible that the prospects of success or failure in college hold higher stakes for these students considering that most of them return to college for very specific reasons (e.g., finding a better job, getting a promotion, or keeping their current jobs), according to Merriam et al. (2007). Also, the pressure to perform well in college can be substantial, taking into account the opportunity cost of college attendance, particularly for nontraditional students. This pressure could exacerbate nontraditional students' tendency to more closely associate obtaining higher grades to their success in college, hence the stronger relationship between performance-approach goals and success outcomes.

Mastery-approach goals. Mastery approach goals were more closely related to perceived course success and perceived college success for nontraditional students than for traditional students. Mastery-approach goals were also more robust predictors of perceived course success and perceived college success for nontraditional students. These findings underscore the relative importance of mastery-approach goals for nontraditional compared to traditional students. The positive relationship and predictive

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effects of mastery-approach goals on success outcomes for nontraditional students is consistent with findings in the goals literature. Mastery-approach goals have consistently been related to favorable motivational tendencies (e.g., perceiving courses as interesting and valuable, persisting in tasks during difficulties, more using self-regulation strategies, and experiencing more positive emotions (Pekrun et al., 2006; Wolters, 2004). The fact that performance-approach and mastery-approach goals were both more important for nontraditional than for traditional students suggest that nontraditional students should be encouraged to adopt a multiple goals perspective. Adopting both goals would optimize their academic performance as well as their achievement motivation (Harackiewicz & Linnenbrink, 2005; Pintrich, 2000b).

Subjective Task Value: Importance of Utility and Intrinsic Value

Utility value was the only significant predictor of success outcome for nontraditional students among the four types of subjective task value as it positively predicted their intent to persist. This finding suggests that when nontraditional students perceive their education as important, specifically as a means to achieving a future goal (e.g., a job) they are more likely to intend to persist in college. The current finding with regard to the positive predictive effect of utility value was expected and is consistent with the views of Eccles, Wigfield, and colleagues (Eccles et al., 1983; Eccles & Wigfield, 2002; Wigfield & Eccles, 2000). These authors suggest that the subjective value that individuals attach to a task motivates their achievement related behavior through various mechanisms (e.g., choice of task, effortful engagement in a task, and persistence in those tasks despite challenges). Eccles and Wigfield (2002) demonstrated that students who valued their academic tasks invested more time thinking about problem solving, exerted

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more effort in completing tasks, and also enjoyed the tasks. Hence, it makes sense that nontraditional student's utility value would facilitate higher intentions of persisting in college simply because they see college as being instrumental.

Although intrinsic value did not predict any success outcomes for nontraditional or traditional students, it was interesting to note that intrinsic value was more strongly correlated to expected term GPA and perceived college success for nontraditional students than for traditional students. This finding suggests that nontraditional students' more closely associate success in college with how interesting (enjoyable or fun) they find college to be than traditional students. Because intrinsic value is typically considered to be related to intrinsic rather than extrinsic motivation (Eccles & Wigfield, 2002), the stronger correlations between intrinsic motivation and success outcomes for nontraditional students is akin with other studies that have depicted nontraditional students as being more intrinsically motivated in learning than traditional students (McKenzie & Gow, 2004). However, caution should be exercised in interpreting this finding, considering that mean differences did not indicate that nontraditional students reported higher intrinsic value than traditional students in the current study. Overall, the findings on subjective task value demonstrate the importance of utility value as a predictor of success outcomes for nontraditional students. From a motivation perspective, both utility value and intrinsic value of a college education should be enhanced in nontraditional students to increase their chances of success.

Limitations of the Study and Future Directions

The current study had several strengths which include the use of a strong theoretical framework, established scales, rigorous statistical analyses, numerous logical

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findings consistent with previous empirical literature, clear implications for students, educators, higher education, and research literature. Furthermore, the use of a comprehensive, multifaceted definition of nontraditional students was a departure from the use of age as the lone identifier in most of the extant nontraditional student research. Finally, this research was novel in its investigation of a domain specific variant of self-efficacy, balance self-efficacy, in relation to its relevance to these students' lifestyles.

The current study also had three limitations that warrant mentioning. First, the sample was limited to a single institution made up of predominantly Caucasian students, which limits the generalizability of the results. A test of the current model might be replicated with a sample of nontraditional students from diverse ethnic, geographical, cultural, and economic backgrounds. Second, the use of a cross-sectional design did not did not provide the opportunity to account for the changes that students undergo as the semester progresses. Eliciting students' responses about their motivational dispositions, success expectancies, and persistence intention all at one time, and only just one month after beginning of classes, might have been limiting. In a future study, it would be interesting to track the evolution of students' motivations and their relatedness to success outcomes using a longitudinal study that spans at least one academic year. This would provide meaningful insight into the development of motivation; for instance, whether or not balance self-efficacy, subjective task value, and goal orientation, vary based on a student's length of stay in college.

Third, the use of performance expectations and intent to persist as proxies for actual academic performance indicators (i.e., grades, GPA, and persistence respectively), was not ideal. Although the use of such measures of subjective evaluation of

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performance is common practice in student motivation research (Freund & Kasten, 2011) and provides valuable measures of subjective ability, they should be used in conjunction with objective measures. Future research should test the effect of motivational variables on nontraditional college success using actual course grades, term GPAs, and reenrollment numbers obtained from institutional records. It would be particularly interesting to investigate the proximity between nontraditional students' subjective evaluations of their performance and actual performance as this might be a clue into how their perceptions relate to and influence their outcomes. Despite the aforementioned limitations, the current findings are novel and provide compelling evidence about the relationship between nontraditional students' motivation and their success in college.

Practical Implications

The current findings advance our understanding of nontraditional students' motivation and have implications for faculty, practitioners, and administrators. To characterize the results generally, for nontraditional students to be successful in college they need: (1) to be confident in their ability to balance college tasks with their other existing roles, (2) to focus on achieving higher grades as well as gaining competence in their courses, and (3) to find college valuable, particularly useful and interesting.

Considering that balance self-efficacy was a critical predictor of intent to persist, success expectancies, and well-being perceptions, self-efficacy enhancement interventions may be particularly useful for nontraditional students (Abraham, 2012; Ashford, Edmunds, & French, 2010). Bandura (1997) suggested that self-efficacy beliefs can be enhanced through such processes as (1) facilitating acquisition of relevant skills, (2) vicarious learning experiences (seeing a similar other perform a desired behavior) to

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raise a student's belief that they also possess the capabilities to master a similar activity, (3) providing opportunities for demonstrating mastery experiences, and (4) persuasive communication. These interventions can be implemented by instructors, program coordinators, and student advisors to boost and maintain nontraditional students' confidence in their ability to manage multiple roles.

Also, in connection to helping students achieve balance, colleges need to help nontraditional students balance school work and employment whenever possible. The negative impact of long work-hours on students' progress in college is well documented (Robotham, 2012). The conflict between work and school limits study time, class attendance, or concentration on assignments. One solution to the work-school conflict would be to encourage nontraditional students to find jobs that compliment, rather than conflict with, their study whenever possible. This way, as Butler (2007) demonstrated, work roles would facilitate and enrich school roles and vice versa. However, caution should still be exercised to limit the amount of work hours and job responsibilities as these could deplete the resources needed for completing assignments, and would further predispose these students to failure.

Second, at the course level, the finding that utility value was the only subjective value that predicted nontraditional students' intent to persist suggests that the usefulness and relevance of courses should be made as explicit as possible. In order for nontraditional students to attend class and to have a sustained interest and commitment to the course, instructors need to deliberately make the connection between course material and its usefulness. Academic advisors should help nontraditional student declare majors that are consistent with their future career aspirations. Furthermore, their plans of study

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should reflect courses that are relevant to their declared majors, so that the students can feel that their course work is an integral part of their degree and hence stay focused and engaged. Career services should seek to reach out to nontraditional and offer assistance with major exploration, interest testing, and also provide information on latest career trends. Also related to utility value, instructors should strive to present course material in a contextual manner so that students can make connections between the course material and its connection to future career, for instance. The clearer the relationship between course material and future application is, the more students are likely to view their education as valuable, and the more students will be inclined to view college as important.

Finally, college recruiters and admission officials should also consider using student motivation to supplement their selection criteria in addition to using grades and test scores when recruiting nontraditional students. While most students who get college admission meet the requisite entry scores, many may lack the motivation required to sustain them through the rigors of a college education and particularly the challenges of holding multiple roles as is the case for nontraditional students. As an admission criterion, institutions should actively seek to select students who exhibit higher confidence in their ability to balance various roles, have higher utility value appraisals for their college education, have a disposition towards optimal academic achievement and mastery of course content. Furthermore, using test scores alone to gauge which nontraditional students are likely to succeed may not be the most effective strategy after all as most of these students are probably coming to college a few years after their high school graduation. McKenzie and Gow (2004) demonstrated that, although high school

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grades were one of the strongest predictors of first term college GPA, the predictive effect was weaker for older students. Most importantly, nontraditional students' motivational disposition could be used to identify those who may be at most risk of failure once they have been admitted.

Conclusion

Over the last four decades nontraditional college students' enrollment has dramatically increased in U.S. postsecondary institutions; nonetheless, they are still far less likely to persist and graduate from college compared to their traditional peers. The current study tested a model of Model of Nontraditional College Student Motivation and Success and provided support for the positive role of motivation factors in predicting the success of nontraditional students. The current findings provided compelling evidence to show that nontraditional students' beliefs about their abilities to balance multiple tasks, goals to achieve higher grades and gain competence in their courses, and the subjective value that they attach to their college education, all play an important role in determining their college success outcomes. As institutions look into ways to address the substantial barriers that nontraditional students face in college, it is imperative that these students' motivational dispositions are considered as part of a comprehensive college success agenda.

APPENDICES

U N I V E R S I T Y   O F   **UND**   N O R T H   D A K O T A

INSTITUTIONAL REVIEW BOARD
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July 31, 2012

Masela Obade
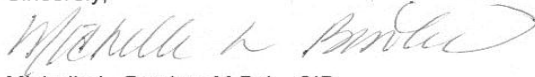310 State Street
Grand Forks, ND 58203

Dear Ms. Obade:

We are pleased to inform you that your project titled, "Nontraditional College Student Success" (IRB-201207-014) has been reviewed and approved by the University of North Dakota Institutional Review Board (IRB). <u>The expiration date of this approval is July 24, 2013.</u> Your project cannot continue beyond this date without an approved Research Project Review and Progress Report.

As principal investigator for a study involving human participants, you assume certain responsibilities to the University of North Dakota and the UND IRB. Specifically, an unanticipated problem or adverse event occurring in the course of the research project must be reported within 5 days to the IRB Chairperson or the IRB office by submitting an Unanticipated Problem/Adverse Event Form. Any changes to or departures from the Protocol or Consent Forms must receive IRB approval prior to being implemented (except where necessary to eliminate apparent immediate hazards to the subjects or others.)

All Full Board and Expedited proposals must be reviewed at least once a year. Approximately ten months from your initial review date, you will receive a letter stating that approval of your project is about to expire. If a complete Research Project Review and Progress Report is not received as scheduled, your project will be terminated, and you must stop all research procedures, recruitment, enrollment, interventions, data collection, and data analysis. The IRB will not accept future research projects from you until research is current. In order to avoid a discontinuation of IRB approval and possible suspension of your research, the Research Project Review and Progress Report must be returned to the IRB office at least six weeks before the expiration date listed above. If your research, including data analysis, is completed before the expiration date, you must submit a Research Project Termination form to the IRB office so your file can be closed. The required forms are available on the IRB website.

If you have any questions or concerns, please feel free to call me at (701) 777-4279 or e-mail michelle.bowles@research.und.edu.

Sincerely,

Michelle L. Bowles, M.P.A., CIP
IRB Coordinator

MLB/jle

Enclosures

al opportunity/affirmative action Institution

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Appendix B
Invitation Statement

NONTRADITIONAL STUDENT SUCCESS STUDY INFORMATION

Dear student,

You are invited to be in a research study about undergraduate students' college success. The purpose of this study is to ask students about their experiences in their college education and life in general. This information will contribute to learning about students' academic experiences and success in college. Approximately 400 students will take part in this study at the University of North Dakota (UND).

Your participation in the study will take about 20 minutes and will consist of completing a survey about your academic experiences by responding to questions and statements. Your participation is voluntary; refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may also discontinue participation at any time without penalty or loss of benefits, to which you are otherwise entitled. Your responses in the study are completely confidential and you will not be asked to include any personal identifiable information with your responses. At no time will your email address, name, or individual answers be released.

The person conducting this study is Masela Obade, doctoral candidate in the Teaching and Learning department at UND under the supervision of Dr. Robert Stupnisky, assistant professor in the department of Education Research and Foundations. Your name will be automatically entered into a drawing for a chance to win a $50 gift certificate to be drawn at the conclusion of the study.

If you have questions regarding your rights as a research subject, or if you have any concerns or complaints about the research, you may contact the University of North Dakota Institutional Review Board at (701) 777-4279. If you have questions about this survey you may contact Masela Obade at 701-777-9701 or masela.obade@email.und.edu. We appreciate your assistance in gathering information about student college experiences.

Sincerely
Masela A. Obade

By clicking the 'yes' button below, you are consenting to participate and acknowledge that you have read this invitation/consent letter. Please be sure to close your browser upon completion of the survey or in the event that you decide not to complete the survey.

Appendix C
Survey Questions and Dissertation Codebook

NONTRADITIONAL STUDENT SUCCESS CODEBOOK

This codebook contains: - Information about the contents of this dissertation dataset
- A brief summary of the procedures
- Assigned variable names in the dataset
- Scale and score construction information
- Other information where relevant

NAMING CONVENTIONS USED IN IDENTIFYING VARIABLES

The majority of variables in the data upon which this codebook is based were named according to several conventions:

1. Variable names are often abbreviations for the construct they refer to:

   For example:

   Goals items and scales begin with the prefix "GL"

2. Subscales of a larger construct are indicated by a second level abbreviation:

   For example:

   Mastery Approach Goals "GL_**MAP**"

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Nontraditional Indicators and Other Demographics

Code Name	Question Statement	Code	Nontraditional
1. Age	What is your age in years? **[In text box, enter exact number]**	Nontrad_age	24 or older
2. Empl	Are you employed? **1) Full-time, (2) part-time, (3) Not at all.**		Full-time
3. Workhrs	How many hours a week do you work at your job? **Enter exact number.**	Nontrad_Whrs	21 or more
4.HSed	Do you have a: (1) High school diploma, (2) Other high school completion certificate (e.g. a GED)		GED
5. FinInd	Are you financially independent? (1) Independent (2) Dependent.	Nontrad_Ind	Independent
6.EnrlAge	At what age did you enrol in college for the first time? **Text box enter exact number**		20 or older
7.Enrol	What is your enrollment status? (1) part-time, (2) full-time	Nontrad_Enrol	Part-time
8. Marst	What is your marital status? (1) Married, (2) single.	Nontrad_Marst	Married
9. Child	How many dependent children (18 years or younger) do you currently support? **[In text box, enter exact number]**	Nontrad_child	at least 1
10. Yr_stdy	What year of college are you in? (1) Freshman (2) Sophomore (3) Junior (4) Senior (5) other	-	
11. Gender	What is your gender? (1) Male, (2) female (3) other	-	

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Achievement Goals:

The following statements represent types of GOALS that you may or may not have for your courses this semester. Choose a number to indicate how true each statement is of your goals on a scale of 1(not at all true of me) to 7 (Very true of me).

1	2	3	4	5
Strongly Agree				**Strongly Disagree**

Code Names	Question statement
1. GL_map	My aim is to completely master the material presented in this class.
7. GL_map	I am striving to understand the content of this course as thoroughly as possible.
3. GL_map	My goal is to learn as much as possible.
5. GL_mav	My aim is to avoid learning less than I possibly could.
11. GL_mav	I am striving to avoid an incomplete understanding of the course material.
9. GL_mav	My goal is to avoid learning less than it is possible to learn.
4. GL_pap	My aim is to perform well relative to other students.
2. GL_pap	I am striving to do well compared to other students.
8. GL_pap	My goal is to perform better than the other students.
10. GL_pav	I am striving to avoid performing worse than others.
12. GL_pav	My aim is to avoid doing worse than other students.
6. GL_pav	My goal is to avoid performing poorly compared to others.

Items 1, 7, 3 = Mastery approach
Items 5, 11, 9 = Mastery avoidance
Items 4, 2, 8 = Performance approach
Items 10, 12, 6 = Performance avoidance

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Balance Self-efficacy

1	2	3	4	5	6	7	8	9
Complete lack of confidence								Total Confidence

Code Name	Question Statement
1. Self_eff1	Fulfill college responsibilities without letting it interfere with your family/personal responsibilities.
2. Self_eff2	Complete pressing tasks in college without it affecting your ability to attend to your family obligations.
3. Self_eff3	Manage incidences where college obligations interfere with work, family/personal life.
4. Self_eff4	Fulfill all your college responsibilities despite going through a demanding period in your work, or family/personal life.
5. Self_eff5	Fulfill your college tasks effectively after a demanding day at work or at home.
6. Self_eff6	Stay focused in your college tasks even when under heavy pressure from family/personal or work responsibilities.
7. Self_eff7	Succeed in your assignments at college although there are many difficulties in your family/personal, or work life.
8. Self_eff8	Complete college tasks even though family/personal and work issues are disruptive.

Subjective Value of College Education

The following statements concern your beliefs about experiences in college. Please indicate how much you agree or disagree with the statements on a scale of 1(strongly disagree) to 5 (Strongly agree)

	1	2	3	4	5	
Strongly Disagree					**Strongly Agree**	

Code Names	Question Statements
1.Val_att1	I feel that attaining my degree is a necessary part of what will make me feel good about myself in the future
2.Val_att2	Getting my college degree is of great personal value to me.
3.Val_att3	Knowing that I completed all the work to get a degree would make me feel good about myself.
4.Val_cst4	Having a degree would be worth it even though sometimes I have fears about my ability to manage college work.
5.Val_cst8	Having a degree would be worth it even if I have to sacrifice involvement in personal, family ,or community events that I like.
6.Val_cst11	Having a degree would be worth it even if pursuing it will cost me money or time away from my family.
7.Val_ut5	I think a college degree will be very useful for achieving my future career aspirations.
8.Val_ut6	I want to get a college degree so that I can better support myself, and my family.
9.Val_ut7	A college degree is important to me because it will provide better job opportunities.
10.Val_intr9	I like the idea of attending stimulating lectures and classes in college.
11.Val_intr10	I am excited about the idea of being college.
12.Val_intr12	It is exciting to think about the challenge of college level work.

Note. Items 1, 2, 3 = Attainment value

Items 5, 6, 7 = Utility value

Items 4, 8, 11 = Cost value

Items 9, 10, 12 = Intrinsic value

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Intention to persist

The following statements concern your intentions about completing your degree. Please indicate how much you agree or disagree with the statements on a scale of 1(strongly disagree) to 5 (Strongly agree)

	1	**2**	**3**	**4**	**5**	
Strongly disagree					**Strongly agree**	

Code Name	Question Statement
1. Perst_1	It is likely that I will re-enroll at UND next semester.
2. Perst_2	It is likely that I will complete my degree and graduate.
3. Perst_3	It is likely that I will pursue my degree continuously until the end without interruptions.

Perceived Success

Please rate the items below on a scale from 1(Very unsuccessful) to10 (Very successful).

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Very Unsuccessful									**Very Successful**

Code Names	Question Statement
coursucc1	How successful do you feel you are in your courses so far?
Unisucc1	How successful do you feel you are in college overall this semester?

Expected Term GPA

What is your expected term GPA?

Code	Range
1	0 to 0.9
2	1.0 to 1.9
3	2.0 to 2.9
4	3.0 to 4.0

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Perceived Health

In general, would you say your general health is?

1	2	3	4	5
Bad	**Poor**	**Fair**	**Good**	**Excellent**

General Life Satisfaction:

Below are five statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item. Please be open and honest in your responding.

1	**2**	**3**	**4**	**5**	**6**	**7**
Strongly			**neither agree**			**strongly**
disagree			**nor disagree**			**agree**

Code Name	Question Statement
GLS_1	In most ways my life is close to ideal.
GLS_2	The conditions of my life are excellent.
GLS_3	I am satisfied with my life.
GLS_4	So far I have gotten the important things I want in life.
GLS_5	If I could live my life over, I would change almost nothing.

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