The purpose of this study was to examine if there were differences between traditional and nontraditional undergraduate students level of engagement on a traditional campus. In addition, the engagement profile of nontraditional students was examined to determine whether there were differences when considering moderator variables: such as gender, enrollment status, race/ethnicity, first-generation status, and transfer status. Understanding how this unique and varied population is educated and served effectively is central to practice in higher education. The target population for this study was graduating seniors for the 2009 academic year. An extant data set was obtained from the university that consisted of 1983 senior students of which 523 completed the National Survey for Student Engagement (NSSE) in Spring 2009.

Descriptive statistics, factor analysis, and multiple regression were used to answer the four research questions. The results of this study did reveal a different profile of engagement between nontraditional and traditional students. Additionally, the results showed only one of the five moderator variables, enrollment status, predicted nontraditional student engagement. Since there are limited studies in higher education literature that directly examine the engagement patterns of nontraditional students, these results can provide the groundwork for further studies to track nontraditional student engagement on traditional campuses. Additionally, understanding nontraditional student needs and behaviors will provide administrators and faculty with practical guidance to enhance nontraditional student academic engagement and assist students to develop meaningful and positive success
strategies. This research may have campus-wide benefits for both traditional and nontraditional students and the institution as a whole.
Student Engagement Profile: A Comparison of Traditional and Nontraditional Undergraduate College Students

by
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A dissertation submitted to the Graduate Faculty of North Carolina State University in partial fulfillment of the requirements for the degree of Doctor of Education

Adult and Community College Education

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2012

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DEDICATION

I dedicate this dissertation to my French souvenir!
BIOGRAPHY

Cricket Tate Bonnetaud completed her undergraduate degree in Rehabilitation Services from the Florida State University. She also earned her master’s degree from Florida State University in Counseling and Human Systems.

During her career, Cricket has been employed at the University of North Carolina at Charlotte in the Division of Academic Affairs as Assistant Director and Academic Counselor for the Office of Adult Students and Evening Services.
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CHAPTER ONE: INTRODUCTION

A college degree has replaced the high school diploma as a mainstay for economic self-sufficiency and responsible citizenship (Kuh et al., 2008). Earning a bachelor’s degree is linked to long-term cognitive, social, and economic benefits to individuals (Kuh et al., 2008). These benefits are passed onto future generations, enhancing the quality of life of the families of college educated persons, their communities in which they live, and the larger society (Kuh et al., 2008). The demand for a higher skilled workforce, changing employment opportunities, a shifting economy, and the desire for promotion and self-fulfillment are among the factors that motivated adults to return to the classroom and continue their education (Kasworm, 2003). The majority of adult nontraditional students cite career related reasons as the motivating factor in their decision to enroll in college, and many adult learners are in the midst of negotiating a career transition when they enter into a degree program (Kasworm, Polson, & Fishback, 2002; Aslanian, 2001). This tendency has resulted in significant enrollment increases at institutions of higher education across the country.

The term nontraditional refers to students who do not fit the typical profile of the 18-22 year-old full-time undergraduate (Giancola, Munz & Trares, 2008). In some cases, the rate of increased nontraditional student’s enrollment has far exceeded the rate of institutional change to serve this unique student population (Kasworm, 2003; Seftor & Turner, 2002). Despite the fact nontraditional students returning to school after being absent from the education environment constitute an increasing population of undergraduate students nationally, most of the services provided to undergraduates are tailored to meet the needs of traditional students (Tisdell, 2008; Merriam, Caffarella, & Baumgartner, 2007; Kasworm,
Adult learners' participation in higher education began to grow in the 1970s, continuing through the early twenty-first century (National Center for Education Statistics [NCES], 2005). The enrollment of nontraditional students has assumed an increasing proportion of the undergraduate population in America's colleges and universities (NCES, 2005). The growing proportion of adult nontraditional undergraduate students has become a significant source of enrollment for numerous institutions for which the proportion of traditional age students is shrinking (Donaldson & Townsend, 2007). The growth of nontraditional participation in U.S. higher education has occurred in the context of other trends such as distance education and accelerated programs (Bok, 2003). Despite these shifts in higher education practice, scholars have paid little attention to nontraditional students’ presence and their impact upon higher education (Donaldson & Townsend, 2007). Kasworm, Sandmann, and Sissel (2000) observed a similar shortage of equitable treatment in public policy, institutional programming, and development of institutional mission. For example, Pascarella and Terenzini (1998) noted the lack of focus on adult nontraditional students and they labeled a “substantial” bias (p.152) in higher education research and literature. However, Pascarella and Terenzini (2005) agree that the “ground rules” of American postsecondary education research of the past are being rewritten and research is reflecting these changes (p.1). For example, they admit the research base for their first volume of How College Affects Students was strongly biased toward traditional White undergraduates, ages 18 to 22, who attended four-year institutions full-time, lived on campus, did not work, and had few, if any, competing family responsibilities (Pascarella & Terenzini,
Therefore, the literature estimating the impact of college has now shifted its focus to the increasingly diverse national undergraduate student population.

Student engagement in its most simple terms reflects the amount of physical and psychological time and energy that students invest in both out-of-class and in-class experiences (Astin, 1993; Graham & Gisi, 2000). The research on college students’ development shows that the time and energy students devote to educationally purposeful activities is the single best predictor of their learning and personal development (Graham & Gisi, 2000; Astin, 1993; Baxter Magolda, 1992; Pascarella & Terenzini, 1991; Pascarella, 1980; Kolberg, 1971; Chickering, 1969); therefore, student engagement is a significant indicator for estimating collegiate quality. Those institutions that more fully engage their students in the variety of activities that contribute to valued outcomes of college can claim to be of higher quality in comparison with similar types of colleges and universities (Kuh, 2001). The 2009 U.S. News & World Report’s annual ranking of postsecondary institutions has strongly shaped public understanding of what constitutes a high quality undergraduate education in the United States. These rankings operationally define quality largely in terms of resources, reputation, and the academic selectivity of an institution’s undergraduate student body (Pascarella, Seiffert, & Blaich, 2010).

Discussing national projections for 2012 college enrollment, students who are 25 years will be 6.7 million in 2012, an increase of 12 percent (NCES, 2005). Assuming that the number of traditional students will grow or remain constant, these figures denote a significant increase in the number of nontraditional college students on America’s college and university campuses. In spring 2010, the Office of Institutional Research at North
Carolina University (NCU) released data that supported the increased projections of adult student enrollment; 8984 (38%) full-time and part-time nontraditional students were enrolled from nearly 23,500 total students enrolled.

The economic and financial status of nontraditional students involved in higher education may connect to changes in the U.S. job market. The United States Department of Labor (2009) also reported, that in terms of percent growth, 14 of the 30 fastest growing occupations in the fields of health, engineering, and technology have a bachelor's degree or higher as the most significant source of postsecondary education or training. The attainment of advanced education becomes a vehicle for acquiring both occupational and social mobility. Nontraditional students are acquiring the degree they started but never completed, pursuing advanced degrees related to their current employment, as well as seeking education in different areas or job fields (Settersten & Hagestad, 1996).

Nontraditional students return to college for a variety of reasons, including improving their lives and especially their financial status, via better jobs or advancement in their current jobs (Kasworm et al., 2002; Aslanian, 2001; Buhr, 1997). Nontraditional students may have different motivations and require different supports than traditional-age students, but some colleges and universities have not been proactive in addressing their needs (Cobbs, 2008). Higher educational institutions' awareness of the environments they foster may affect the success of nontraditional students by understanding what their specific needs are and how best to support them (Cobbs, 2008). To better understand the causes and consequences of student success in college, more must be discovered about how these environmental factors affect nontraditional students.
As nontraditional students become a more prominent segment of the student population, college administrators must examine whether the findings from decades of research on traditional college students hold true for nontraditional students as well (Cobbs, 2008). This is especially relevant with regard to the notion of "student involvement" or in more current terminology, student engagement. Historically, student involvement has been defined as the amount of physical and psychological energy that the student devotes to the academic experience (Astin, 1984).

Student engagement refers to student behaviors that can be directly observed, measured, and assessed; focusing on how and when students participate in activities related to their educational objectives (Graham & Gisi, 2000; Conrad & Donaldson, 2004). It encompasses the physical and emotional effort a student contributes to his or her college experience. The more engaged students are in college, the greater the student's academic and personal development (Astin, 1993). Students who are highly involved tend to devote considerable energy to study, work on campus, actively participate in student organizations, and interact frequently with faculty members and other students (Kuh, 2001). Further, research shows that student engagement in educationally purposeful activities does contribute to positive developmental outcomes such as intellectual, personal, social, and career success (Astin, 1993; Graham & Gisi, 2000; Pascarella & Terenzini 1991, 2005).

The National Survey of Student Engagement (NSSE) was designed to assess the extent to which students are engaged in empirically derived good educational practices in undergraduate education and what they gain from their college experience. The survey used a well-developed, validated set of items directed at a variety of student behaviors and
experiences related to engagement (Kuh, 2001). A major component of the way NSSE results are reported is through its benchmark scales. These scales (Appendix F) are informed partially by an empirically derived grouping of survey items as well as an intuitive understanding of concepts proposed by Astin’s (1984) theory of student involvement, and by Chickering and Gamson’s (1987) work (Kuh et al. 2001). More specifically, the following benchmark scales are based on 42 key questions from the NSSE that capture many of the most important aspects of the student experience. These student behaviors and institutional features are some of the most powerful contributors to learning and personal development (Kuh, 2009).

The five NSSE benchmarks: Level of Academic Challenge, Active and Collaborative Learning, Student-Faculty Interaction, Enriching Educational Experiences, and Supportive Campus Environment serve as the framework around which the NSSE annual reports are listed. The benchmarks, essentially unweighted indices of items, are intended to be a useful tool for internal evaluation, and are also used to facilitate comparisons among other institutions and institutional types (Kuh 2001). The NSSE measures these aspects of the undergraduate experience on an annual basis through collection of data from hundreds of United States four-year colleges and universities (Kuh, 2001). For example, in 2008 alone, 774 different colleges and universities participated in the annual spring administration of the NSSE (Pascarella, Seiffert & Blaich, 2010).

The objective of the survey is to provide data institutions can use to "improve undergraduate education, inform state accountability and accreditation efforts, and facilitate national and sector benchmarking efforts, among others" (Indiana University Bloomington,
The National Survey of Student Engagement (NSSE) measures student engagement based upon two critical principles:

1. The amount of time and effort students put into their studies and other educationally purposeful activities traditionally associated with learning, such as, reading and writing, preparing for class, collaborating with peers on projects, problem solving tasks, community service, and interacting with faculty (Kuh, 2001).

2. The way the institution deploys its resources and organizes its curriculum, various learning opportunities, and supportive services to induce students to participate in activities that lead to the desired experiences and outcomes (i.e. learning, persistence, satisfaction, and graduation) (Kuh, 2001; Pascarella & Terenzini 1991, 2005).

According to Horn (1996), a nontraditional student is identified as an undergraduate student who has at least one or more of the following characteristics: delays college enrollment after graduating from high school, over the age of 24, attends part-time for at least part of the academic year, works full-time while enrolled, is financially independent when determining financial aid eligibility, has dependents other than a spouse, is a single parent, does not have a high school diploma but eventually completed the General Educational Development (GED) diploma. For the purpose of this research study, a nontraditional student is defined as an undergraduate student who is 24 years old or older. Nontraditional students often have jobs, families, financial obligations, and other responsibilities that compete with their time needed for academic involvement. These students are continually juggling competing priorities. They generally approach college with a no-nonsense attitude about both their time and money and have little time for activities that offer no direct benefits.
to them (Graham & Gisi, 2000; Fairchild, 2003; Kariotis, 2000). The literature suggests that nontraditional students are almost always less involved on-campus than traditional students because they are more involved in the outside community (Kariotis 2000; Morgan, 2001). According to Graham & Gisi (2000), nontraditional students have fewer opportunities to become fully involved in the college environment and interact with faculty or peers due to their multiple responsibilities of family and work. Engaging nontraditional students is difficult because of the variety of roles in which they are already committed.

Researchers attribute the increased participation of nontraditional students in postsecondary education to the changing beliefs of our society; a college degree has a direct link to work, stability, financial support, and related life opportunities (Kasworm, 2003; National Center for Education Statistics, 2002). It is this assortment of life experiences and the nontraditional students' ability to persist against difficult odds in an institutional system that is not designed to meet their needs that makes the nontraditional student population one that should no longer be pushed aside and overlooked (Fairchild, 2003; Kasworm, 2003). In today's society, if institutions of higher education want to remain competitive among nontraditional students, it is imperative that they take a closer look at how the rapidly growing population of nontraditional students is engaged on their campuses and make the necessary adjustments to increase educational experiences for them (Kasworm, 2003).

Statement of Problem and Purpose

State institutions of higher education are both aware of and challenged by the diverse and multiple needs of nontraditional students; one reason for this problem may be that they do not have sufficient documentation of how these students live their lives while pursuing
formal education (Polson, 1994; Rangaswami, 1999). Available research indicates that this nontraditional population is unique in several respects. First, it is transient; thus, nontraditional learners must learn how to adapt and identify the needed resources and support quickly. Secondly, nontraditional students have a greater number of life roles than do traditional college students (Kasworm, Sandmann, & Sissel, 2000). Further, Kasworm et al., (2000) added that higher education institutions need to acknowledge that there may be interdependency between higher education, the community, and other environments given that nontraditional students have a wider range of social networks and responsibilities. Yet, few institutions fully recognize or respond to these characteristics. Most nontraditional students live off-campus, commute to school, attend part-time, and are employed off-campus (often employed full-time). These characteristics are what remove nontraditional students from the university campus and decrease the likelihood of positive involvements and interactions with peers who share similar struggles and experiences (Astin, 1999; Morgan, 2001). In short, nontraditional students attending evening and weekend classes are students with financial restraints and the prevailing “overall business as usual” approach has deterred colleges from arranging programs geared to the nontraditional learner (Green, 1998, p.6).

Educational institutions need to understand what support systems and campus resources are necessary for nontraditional students to achieve their academic goals. To aid the nontraditional student who works primarily away from home, either full or part-time, and is attending college, either full or part-time, it is necessary to have an understanding of the, “perceived role of support systems with regard to the achievement of academic success and completion of educational goals” (Buhr, 1997, p.10). Previous research (Kasworm, 2003;
Wlodkowski, 1998; Graham & Gisi, 2000) indicated that the nontraditional learner has greater external demands and pressures in comparison to the traditional age students. Therefore, support and sources of support take on greater meaning for adult learners participating in higher education (Buhr, 1997).

Rangaswami (1999) reported that nontraditional learners continually balance roles in their complex lives, searching for support that will aid in the completion of their educational goals, often maintaining their employment as well as other life activities and responsibilities. Further, Rangaswami (1999) added that nontraditional students are facing situational factors such as role conflict, time management, family and work concerns, and economic and logistical constraints; all of which may affect their ability to sustain their pursuit of educational goals. Cullen (1994) recognized this dilemma, stating that "the pressures of juggling the roles of student, partner, parent, and worker would be lessened if the role of student was seen as including the others" (p.8). Nontraditional students facing such circumstantial barriers need support that will enhance their academic adjustment by allowing them to concentrate on their student role.

Student success, student persistence, and student retention are three research areas that are growing at exponential rates in higher education under the umbrella of college impact studies (Pascarella, 2006). Understanding what contributes to student success has developed into a research area that encompasses specific groups of students, specific types of institutions, and specific best practices used on various campuses. All of this information is vital in understanding how students learn and what contributes to their overall academic success.
Student engagement represents both the time and energy students invest in educationally purposeful activities and the effort institutions devote to using effective educational practices (Kuh, 2001). Student engagement is linked positively to desirable learning outcomes such as critical thinking and higher grades (Carini, et al., 2006). The purpose of this study is to address the gap in literature comparing traditional versus nontraditional students levels of engagement.

Some of the current and future trends include more females, part-time students, students attending 2-year institutions, first-generation students, working adults, and students with one or more dependents (Choy, 2002). A 1999-2000 survey found that approximately 73% of all postsecondary undergraduates are “nontraditional” (U.S. Department of Education, 2002). In particular, approximately 30% of undergraduates were working adults (Berker & Horn, 2003), and first-generation college students were more likely to be 24 years of age or older than their college peers (U.S. Department of Education, 2001). It is predicted that the percentage of first-generation students and adult students will continue to increase. Thus, it is important that institutions of higher education understand diverse student needs to attract, retain, and educate such students (Richardson & King, 1998).

Although research has examined first-generation students and adult undergraduates separately, few have examined the two together. Instead, the literature has tended to focus on the learning styles, andragogy preferences, academic performance, and personal challenges of adult students in comparison to traditional age students (Bamber & Tett, 2000; Carney-Crompton & Tan, 2002; Kasworm & Pike, 1994; Knowles, 1988; Merriam & Caffarella, 1999); and the support systems, personal characteristics, retention and academic preparation,

During the past 30 years, the nontraditional student population has increased substantially in relation to their traditional counterparts (Fairchild, 2003; Kariotis, 2000). From 1971 to 1991, adult students increased from 28% to 43% of the total undergraduate enrollment and currently represent over 4 million students (Kasworm, 2003). At the North Carolina University the nontraditional student population continues to grow in number and diversity. In spring of 2011, the Office of Institutional Research at NCU reported that more than 4769 nontraditional undergraduates were enrolled of approximately 18,839 total undergraduate students and the average age of undergraduates was 23.0 years.

The increased enrollment of nontraditional students on college and university campus has changed the composition of these institutions considerably (Kasworm, 2003). A major limitation of research is the lack of analysis regarding how the involvement theory applies to nontraditional students (Hernandez et al., 1999; Morgan, 2001; Nutter et al., 1991; Whitt, 1994). Most studies have focused on students of traditional age, 18-22 years old (Morgan, 2001; Nutter et al., 1991; Whitt, 1994). As older students become a more prominent segment of the student population, colleges and universities must start to examine whether findings from years of research on traditional college students hold true for nontraditional students as well. This is especially relevant with regard to student engagement (Cobbs, 2008; Graham & Gisi, 2000).

Student engagement is critical for student success and retention. Nontraditional
learners have different values and behaviors that equate their success; however, research in student engagement does not separate nontraditional and traditional student groups. Instead, research combines these two distinctly different student groups as a homogeneous population. The NSSE has been used to measure student engagement among students in addition to reporting multiple variables such as first-generation status, race, gender, and age. A gap in literature reveals the lack of research using NSSE to distinguish student engagement factors between traditional and nontraditional students. Factor structure for this study is defined as the new factor constructs from factor analysis of the NSSE that determine student engagement profiles. Therefore, the primary purpose of this study was to determine how traditional and nontraditional students are engaged at North Carolina University.

Research Questions

1. What is the factor structure of the NSSE for nontraditional students at North Carolina University (NCU)?

2. What is the factor structure of the NSSE for traditional students at North Carolina University (NCU)?

3. To what extent does nontraditional status predict student engagement in college experiences?

4. To what extent do the following independent variables: (a) race/ethnicity, (b) gender, (c) first generation status, (d) enrollment status, and (e) transfer status predict student engagement for nontraditional students at North Carolina University?
Theoretical Framework

“It is not so much what the individual thinks or feels, but what the individual does, how he or she behaves, that defines and identifies involvement”
(Astin, 1984).

Astin

Theory of Student Involvement by Astin (1984) is the overarching theoretical framework for this study and was developed from HIS work utilizing the Input-Environment-Output (I-E-O) model. I-E-O model addresses the complexities of research in higher education by highlighting the interdependence between inputs, environments, and outputs. Inputs and outputs relate to the individual and through the model they are examined at two different points in time. The role and influence of the environment becomes the vehicle by which changes are identified and explained (Astin, 1993). The I-E-O model addresses the complexities of research in higher education by highlighting the interdependence between the individual and the environment.

There are important differences in the theoretical perspectives explaining how students change across time as a result of their college experiences; student engagement underlies the major theoretical frameworks explaining change during the college years. Astin’s (1984) theory of involvement proposes that student learning is a function of a student’s level of academic and social involvement with the institutional environment and this serves as the theoretical foundation for this study.

Involvement theory examines environmental factors that influence student engagement. Astin (1999), found a direct correlation between student involvement and student development. HE also stressed the role of student involvement as related to retention.
Astin defined involvement as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 518) and offered five assumptions that characterize involvement and provides the framework for examining student involvement.

The assumptions of Involvement Theory include: involvement refers to the investment of physical and psychological energy in various objects; involvement occurs along a continuum; different students manifest different degrees of involvement in a given object, and the same student manifests different degrees of involvement in different objects at different times; involvement has both quantitative and qualitative features (for example, how many hours the student spends studying or whether the student reviews and comprehends reading assignments or stares at the textbook and daydreams); the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program; and the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement (Astin, 1984).

The principal advantage of the student involvement theory over traditional pedagogical approaches (including the subject-matter, the resource, and the individualized or eclectic theories) is that it directs attention away from subject matter and technique and toward the motivation and behavior of the student. It views student time and energy as institutional resources, albeit finite resources. Therefore, all institutional policies and practices, those relating to non-academic as well as academic matters, can be evaluated in terms of the degree to which they increase or reduce student involvement (Astin, 1984). Theory of involvement offers students a wide variety of academic and social opportunities to
become involved with new ideas.

*Pascarella*

Pascarella’s (1985) model of environmental influences on college outcomes examines the effects of group differences on students’ college experiences and learning outcomes (Pike, 2000; Pike & Killian, 2001; Pike, Kuh, & Gonyea, 2004). The model focuses on two important aspects of the college experience: student engagement and integration of experiences.

![Figure 1 Model of Environmental Factors](image)

(Pascarella, 1985)

Chickering (1974) believed that learning requires both active participation in a variety of academic and social activities and integration of these diverse experiences into a meaningful whole. A considerable body of research points to the positive influence of student engagement in educationally purposeful activities on learning (Astin, 1993; Feldman
Definition of Terms

**Benchmark(s)** - the areas being measured by the NSSE instrument (i.e. academic challenge, student-faculty interaction, active-collaborative learning, supportive campus environment, and enriching educational experience) (Kuh, 2001).

**Commuter student** - a student who does not live in institution-owned housing on campus (Jacoby, 2000).

**Continuing/second-generation student** - a student whose parents or guardians earned at least one baccalaureate degree (Pike & Kuh, 2005).

**Enrollment status** - enrolled for the academic term full-time (12 credit hours or more) or less than full-time.

**First-generation student** - a student from a family where no parent has earned a baccalaureate degree (either or both parents may have attended some college in this definition) (The National Center for Education Statistics, 2007; Choy, 2001).

**Full-time student** - A student enrolled for 12 or more semester credits.

**National Survey of Student Engagement** - (NSSE) collects information at hundreds of four-year colleges and universities about student participation in programs and activities that institutions provide for their learning and personal development. The results provide an estimate of how undergraduates spend their time and what they gain from attending college. NSSE documents dimensions of quality in undergraduate education and provides information and assistance to colleges, universities, and other organizations to improve student learning (National Survey of Student Engagement, 2003).
Nontraditional student - an undergraduate student age 24 years or older (Horn, 1996; Bean & Metzner, 1985).

Race and ethnicity - Category used to describe groups to which individuals belong, identify with, or belong to in the community.

Residence status - refers to whether a student's residency is on-campus or off-campus.


Student development - the way in which a student progresses or increases his or her developmental capabilities as a result of enrollment in an institution of higher education (Evans et al, 1998).

Student engagement - engagement or involvement relates to time and the physical energy that students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities (Kuh, 2003).

Traditional student - an undergraduate student 18 to 23 years of age.

Transfer student - A student entering the institution for the first time but known to have previously attended a postsecondary institution at the same level (Bean & Metzer, 1985).

North Carolina University - an accredited southeastern, nationally competitive, doctoral research university. Student enrollment is approximately 26,000. The university offers more than 175 undergraduate and graduate degrees in 120 fields of study.
CHAPTER TWO: REVIEW OF LITERATURE

Chapter Two begins by defining and comparing the two different student groups used in this study, traditional and nontraditional students. Next, theory is discussed to describe both traditional and nontraditional student development by Chickering and Reisser. Involvement Theory by Alexander Astin is discussed and how it has evolved into the phenomenon of student engagement. Lastly, a brief summary of the National Survey of Student Engagement will be provided.

Defining Nontraditional and Traditional Students

Defining Nontraditional Students

Historically nontraditional students are defined as students who are twenty-four years of age or older (Horn, 1997; Bean & Metzner, 1985). However, the profile of students in higher education is changing with an increase in nontraditional students. Nontraditional refers to students who do not fit the typical profile of the 18-22 year-old full-time undergraduate (Giancola, Munz & Trares, 2008). Researchers defined nontraditional students using different age ranges such as age 24 and older, age 27 and older, or even age 30 and over (Graham & Gisi, 2000; Kasworm, 2003). At North Carolina University, a student is considered to be nontraditional if they meet one of the following criteria: age 24 years or older, single parent, returning to college after a period of time away, married, without high school diploma, has dependents, works full or part-time, financially independent, full or part-time student, or military experience (North Carolina University, 2008). However, for this study a nontraditional student is 24 years old or older.

The National Center for Education Statistics (NCES) defines nontraditional students
as possessing at least one of the following characteristics: over the age of 24; delay in enrollment, did not enter higher education in the same year of graduating high school; attends part-time for at least part of the academic year; works full-time (35 hours or more per week) while enrolled; is considered financially independent for purposes of determining eligibility for financial aid; has dependents other than a spouse; is a single parent; recipient of the General Educational Development (GED), high school completion certificate, or did not finish high school (Choy 2002; Dickerson & Stiefer, 2006; DiMaria, 2006; Hoy, 2004).

The characteristics that makes the nontraditional students unique from other students and similar to each other is the multiple roles they assume in order to attend college. Higher education is only one of many activities in which nontraditional students are involved. Nontraditional students are often employed full-time, caregivers for children or aging relatives, attend school part-time, or live off campus (Kasworm, 2003). They are typically on campus for classes or administrative requirements, rather than social or athletic activities, and they navigate college independently without a cohort (Fairchild, 2003). Nontraditional students have had a break in schooling, desire to be part-time students, have full-time jobs and families, and who have more limited involvement in the collegiate environment. Specifically, adult learners, as a primary group who typically represent these characteristics, have experienced more limited opportunities (Kasworm, 2010).

From the review of literature, nontraditional students can be defined in many ways. For this study, 24 years of age or older will determine whether a student is considered a nontraditional student.
Defining Traditional Students

Traditional students are typically defined by the following criteria: age 18-22; residential students; enrolls full-time immediately after graduating high school; dependent on parents for financial support; doesn't work or works part-time during the academic year (Bean & Metzner, 1985; National Center for Education Statistics, 2002; Pascarella & Terenzini, 1991).

Gohn and Albin (2006) classify traditional students in the following categories:
Greek students who belong to a national social fraternity or sorority on campus, are usually of traditional age and live or have lived in a fraternity or sorority house; residence hall students who reside in the traditional residence hall on campus, are usually traditional aged first or second year students; students in honors programs who are chosen to participate in special campus programs designed for entering students who have excellent test scores or high school grade point averages or those who through scholarly work and activities have earned the opportunity to participate in an honor program, most of these students are of traditional age and on some type of scholarship; student-athletes who are typically of traditional age.

Traditional vs. Nontraditional Students

There are several differences between nontraditional students and traditional students. Bean & Metzner (1985) pointed out that the diversity among the nontraditional student population makes it difficult to create a profile of a typical nontraditional student. They proposed that showing how nontraditional students differ from traditional students is the best way to define nontraditional students. Additionally, the literature suggested that using the
age cut-off age of 25 is a useful way to define a population that shares several common characteristics different from those of traditional college students (Choy, 2002; Kasworm, 2003; NCES, 2002). Kasworm (2003) classifies the major differences between nontraditional students and traditional students in the following ways:

- Nontraditional students are predominately part-time students;
- Nontraditional students are more likely than traditional students to work fulltime;
- Nontraditional students are more likely to fund their education through their own discretionary funds, loans, or government aid;
- Nontraditional students are more likely to have major family responsibilities;
- The majority of nontraditional students are re-entry and have not been continuously enrolled since their first experience in college;
- Nontraditional students are usually not as prepared for the role of student, and are more likely to experience role conflict. They are also twice as likely as traditional students to leave college after their first year (Brown, 2002);
- Nontraditional students are more likely to have higher college grade point average (G.P.A.) than their traditional counterparts (Kasworm, 2003);
- Nontraditional students have unique pressures compared to those of traditional students (Morgan, 2001);
- Many nontraditional students believe they are underprepared and don't believe they will be able to compete with their younger counterparts coming directly from school (Morgan, 2001).

There is limited historic research concerning adult undergraduate students and their
student identity role. The majority of empirical research discussions have investigated the adult students' academic performance abilities and related academic motivation, the self-identity construct of academic competence, within 4-year colleges and universities (Kasworm & Blowers, 1994; Pascarella & Terenzini, 1998; Kasworm, Sandmann, & Sissel, 2000; Kasworm, Polson, & Fishback, 2002; Kasworm, 2005). These studies, examining a variety of adult groupings as well as comparative academic performance of young and adult student groupings, noted comparable, if not higher academic performance of adult students to younger adult students, as well as higher levels of satisfaction with their collegiate experiences (Kasworm, 1990; Kasworm & Pike, 1994).

Another thread of studies presumed that adult students were different in maturation and academic orientation and required specific interventions, models, and services. Early works could be characterized by *Ivory Towers in the Market Place* (Dyer, 1956), *Classroom in the Factories* (Clark & Sloan, 1960), and *The Emerging Evening College* (McMahon, 1960). Recent discussions have delineated a more complex and sophisticated set of understandings regarding adult undergraduate students and institutional responses (Apps, 1988; Kasworm et al, 2002; Maehl, 2000; Pappas & Jerman, 2004).

A number of studies have examined adult student self-beliefs in the collegiate intergenerational classroom. Constructed to consider the presence and participation of older adult students in predominantly younger undergraduate student classrooms, these studies presumed a conceptual frame of the looking glass self, in which we come to know ourselves from our interactions with others and from societal expectations of age-related roles (Kasworm, 2010). In these studies, older adults reported entering the classroom with anxiety
and self-consciousness about their place in a youth-oriented learning setting and about their ability to perform; they considered themselves deficient because they were too old and perhaps no longer capable of the intellectual demands of the classroom (Chism, Cano, & Pruitt, 1989; Lynch & Bishop-Clark, 1994).

*Student Development*

Student development is a philosophy that guided student affairs practices and served as the rationale for specific programs and services since the profession's inception (Evans et al., 1998). Rodgers (1990) also notes that the term "student development" has also been used to categorize the theory and research on late adolescent and adult development. Student developmental theory should respond to four questions:

1. What interpersonal and intrapersonal changes occur while the student is in college?
2. What factors lead to cognitive development?
3. What aspects of the college environment encourage or retard cognitive development of the student?
4. What developmental outcomes should students strive to achieve in college? (Evans et al., 1998).

Understanding developmental theory is at the heart of effective educational practice and also serves as the foundation for the practice of student development (Baxter Magolda, 1992). Student development theories focus on intellectual growth, affective and behavioral changes during the college year. These theories can also be utilized by student affairs professional and faculty in collaborative efforts to enhance student learning and maximize positive student outcomes in higher education settings (Evans et al, 1998).
Traditional Student Developmental Theory

In general, student developmental theories pertain to traditional aged students who are recent high school graduates. The traditional student's pursuit of higher education is intertwined with learning how to become adults, developing adult behaviors and functions. Chickering (1969) described young college males development as occurring in stages or vectors that must be resolved in order to establish one's life role: developing competence; managing emotions; moving through autonomy toward interdependence; establishing identity; developing mature interpersonal relationships; developing purpose; and developing identity.

Chickering and Reisser (1993) reveal the seven developmental vectors and how traditional and nontraditional students pass through them (see Figure A). Chickering considers the vectors to be "major highways for journeying toward Individuation." He also noted that students move through these vectors at different rates, vectors can interact with each other and students may find themselves re-examining issues related to vectors they had previously worked through.

Other student development theorists also explain students' developmental characteristics and competencies on a longitudinal scale, showing intellectual and skill development over a period of time, with each stage dependent on the mastering of skills from previous stages (Kohlberg, 1971; Cross, 1981; Gilligan, 1982). College student affairs professionals have consistently sought to assist the college student in development of these competencies toward the formulation of the ultimate goal, adult identity (Evans et al, 1998).
Nontraditional/Adult Developmental Theory

Chickering and Reisser (1993) revisited Chickering's (1969) theory of student development as growing numbers of students returned to school after "dropping" or "stopping" out. They summarized the characteristics of adult and nontraditional learners as being very diverse between individuals due to the multiple demands and experiences encountered. Even though nontraditional students may revisit similar stages of development as their traditional aged counterparts, they pass through these vectors in a practical rather than abstract manner (Chickering & Reisser, 1993).

Nontraditional students have a need to cope with the responsibilities of family, work, and time management, which in turn causes them to approach their development practically, with little patience for learning they consider irrelevant to their lives. The college setting brings many new changes into their lives, causing them to revisit all of the traditional developmental stages in new ways (Schlossberg, Lynch & Chickering, 1989).
Figure 2
*Seven Developmental Vectors for Traditional and Nontraditional Students*
<table>
<thead>
<tr>
<th>Vectors</th>
<th>Traditional Students</th>
<th>Nontraditional Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing Competence</td>
<td>Confidence in one's ability to succeed academically, ability to cope with new situations one finds at college.</td>
<td>Intellectual engagement in the learning process, gaining confidence in one's own abilities socially and academically, especially in new areas such as public speaking, active listening, offering constructive feedback, persistence despite obstacles.</td>
</tr>
<tr>
<td>Managing Emotions</td>
<td>Learning to manage aggression and sex. Starts with awareness of these emotions, turns to ability to control through own decision, not that of parents, society, or peer pressure.</td>
<td>Other emotions besides sex and aggression: anxiety, depression, guilt, even positive feelings such as relief, wonder, happiness, and sympathy.</td>
</tr>
<tr>
<td>Moving Through Autonomy Toward Interdependence</td>
<td>Freedom from pressing needs for reassurance from parents and authority figures that have played major roles in their lives.</td>
<td>Developing interdependence rather than independence including global and social responsibility. Not as grade oriented as learning oriented.</td>
</tr>
<tr>
<td>Establishing Identity</td>
<td>Developing solid sense of self, comfortable with self.</td>
<td>If starting over as a student, single person, in a new location, etc. the process begins again.</td>
</tr>
<tr>
<td>Developing Mature Interpersonal Relationships</td>
<td>Increased tolerance and respect for others, emphasis on quality rather than quantity in relationships.</td>
<td>May have stopped development in this area but has gained tolerance in areas, not yet experienced by younger students, at work, with their children, in-laws, etc.</td>
</tr>
<tr>
<td>Developing Purpose</td>
<td>No longer &quot;Who am I?&quot; and &quot;Where am I going?&quot; Instead, &quot;Who am I going to be?&quot; and &quot;Where am I going to go?&quot; Developing interests in vocation, lifestyle, and recreation. Integration of work, recreation, and lifestyle.</td>
<td>Substantially unchanged but usually change brought nontraditional student back so purpose is re-clarified.</td>
</tr>
<tr>
<td>Developing Integrity</td>
<td>Developing standards by which one appraises self. Congruence between behavior and values/own beliefs.</td>
<td>New values as exposed to new experiences. Usually already has a strong sense of values.</td>
</tr>
</tbody>
</table>

(Reisser & Chickering, 1993)
The theories of student development and adult development described above have complementary parallels to my concept of development through a holistic lens. Student development theory brings the notion that experience and performance in higher education are both affected by the growth of individual psychosocial, cognitive, moral, and other intrapersonal aspects, but it lacks extension past the traditional college student age group. Adult development theory has not usually been developed in the context of higher education, but it gives guidance on what kinds of tasks and tensions adult students might encounter as they move past traditional college age during their college career.

**Adult Learning Theory**

Malcolm Knowles (1977), an adult educator developed the paradigm for adult education and learning called andragogy. Andragogy is defined as the “art and science of helping adults learn” (Knowles, Holton, & Swanson, p.61). The practice of andragogy, unlike pedagogy, puts the focus on the adult learner and not on the teacher. Andragogy tends to emphasize the process of teaching over the content that is being taught. Knowles originally identified four critical andragogical assumptions which were later expanded to six in the andragogical model put forth by Knowles, Holton, & Swanson (2005). The model is part of a learning theory system and includes six assumptions about adult and nontraditional students: (1) the need to know; (2) the learners’ self-concept; (3) the role of the learners’ experiences; (4) readiness to learn; (5) orientation to learning; and (6) motivation.

**Student Involvement Theory**

Involvement theory is rooted in a longitudinal study of college dropouts conducted by Alexander Astin (1975) who examined environmental factors that influence development. In
this particular study, Astin (1975) sought to identify factors in the college environment that significantly affect the student's persistence in college. Astin defined student involvement as the amount of physical and psychological energy that a student devotes to the academic and social aspect of campus life. He also noted that students must be actively engaged in their environment in order for student learning to take place. If this is to take place, student affairs professionals and faculty need to create opportunities for involvement to occur, both inside and outside of the classroom.

Astin's Theory of Involvement has five assumptions (Astin, 1984):

1. Involvement refers to the investment of physical and psychological energy in various objects; which can be anything from the student experience as a whole to a specific activity, such as an intramural volleyball game or the amount of time spent studying on average per week versus time spent studying for a specific exam.

2. Regardless of the object, involvement occurs along a continuum. Some students will invest more energy than other students in the same object, and any particular student will be more involved in certain activities than others.

3. Involvement can be assessed both quantitatively and qualitatively. A quantitative aspect of involvement would be the amount of time devoted to an activity, whereas a qualitative component would be the seriousness with which the object was approached and the attention given to it.

4. The amount of student learning and personal development is directly proportional to the quality and quantity of student involvement in that program. Meaning, the more students put into an activity, the more they get out of it.
5. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement (p. 520).

   According to Astin (1984), a greater degree of student involvement in college life as measured by time spent on academic activities, social activities on campus, etc., was associated with persistence. Some of the factors Astin identified as increasing involvement, and as a result, persistence, were the following: living in a campus residence; working part-time on campus; interacting frequently with faculty and staff; identifying with college through a similarity of race or religion; conversely, factors that decrease student involvement are: spending little time on campus; working full-time; abstaining from extracurricular activities; having little contact with faculty members or others.

   Astin (1984) proposes that student involvement theory is beneficial to higher education in at least three ways:

1. Involvement theory has the capacity to explain how the environment influences student development. Students who enter higher education encounter various programs, policies, faculty, peers, and educational experiences, all which Astin refers to as the environment. As students engage in these various aspects of the campus environment, this interaction contributes to their academic and social development.

2. Involvement theory is useful in guiding researchers in their investigation of student development. Involvement theory provides a framework in which to study the impact of different environmental variables on student growth and change. Students enter college with particular characteristics and once exposed to the college environment (various programs, policies, faculty, peers, and educational experiences) their initial characteristics often change.
By studying the effects of the various environmental experiences on student development, educators, students, and policy makers will be better informed about how to achieve desired educational outcomes.

3. Involvement theory is helpful to college administrators, student affairs professionals, and faculty in designing effective learning environments. The theory assists administrators in the development of policies that enhance student involvement and aids them to better appropriate funds that support involvement efforts. Student involvement theory can also inform student affairs personnel how to provide personal growth and development opportunities for students, and assist students with effective informal learning experiences and social engagement opportunities. It can also help to inform faculty on how to effectively interact with students both inside and outside the classroom (p. 135).

*First-Generation Status*

Recent studies have highlighted the role of campus involvement in the success of first-generation students, with most results indicating that first-generation students are less involved in college experiences than their continuing-generation peers (Lohfink & Paulsen, 2005; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Pike & Kuh, 2005). Pike and Kuh found that first-generation students were much less likely than their continuing-generation counterparts to be academically or socially engaged; they also had more negative perceptions of the college environment and were less likely to integrate their college experiences successfully. As a result, their learning gains were lower.

Given Astin’s (1993) assertion that college outcomes are related to the quality and frequency of student involvement in the college experience, findings of lower overall
engagement in the college experience by first-generation students warrant further exploration. Although research with traditional-age students supports a number of differences between first- and continuing-generation undergraduates, there are no studies to date that specifically examine generation status differences with an adult student population. Nonetheless, the literature on generation status with traditional-age students can provide direction for hypothesis testing.

Research in the area of first-generation college students can be organized into three areas: (a) pre-college characteristics, behaviors, and expectations; (b) transitioning to postsecondary schools; and (c) outcomes such as retention, graduation rates, and career choices (Terenzini et al., 1996). Demographically speaking, first-generation students as compared to continuing-generation are more likely to be female, be older, have dependents, come from a lower socioeconomic status (SES), and work more hours (Bui, 2002; Inman & Mayes, 1999). First-generation students also tend to be less academically and psychologically prepared for college and tend to have lower SAT scores and grade point averages (Bui, 2002; Riehl, 1994); lower math, reading, and critical thinking skills (Terenzini et al., 1996); and lower self-images (Hellman & Harbeck, 1997; McGregor, Mayleben, Buzzanga, Davis, & Becker, 1991).

In terms of college experiences, first-generation students receive less family and peer support (Terenzini et al., 1996); choose colleges based on proximity and cost, focus on attaining technical job skills (Brooks-Terry, 1988); and experience less social and academic integration (Strage, 1999). There is also some research indicating lower college performance and higher attrition among first-generation students (Ishitani, 2003; McConnell, 2000, Inman
There are a number of reasons for the lesser involvement in college experiences among first-generation students. Financial need may limit first-generation students’ involvement in campus experiences, as they invest more time off-campus to support themselves and their families. When compared with others, first-generation students are employed more hours, have lower incomes, and have more financial dependents than their continuing-generation counterparts (Inman & Mayes, 1999; Nuñez & Cuccaro-Alamin, 1998), leaving little time for involvement in many college experiences on average.

The lower income levels among first-generation students result in two additional challenges. First, federal aid is not adequate to meet their needs as aid packages are becoming increasingly loan-based, and low-income students are often reluctant to take out a loan to meet their educational need (Levine & Nidiffer, 1996; Paulsen & St. John, 2002). Second, first-generation students may lack the appropriate information needed to access the aid available to them (Levine & Nidiffer, 1996) as their social circle is less likely to contain significant others whose life experience can assist them in negotiating the financial aid process (McDonough, 1997). This lack of information may be framed in terms of cultural capital, which references the extent to which one is comfortable and familiar with the norms and culture of the institution.

First-generation students likely have less access to information about higher education, particularly in terms of tacit information about how one negotiates the college experience. Additionally, they are more likely to feel like an outsider in higher education settings. Engagement with faculty and other university personnel may be especially beneficial for first-generation students as those people can provide the necessary information,
perspective, values, and socialization that may compensate for cultural capital that was not available to first-generation students in their families and broader social networks prior to the college experience.

A second reason for lesser involvement in college experiences among first-generation students is that they are significantly more likely to commute rather than live on campus (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996). Pike and Kuh (2005) found that commuting to campus, along with lower educational aspirations, explained much of the difference in involvement in the college experience between first-generation students and other students. For many first generation students, particularly those from low-income families or those who have families of their own, living on campus is not a possibility. Therefore, there must be other ways for them to become involved in the types of college experiences that are most predictive of learning gains.

A third reason for lesser involvement among first-generation students is that first-generation status influences educational aspirations, with first-generation students more interested in pursuing a degree for career purposes and focusing on applied majors, rather than theoretical majors (Terenzini et al., 1996). First-generation students are more likely to report that helping their families financially after college was a key motivating factor, viewing the degree as a means of gaining status and respect, bringing honor to the family, and contributing financially (Khanh, 2002). However, first-generation students perceive their parents to be less supportive and less encouraging about their decision to pursue higher education (Choy, 2001; Terenzini, Springer, Yaeger, Pascarella, & Nora 1996; York-Anderson & Bowman, 1991). This family dynamic may hinder the extent to which first-
generation students engage in the college experience.

London (1992) asserts that first-generation parents may not understand why their children need to invest in the college experience, stating that first-generation students are “breaking, not continuing family tradition” by attending college (p. 63). Merullo (2002) describes it as a movement between two worlds, in which the student tries to weld the two worlds together. He argues that such efforts can take a toll on the student’s academic pursuits, especially when the institution is ineffectual at helping students make those connections.

A final explanation for lesser involvement in college experiences may be that the characteristics of first-generation students are different from the dominant higher education culture; thus, first-generation students have to cross more cultural boundaries in order to engage in some college experiences (Rendón, 1996). When compared with continuing-generation students, first-generation students are more likely to be female (Terenzini et al., 1996), non-native English speakers (Khanh, 2002), older, enrolled part-time (Terenzini et al., 1996), and from a lower family income level (Chen & Carroll, 2005).

Student race and ethnicity is also related to first-generation status, nationally students of color make up 36% of first-generation students, but only 16% of continuing-generation students (Chen & Carroll, 2005). First-generation students of color must cross multiple boundaries related to race/ethnicity and social class on predominantly white campuses. Lohfink and Paulsen (2005) describe first-generation students as “inhabiting intersecting sites of oppression, based on race, class, and ethnicity” (p. 411).

One area that is lacking within the first-generation literature is the perceptions of
first-generation versus continuing-generation students during their college experience (Terenzini et al., 1996). Although we have a general understanding of the personal, professional, and academic characteristics and post college outcomes, we know little of how the institutional variables are impacting students and how universities might better respond to the unique needs of first-generation students. Therefore, this study will use first-generation status as an independent variable to predict student engagement for nontraditional students at NCU.

**Student Engagement**

Stakeholders in education today are demanding more accountability from institutions of higher education. Student engagement has given rise to a new perspective on the measurement of collegiate quality (Kuh, 2001). Shrinking resources and the demand for increased accountability across all areas of higher education have administrators even more pressed to justify their existence (Hernandez et al., 1999). Colleges that foster an environment that states clear expectations for students, promotes participation and loyalty, and are abundant with people committed to student learning are often referred to as involving, thus highlighting the importance of engaging students in both in-class and out-of-class activities in order to promote learning outcomes (Graham & Gisi, 2000; Kuh, 2001; Morgan, 2001).

The quality of undergraduate education is improved by increasing student engagement (Astin, 1993; Chickering & Gamson, 1987; Pascarella & Terenzini, 1991; Hu & Kuh, 2002). Student engagement or involvement in its most simple terms reflects the amount of physical and psychological time and energy that students invest in both out-of
class and in-class experiences (Astin, 1993; Graham & Gisi, 2000). Several studies have provided evidence that involvement in college has a direct, positive effect on gains in student learning and development (Graham & Gisi, 2000; Morgan, 2001; Whitt, 1994).

Since the introduction of the National Survey of Student Engagement in 2000, faculty and administrators have devoted increased attention to determining the extent that students are engaged in educationally purposeful activities, both inside and outside the classroom. Subsequently, student engagement data have been used to rethink institutional practices and priorities, benchmark educational effectiveness among peer institutions, broaden public perceptions of collegiate quality, and ultimately improve undergraduate education and student learning (National Survey of Student Engagement [NSSE], 2004). Kuh (2001) concluded that student engagement is a measure of institutional quality.

Involvement in campus environment and out-of-class experiences is positively correlated with both cognitive and affective growth (Graham & Gisi, 2000; Kuh, 1981; Pascarella, & Bliming, 1996; Schroeder & Hurt, 1996). According to Kuh (2001) "the level of academic challenge, time on task, and participating in other educationally purposeful activities, directly influence the quality of student learning and their overall educational experience" (p. 12). He also concluded that "systematic assessment of the activities in which students engage is also needed to identify where and how faculty and students might change their behavior so that students engage more frequently in good practice" (p. 30). From this Kuh expanded on Tinto's (1987) perspective and developed the concept of student engagement, as measured by the NSSE, with reference to educational outcomes that research verifies as being empirically effective.
Tinto’s (1987) theory proposed that student retention may serve as a barometer of the social and intellectual health of college life as much as of the students’ experiences at the college. Five conditions stand out as supportive of retention, namely expectation, advice, support, involvement, and learning. First, students are more likely to persist and graduate in settings that expect them to succeed. Second, students are more likely to persist and graduate in settings that provide clear and consistent information about institutional requirements and effective advising about the choices students have to make regarding their programs of study and future career goals. Third, students are more likely to persist and graduate in settings that provide academic, social, and personal support. Fourth, students are more likely to persist and graduate in settings that involve them as valued members of the institution. The frequency and quality of contact with faculty, staff, and other students is an important independent predictor of student persistence. Lastly, and most importantly, students are more likely to persist and graduate in settings that foster learning.

Learning has always been the key to student retention. Students who learn are students who stay. Institutions that are successful in building settings that educate their students are successful in retaining their students; involvement is the key. Students who are actively involved in learning, that is, who spend more time on task especially with others, are more likely to learn and, in turn, more likely to stay (Tinto, 1995).

Student engagement requires a commitment from both the institution and the student to put forth an effort to promote involvement (Avendano, 2003). The text *Principles of Good Practice for Student Affairs* served as another model to support student engagement. In 1996, leaders of the American College Personnel Association (ACPA) and the National
Association of Student Personnel Administrators (NASPA) convened a study group of student affairs practitioners and faculty to construct a set of principles by which effectiveness in student affairs practice could be determined (ACPA and NASPA, 1997).

According to Blimling and Whitt (1999), “The principles of good practice for student affairs are intended to build consensus on the actions associated with creating high-quality undergraduate experiences, thereby reinforcing a common agenda for student affairs-fostering student learning. The principles are designed to be incorporated into our daily work and to shape how we think about our responsibilities, communicate our purposes, and interact with students” (pp. 203-204). To this end, Witt et al. (2008) stated good practice in student affairs:

1. Engages students in active learning
2. Helps students develop coherent values and ethical standards
3. Sets and communicates high expectations for student learning
4. Uses systematic inquiry to improve student and institutional performance
5. Uses resources effectively to achieve institutional missions and goals
6. Forges educational partnerships that advance student learning
7. Builds supportive and inclusive communities

The extent and quality of engagement is dependent on the breadth and depth of participation put forth by faculty and students (Bridges et al., 2001; Kuh, 2001; Wilber, 1998). Engagement is also dependent upon the motivation of the students to participate in and contribute to course related activities. What the student brings to the classroom is just as important as what the faculty brings to the classroom. Learning takes place when students are
engaged in an active environment that challenges them. The variable that remains constant in higher education is the avid search to accurately measure the effectiveness of education (Cole, 2000). Excellence and quality are consequently the direct measure of an institution's ranking in a prestigious "pecking order" carried in periodic national surveys (Kuh, 2001).

Based on undergraduate students, researchers have found that purposeful engagement, both inside and outside the classroom, positively affects a wide array of gains and outcomes that includes, but is not limited to, the following:

- Cognitive and intellectual skill development (Anaya, 1996; Baxter Magolda, 1992; Kuh, 1995; Ory and Braskamp, 1988; Pike, 2000)
- College adjustment (Cabrera and others, 1999; Delvin, 1996; Kuh, Palmer, and Kish, 2003; Paul and Kelleher, 1995)
- Moral and ethical development (Evans, 1987; Jones and Watt, 1999; Liddell and Davis, 1996; Rest, 1993)
- Persistence (Berger and Milem, 1999; Braxton, Milem, and Sullivan, 2000; Milem and Berger, 1997; Peltier, Laden, and Matranga, 1999; Tinto, 1993)
- Psychosocial development and positive images of self (Bandura, Peluso, Ortman, and Millard, 2000; Chickering and Reisser, 1993; Evans, Forney, and Guido-DiBrito, 1998; Taylor and Howard-Hamilton, 1995).

One of the leading initiatives in assessing student learning to improve the quality of undergraduate education is the National Survey of Student Engagement (NSSE).
National Survey of Student Engagement

Background and Rationale

Established methods for assuring quality in higher education contain few external incentives for individual colleges and universities to engage in meaningful quality improvement. This is especially true in the all-important area of enhancing undergraduate education. In part, this is because the conversation about "quality" has been centered on the wrong things. Institutional accreditation processes, despite their recent emphasis on assessing student learning and development, deal largely with resource and process measures. Government oversight as manifested in license requirements and program review mechanisms, in turn, continues to emphasize regulation and procedural compliance. Third-party judgments of "quality" such as media rankings continue to focus on such matters as student selectivity and faculty credentials (Kuh, 2003). None of these gets at the heart of the matter: the investments that institutions make to foster proven instructional practices and the kinds of activities, experiences, and outcomes that their students receive as a result.

As one step toward addressing this condition, The Pew Charitable Trusts convened a working group of higher education leaders in February 1998 to discuss this issue and, more particularly, the kinds of college ranking systems employed by publications like U.S. News and World Report. One conclusion of the Pew working group was that results of a survey of undergraduate quality, if available, could provide colleges and universities- as well as a potential range of stakeholders- with far more valuable information about institutional quality than established measures of reputation.

This proposed data collection initiative, now known as the National Survey of
Student Engagement, is designed to query undergraduates directly about their educational experiences. An extensive research literature relates particular classroom activities and specific faculty and peer practices to high-quality undergraduate student outcomes. For example, we know that level of challenge and time on task are positively related to persistence and subsequent success in college.

Another conclusion of this body of research is that the degree to which students are engaged in their studies impacts directly on the quality of student learning and their overall educational experience. As such, characteristics of student engagement can serve as a proxy for quality. At least as important, calling attention to the presence or absence of such practices can highlight specific things that individual colleges can do something about and provide information that external constituencies will readily understand. If technically sound and broadly representative, a national survey focused on such practices can begin to focus current quality debates around the right questions rather than falling back upon traditional reputational answers.

The potential of the NSSE goes well beyond "fixing the rankings." Instead, it offers an alternative tool for gathering information with a wide range of uses and provides an important occasion to reframe both local and national conversations about collegiate quality (Kuh, 2003). In particular, three possible uses for the data are now envisioned. First, results are expected to be useful to institutions themselves in improving undergraduate education. For example, the data will be especially useful to colleges and universities in gauging the degree to which they foster practices consistent with particular institutional characteristics and commitments, in order to improve their performance.
Second, results from *The College Student Report* should be helpful to a range of external stakeholders of higher education, including accrediting bodies and state oversight agencies. For example, the data could be used as part of an assessment of "institutional effectiveness"; component of a self-study or to strengthen benchmarking processes. Third, if the results from the NSSE project were made public, they might prove interesting to the media, including news magazines and college guides. Between the two extremes of proprietary, institutionally-owned data and publicly-reported data incorporated into the college rankings of the mass circulation magazines, lie many other potential uses for the data (Indiana University Center for Postsecondary Research, 2009).

*NSSE Purpose*

Student engagement represents two critical features of collegiate quality. The first is the amount of time and effort students put into their studies and other educationally purposeful activities. The second is how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning (Kuh, 2001).

The National Survey of Student Engagement (NSSE) is intended to be instrumental in measuring perceptions of quality and improving the development of educationally purposeful activities that engage students, which in turn adds value to their undergraduate experience (Kuh, 2001). The term student engagement, as measured by NSSE, developed out of years of research on student involvement coupled with the development of outcomes assessment through learning process indicators for both students and faculty (Kuh, 2003). The National Survey of Student Engagement (NSSE) became increasingly valuable to higher education
institutions for measuring the quality of the undergraduate experience by asking first and fourth year college students about educationally purposeful activities considered essential to undergraduate development and learning (Kuh, 2001).

Through its student survey, The College Student Report, NSSE annually collects information at hundreds of four-year colleges and universities about student participation in programs and activities that institutions provide for their learning and personal development (Kuh, 2003). The results provide an estimate of how undergraduates spend their time and what they gain from attending college.

National Survey of Student Engagement is grounded in the educational practice that comes from the widely cited Seven Principles of Good Practice in Undergraduate Education by Chickering and Gamson (1987), they include: encourage student-faculty contact; encourage cooperation among students; encourage active learning; give prompt feedback; emphasize time on task; communicate high feedback; and respect diverse talents and ways of learning.

Critique of the National Survey of Student Engagement

Researchers question the psychometrics of the NSSE constructs. Given the NSSE’s broad-based national and even international use, it seems reasonable to ask whether the good practices in undergraduate education that it measures actually do predict important educational outcomes (Pascarella, Seifert, & Blaich, 2010). If the NSSE instrument is to be used for evaluation and comparison, then validation of the instrument is essential. Validation helps to establish the legitimacy of the measure and by extension supports inferences and arguments based on the interpretations of these results (Kane 2006).
To be an effective measure of engagement, NSSE requires strong construct validity. To this end, much of the focus to date on the NSSE instrument has been in development, and in establishing its content validity (Kuh 2001). However, current research is disputing how college student surveys, specifically the NSSE, fail to prove their validity (Porter, 2009). Porter argues four points to discredit the validity of the NSSE. First, the “domain specification for the NSSE is overly broad and driven by empirical rather than theoretical concerns. Second, college students, as with all humans, have trouble encoding and accurately reporting on behavior and events, especially if they are mundane, and thus rely on a variety of estimation strategies that can result in large, systematic reporting errors. The few studies that have compared students self-reports to corresponding databases support this notion, and show that the errors are not random, but are instead biased in such a way that puts the student in a good light. The unnecessarily vague wording of questions on the NSSE also contributes to reporting errors, due to different understandings of question meaning. Third, the dimensional structure of the benchmarks proposed by the NSSE has not been replicated by other researchers, and many of their reliabilities fail to meet minimum standards. Fourth, studies measuring the association between NSSE items and scales and external data reveal limited associations, and research demonstrates that scales derived from the NSSE are largely uncorrelated with objective measures of student learning” (Porter, 2009, p. 31).

One important aspect of validation is establishing convergent (or external) validity, the degree to which an instrument and the interpretations based on that data agree with other sources of information. The need for external validation is recognized, and as such NSSE
has initiated a self-study and has emphasized the need for individual institutions to explore these questions. One of the ways in which convergent validity may be examined is through the association between the measures of a construct, and predictions based on those measures.

Given the demonstrated connection as reported in the literature between engagement and positive student experience, and the intended design of NSSE in measuring this engagement, one would expect to find associations between NSSE results and measures of desired outcomes. While there are many examples of institutions using NSSE to explore the impact of programs that are intended to affect student engagement, there are at present relatively few studies on the relationship between measures of engagement and measures of student outcomes.

With some narrowly focused exceptions (Carini, Kuh, & Klein, 2006; LaNasa, Olson, & Alleman, 2007); however, nearly all the predictive validity evidence in this regard is based on studies that link the various NSSE measures of good practices to student self reported gains in intellectual and personal development that are assessed by a set of 16 items near the end of the NSSE instrument itself. Although such self-reported gains can be formed into psychometrically reliable scales, serious problems exist with the internal validity of any findings in which self-reported gains are taken to be a learning outcome of the educationally effective practices that the NSSE targets (Pascarella, Seifert, & Blaich, 2010) Recent evidence reported by Bowman (in press) indicates that there is little or no overlap between self-reported gains and longitudinal (pre-test-post-test) gains made on standardized, more objective instruments (Pascarella et al, 2010).
Students complete the self-reported gains part of the NSSE at the same time that they complete the benchmark items. But when researchers do not have a precollege measure of an individual student’s receptiveness to educational experiences, it is difficult, if not impossible, to distinguish how much of that student’s “gain” on some outcome is due to the added value of college from how much is simply due to his or her disproportionate openness and receptivity to the college experience (Pascarella et al., 2010). For example, two students having the same educational experience could report substantially different gains because they enter college differentially receptive to the effects of postsecondary education. Thus, considering the NSSE self-reported gains in college to be an outcome of good practices risks confounding the effects of exposure to good practices with the individual characteristics of the students an institution attracts and admits (Pascarella, 2001).

The researchers have, at present, very little internally valid evidence with respect to the predictive validity of the NSSE (Pascarella et al., 2010). This is a serious concern if participating postsecondary institutions are asked to consider the NSSE benchmark scales as a proxy for student growth in important areas (Pascarella, Seifert, & Blaich, 2010). Another recent study (Porter, Ruman, & Pontius, 2010) examined the validity of several NSSE questions about academic challenge. The researchers compared student self-reports about the number of books assigned to the same number derived from course syllabi. They found little relationship between the two measures due to the fact that many of the academic experience survey questions, in theory, could be tracked and measured but in practice are difficult to measure.

This study however, is not relying on the five NSSE benchmarks, but rather
comparing and distinguishing the factors of engagement between traditional and nontraditional students. The benchmarks are not the only way to look at NSSE data. Alternative, empirically derived scales have been developed from the data. For example, Zhao and Kuh (2004) created scales to measure perceived gains in social, practical, and academic competence. Similarly, Pike (2004), based on Wainer and Kiely’s (1987) testlet concept, developed a set of ‘‘scalelets’’ an alternative grouping of items that further disaggregates the NSSE benchmarks’ conceptual domains. The scalelets were developed as a way to provide actionable unit and institution-level information on engagement.

In addressing NSSE data, institutions need to be mindful of the desired goals they have for their students and themselves. The goal of an institution should not be to achieve higher NSSE benchmark scores for the sake of doing so, but rather to gain keener insight into the relationship between student engagement (as measured by NSSE) and the desired outcomes the institution has for its students (Gordon, Ludlum, & Hoey, 2007). ‘‘Success’’ has different meanings for different institutions, and the means by which success may be measured will vary as well. For example, academic success can be defined by persistence and graduation. Success can also be defined by whether or not a graduate is able to pursue a meaningful career as a result of their education or if the graduate reports satisfaction with their college experience. Success for some students may not even include graduation, but rather the attainment of marketable skills (Pfeiffer, 1998).
CHAPTER THREE: METHOD

Introduction

This chapter discusses the methods used to collect and analyze data for this study. A review and description of the instrumentation and data collection procedures is presented followed by participant demographics. The validity and reliability of the National Survey of Student Engagement (NSSE) instrument is discussed followed by data analysis. The primary purpose of this study is to determine the engagement profile and extent to which nontraditional students predict engagement based on certain factors at North Carolina University. A secondary purpose of this study was to determine the extent the independent variables (i.e. gender, race/ethnicity, first-generation status, enrollment and transfer status) predict the engagement profile for undergraduate nontraditional students at North Carolina University.

The following research questions guide this study:

1. What is the factor structure of the NSSE for nontraditional students at North Carolina University (NCU)?

2. What is the factor structure of the NSSE for traditional students at North Carolina University (NCU)?

3. To what extent does nontraditional status predict student engagement in college experiences?

4. To what extent do the following independent variables: (a) race, (b) gender, (c) first generation status, (d) enrollment status, and (e) transfer status predict student engagement for nontraditional undergraduate students at North Carolina University?
Sample

North Carolina University participated in the NSSE study in 2001, 2004, 2007, and 2009. For the purpose of this study, the target population was students enrolled at North Carolina University (NCU) in the fall 2008 semester. The North Carolina University Office of Institutional Research provided the population file for the spring 2009 NSSE survey. The total sample population was 5,763 first year students and seniors. For the spring 2009 NSSE survey, respondents who completed the online NSSE survey included 548 first year students and 523 seniors for a total of 1,071 respondents.

Population

Population specification is an important step for an effective survey process. The population data file provided to the NSSE Institute at the Indiana University Center for Postsecondary Research and Planning requires: the student’s full name, contact information including both a primary and secondary email address, a unique student ID number (excluding social security numbers), enrollment status of either full- or part-time, gender, and class distinction between first year and senior status. Other highly recommended additional fields to include in the population file include race, ACT/SAT score, and optional group variable information such as honor college enrollment, participation in TRIO programs, and learning communities.

An incomplete population file may result in poor data and conclusions drawn from this data may inaccurately portray students and their engagement at the institution (NSSE, 2008). The population file used for this study was uploaded online to the NSSE Institute Interface on October 30, 2008 to allow time for NSSE researchers to thoroughly review the data for
accuracy. If students become ineligible for NSSE between fall and spring semesters, institutions can remove students from the population file. However, students could not be added to the population file once it was approved by NSSE Institute on January 15, 2009.

A first year student is defined by the National Survey of Student Engagement Institute (NSSEI) as any student who is enrolled in their first academic year as defined by 0-30 earned credit hours. This broad definition included students enrolled in the fall 2008 semester, reasonably expected to remain first year status in the following spring 2009 semester, and included all part-time, distance education, and nontraditional students. A senior is identified as any student who has a minimum of ninety hours earned and is expected to graduate in the spring or summer semesters of the current academic year; and this definition also included all part-time, distance education, and nontraditional students (NSSE, 2008).

The NSSEI selected a random sample of students from the North Carolina University student population data file (N= 3,109 first year and 2,654 seniors) based upon undergraduate enrollment. This research study will only use data of NCU undergraduate seniors on the 2009 NSSE to answer the research questions. Respondent characteristics for this sample revealed females represented approximately 63% (N=329) of the undergraduate senior sample and male students represented approximately 37% (N=194) of the sample. Overall, there were 23.6% undergraduate nontraditional females enrolled at NCU in Spring 2009 (N=2111) and 25.3% (N=2127) undergraduate nontraditional males enrolled at NCU in Spring 2009. Both nontraditional and traditional undergraduate senior students; 340 (65%) traditional age seniors and 183 (35%) nontraditional seniors participated in the 2009 survey. Regarding transfer status of the seniors who participated in the survey, 49% were transfer
students. The overall response of seniors completing the spring 2009 NSSE rate was 26% (N=523).

Table 1

**NCU 2009 NSSE Respondent Characteristics**

<table>
<thead>
<tr>
<th>Enrollment Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>434</td>
<td>83</td>
</tr>
<tr>
<td>Less than full-time</td>
<td>89</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>329</td>
<td>63</td>
</tr>
<tr>
<td>Male</td>
<td>194</td>
<td>37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-traditional (24 or older)</td>
<td>183</td>
<td>35</td>
</tr>
<tr>
<td>Traditional (less than 24)</td>
<td>340</td>
<td>65</td>
</tr>
</tbody>
</table>

Validity and Reliability of National Survey of Student Engagement

Validity refers to the notion that an instrument measures what it is supposed to measure (Sproull, 2002). Validity is often considered the most important property of an assessment tool. Considerable time was devoted to making certain the items on the 2009 NSSE survey were clearly worded, well-defined, and had high face and content validity (Kuh, 2001). Validity is the extent to which the interpretations of the results of the study follow from the study itself and the extent to which results may be generalized to other situations with other people (Shavelson, 1988).

Reliability is the degree to which a set of items consistently measures the same phenomena across respondents; consistent in what it is intended to measure (Hair, Black, Babib, Anderson, & Tatham, 2006). In the area of reliability, NSSE administered three types
of stability tests: (1) a correlation of concordance that measures the strength of the association between scores from two time periods. These involved three national administrations of the survey; (2) matched sample t-tests on annual surveys over a two-year period to determine if differences exist in student responses to individual survey items; (3) a test-retest analysis on two different sources of surveys that were administered through the internet.

One way to estimate reliability, specifically the internal consistency of NSSE results is by calculating Cronbach’s alpha for the NSSE benchmarks. The internal consistency of a set of items is an indicator of how well the items measure the same variable or construct (Kuh, 2001). Assuming the benchmarks effectively measure an underlying construct, results would expect to show high estimates of their internal consistency. Cronbach’s alpha ranges in value between zero and one). Values closer to one indicate a higher internal consistency; values closer to zero indicate a lower internal consistency (Hair, et al., 2006). Cronbach’s alpha measures the internal consistency of a group of items by measuring the homogeneity of the group of item; it is “an indication of how well the different items complement each other in their measurement of different aspects of the same variable or quality” (Litwin, 2003, p.22).

A potential limitation of the Cronbach’s alpha in this analysis is that higher reliabilities result from more heterogeneous groups of respondents and the reliabilities reported for NSSE could only be generalized to students with characteristics similar to the students analyzed for the NSSE. It is possible that the alpha for different subpopulations of students could be very different (Kuh, 2001).
Construction and Internal Consistency of the 2009 NSSE Benchmarks

The construction of the NSSE Benchmarks has four steps. First, all items that contribute to a benchmark are converted to a 0 - 100 point scale. For the ‘enriching’ items (question 7 on the survey), those students who indicated that they had already "done" the activity receive a score of 100, while those students who "plan to do," "do not plan to do," or who "have not decided" to do the activity receive a 0. For example, items with four response options (e.g., never, sometimes, often, very often) are recoded with values of 0, 33.33, 66.67, or 100.

Second, part-time student scores are adjusted on four of the Level of Academic Challenge items (READASGN, WRITEMID, WRITESML, ACADPR01). For each item, a ratio is calculated by dividing the mean score of all full-time students by the mean score of all part-time students. Each part-time student's score on an item is multiplied by the corresponding ratio to get their adjusted score. Adjusted scores are limited so as not to exceed 100. Third, student-level benchmark scores are created for each group of items by taking the mean of each student's scores. A mean was calculated for each student so long as they had answered three-fifths of the items in any particular benchmark. Finally, institutional benchmarks are created by calculating weighted averages of the student-level scores for each class (first-year students and seniors). Using all national random samples from the NSSE survey administration, researchers examined the internal consistency of each NSSE benchmark using Cronbach's alpha and benchmark intercorrelations by class (see Table 2).

These results suggest a high degree of reliability for three of the five NSSE benchmarks: Level of Academic Challenge (LAC), Student-Faculty Interaction (SFI), and
Supportive Campus Environment (SCE). These highest reliabilities range between .80 for senior Supportive Campus Environment to .71 for first-year Student-Faculty Interaction. The reliabilities for the remaining benchmarks, Active and Collaborative Learning (ACL) and Enriching Educational Experiences (EEE) are lower implying the use of these benchmarks in statistical analyses should be done with caution. These lower reliabilities ranged between .66 for senior Active and Collaborative Learning and .59 for first-year Enriching Educational Experiences. Overall, reliabilities for senior students are slightly higher than for first-year students across all benchmarks.

Table 2
*Cronbach’s Alpha by Class on National 2009 National Survey of Student Engagement*

<table>
<thead>
<tr>
<th>NSSE Benchmarks</th>
<th>First-Year α</th>
<th>Senior α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Academic Challenge</td>
<td>.73</td>
<td>.76</td>
</tr>
<tr>
<td>Active and Collaborative Learning</td>
<td>.66</td>
<td>.66</td>
</tr>
<tr>
<td>Student-Faculty Interaction</td>
<td>.71</td>
<td>.74</td>
</tr>
<tr>
<td>Enriching Educational Experiences</td>
<td>.59</td>
<td>.66</td>
</tr>
<tr>
<td>Supportive Campus Environment</td>
<td>.79</td>
<td>.80</td>
</tr>
</tbody>
</table>

α > .70

*Instrumentation*

The NSSE survey was first launched in 2000 by a group of researchers. The NSSE prototype was developed by researchers Astin, et al. (1999) to determine the extent to which college students are engaging in educationally effective practices (Kuh, 2009). Established as an annual event, the 2009 NSSE survey had participation from approximately 1400 different four-year colleges and universities in U.S and Canada (NSSEI, 2010).

The NSSE was the instrument used to collect data for this study. For institutions that
choose to participate, the objective of NSSE is to provide colleges and universities data to use for improving undergraduate education, inform state accountability and accreditation efforts, and facilitate national and sector benchmarking efforts (Indiana University Bloomington, 2004). The NSSE instrument is an annual survey of first-year and senior students.

Structure of the Instrument

The NSSE questionnaire collects information in five categories. It asks students questions about their participation in dozens of educationally purposeful activities, such as interacting with faculty and peers, the amount of time they spend studying or participating in co-curricular or other activities, including work on or off the campus. Seniors report whether they took advantage of such learning opportunities as being part of a learning community, working with a faculty member on a research project, internships, community service, and study abroad. First-year students indicate whether they have done or plan to do these things (Kuh et al, 2001; Kuh, 2009). A second set of questions asks students about what the institution requires of them, such as the amount of reading and writing students did during the current school year and the nature of their examinations and coursework (Kuh, 2009).

A third set of questions asks students about their perceptions of features of the college environment that are associated with achievement, satisfaction, and persistence. This includes the extent to which the institution offers the support students need to succeed academically and the quality of relations among various groups on campus such as faculty and students (Astin, 1993; Pascarella and Terenzini, 2005; Tinto, 1993). Students’ perceptions are not directly related to how much they learn; however, they are directly
related to whether students will persist and are satisfied with their experience and, thus, indirectly related to desired outcomes. Direct measures of student satisfaction are obtained from two questions: “How would you evaluate your entire educational experience at this institution?” and “If you could start over again, would you go to the same institution you are now attending?”

In the fourth category, students provide information about their background, including age, gender, race/ethnicity, transfer status, first-generation status, living situation, educational status, and major field of study. Having this information allows NSSE and other researchers to better understand the relationships between student engagement and desired outcomes for different types of students. With campus institutional review board approval, Kuh (2009) describes how schools have the option to link their students’ responses with their own institutional data in order to examine other aspects of the undergraduate experience.

Institutions may also compare their students’ performance with data from other institutions on a mutually determined basis for purposes of benchmarking and institutional improvement. This greatly enhances the power of student engagement data because institutions can better understand and more accurately estimate the impact of course-taking patterns, major fields, and initiatives such as first-year seminars, learning communities, study abroad, internships, and service-learning on achievement and persistence of students from different backgrounds and majors (Kuh, 2009).

Finally, students estimate their educational and personal growth since starting college in the areas of general knowledge; intellectual skills; written and oral communication skills; personal, social, and ethical development; and vocational preparation (Kuh, 2009). These
estimates are mindful of a value added approach to outcomes assessment whereby students make judgments about the progress or gains they have made (Pace, 1984). Although they cannot substitute for direct measures of learning, student self-reported outcomes appear to be generally consistent with other evidence, such as results from achievement tests (Pike, 1995; Pace, 1985).

The 2009 engagement survey consisted of 28 questions containing 81 items. The item response fields were numeric, including some self-reports of how often an event occurred, while others were Likert scales. The NSSE survey questions were grouped into five dimensions of effective educational practices. In addition, students were also asked questions to provide demographic information. The data for this study was generated from 100% web-based administration of the NSSE survey.

Data Collection

Per approval from the University's Institutional Review Board, the Fall 2008 cohort Common Data Set was obtained from the Office of Student Affairs (OSA). OSA provided password information to utilize Student Voice, a comprehensive assessment software, to access North Carolina University NSSE 2009 data and respondent characteristics.

To ensure privacy, the data set excluded information that might identify respondents but did include a specified number of demographics. A confidentiality statement was be signed to ensure that data was used for the purposes outlined in the request for survey data.

Data Analysis

The Statistical Package for Social Sciences version 17 (SPSS 17) was used for data analysis. Each research question, along with its data analysis procedure is described below.
As shown in the Table 3 below, the NCU sample of undergraduate seniors consisted of 35% nontraditional respondents (N=183) and 65% traditional students (N=340). Next, the race and ethnicity of senior respondents is listed in Table 4.

Table 3  
*Frequency Distribution of NCU Senior Participants by Age*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>340</td>
<td>35.0</td>
</tr>
<tr>
<td>Nontraditional</td>
<td>183</td>
<td>65.0</td>
</tr>
<tr>
<td>Total</td>
<td>523</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4  
*Frequency Distribution of NCU Senior Participants by Race and Ethnicity*

<table>
<thead>
<tr>
<th>Race and Ethnicity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or other Native American</td>
<td>5</td>
<td>1.0</td>
</tr>
<tr>
<td>Asian, Asian American or Pacific Islander</td>
<td>26</td>
<td>5.0</td>
</tr>
<tr>
<td>Black or African American</td>
<td>58</td>
<td>11.0</td>
</tr>
<tr>
<td>White (non-Hispanic)</td>
<td>377</td>
<td>72.0</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other Hispanic or Latino</td>
<td>5</td>
<td>1.0</td>
</tr>
<tr>
<td>Mexican or Mexican American</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Multiracial</td>
<td>11</td>
<td>2.0</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>2.0</td>
</tr>
<tr>
<td>No response</td>
<td>26</td>
<td>5.0</td>
</tr>
</tbody>
</table>
Data Analysis for Research Questions

The first two research questions will distinguish engagement factors between traditional and nontraditional student populations.

1. What is the factor structure of the NSSE for traditional students at North Carolina University (NCU)?

2. What is the factor structure of the NSSE for nontraditional students at North Carolina University (NCU)?

Exploratory factor analysis (EFA) is the most appropriate statistical method for research questions 1 and 2 in this study. EFA is preferred over confirmatory factor analysis (CFA) because there are no guiding hypotheses when the research question is simply what are the underlying factors rather than conducting CFA because the researcher has a set of hypotheses that form the conceptual basis for the factor analysis. EFA has traditionally been used to explore the possible underlying factor structure of a set of measured variables without imposing any preconceived structure on the outcome (Child, 1990).

The primary purpose of factor analysis is to define the underlying structure among the variables in the analysis (Hair et al., 2006). Meyers, Gamst, Guirno (2006) define factor analysis as a data reduction procedure in which a considerable amount of data is reduced down to a more manageable or consolidated whole. The general purpose is to identify a relatively small number of themes, components, or factors underlying a relatively large set of variables by distinguishing sets of variables that have more in common with each other than with other variables in the analysis. What the subsets of
variables have in common are the underlying components or factors (Meyers et al., 2006).

Before beginning data analysis on research questions one and two, the researcher had to recode two NSSE variables. The AGEBASE variable was recoded to reflect the intent and purpose of this study by researching students based on age. A nontraditional (NONTRAD) variable was created to represent nontraditional status based on age; NONTRAD 1 if a student is 24 years or older, NONTRAD 0 if a student is less than 24 years old. Lastly, a first-generation (FIRSTGEN) variable was created to report first-generation status and is coded as FIRSTGEN 1= Yes, FIRSTGEN 0= No.

*Factor Analysis Process and Assumptions*

The sample size in this study consisted of 523 senior students, 183 (35%) nontraditional students and 340 (65%) traditional students. The researcher acknowledges that the unequal sample size is acceptable for the statistic and does not impact the study. Factors obtained from small data sets do not generalize as well as those derived from larger sample (Tabachnick & Fidell, 2007). Some authors suggest that it is not the overall sample size that is of concern, but rather the ration of subjects to items. Nunnally (1978) recommends a 10 to 1 ratio; ten cases for each item to be factor analyzed. Others suggest that five cases for each item are adequate in most cases (Tabachnick & Fidell, 2007; Stevens, 1996). For this study, the sample size of 523 cases is assumed adequate because there are 81 factors on the 2009 NSSE, more than five cases per factor.

The second assumption of factor analysis is factor extraction. This involves determining the smallest number of factors that can be used to best represent the
interrelations among the set of variables (ex. principal components analysis). This process includes balancing two conflicting needs: the need to find a simple solution with as few factors as possible; and the need to explain as much of the variance in the original data set as possible (Tabachnick & Fidell, 2007; Pallant, 2007).

Techniques that can be used to assist in the decision concerning the number of factors to retain is Kaiser’s criterion or eigenvalue rule with a value of 1.0 or more. The eigenvalue of a factor represents the amount of the total variance explained by that factor. Catell’s scree test (Catell, 1966) involves plotting each of the eigenvalues of the factors and inspecting the plot to find a point at which the shape of the curve changes direction and becomes horizontal. Catell recommends retaining all factors above the elbow, or break in the plot, as these factors contribute the most to the explanation of the variance in the data set. The number of data points above the break, not including the point at which the break occurs, is usually the number of factors to retain (Costello & Osborne, 2005).

Regarding factor rotation and interpretation, according to Tabachnick & Fidell (2007), researchers conduct both orthogonal (Varimax method) and oblique rotations (Direct oblimin) and then report the clearest and easiest to interpret; Thurstone (1947) refers to this as “simple structure” (p.183). This involves each of the variables loading strongly on only one component and each component being represented by a number of strongly loading variables. The varimax method attempts to minimize the number of variables that have high loadings on each factor (Pallant, 2007). For this study, direct oblimin rotation will be used since it provides information about the degree of correlation between the factors. In practice,
both orthogonal and oblique approaches often result in similar solutions, especially when the
pattern of correlations among the items is clear (Tabachnick & Fidell, 2007).

To be considered suitable for factor analysis, the correlation matrix should show at
least some correlations of \( r = .3 \) or greater (Tabachnick & Fidell, 2007). Bartlett’s test of
Sphericity (Bartlett, 1954) should be statistically significant at \( p < .05 \) and the Kaiser-Meyer-
Olkion (KMO) measure of sampling adequacy (Kaiser, 1970, 1974) index ranges from 0 to 1,
with a .6 value or above as the minimum value for a good factor analysis (Tabachnick &
Fidell, 2007). Because factor analysis is based on correlation, it is assumed that the
relationship between the variables is linear. It is certainly not practical to check scatterplots
of all variables with all other variables. Tabachnick and Fidell (2007) suggested a ‘spot
check’ of some combinations of variables.

Factor analysis can be sensitive to outliers, so as part of the initial data screening
process the researcher checked for outliers and would either remove or recode variables to a
less extreme value. In this data set, there were no outliers. Therefore, for this study the
student engagement profile for nontraditional students will be comprised of certain
dependent variables that will be discovered when completing an exploratory factor analysis
of the 81 NSSE items. Next, the methodology for answering research questions three and
four is described.

*Research Question 3*

To what extent does nontraditional status predict student engagement in college experiences?

*Research Question 4*

To what extent do the following independent variables: (a) gender, (b) race/ethnicity,
Multiple regression is widely used in social sciences because of the complexity of dependent variables in social phenomenon. For example, student engagement cannot be completely explained by only one predictor variable, therefore it becomes important to have a procedure that allows for measurement of predictive ability of multiple variables. There are many underlying assumptions for using multiple regression. One of the most basic assumptions for use of multiple regression is that both the independent variables and the dependent variable be assessed at the interval or ratio level of measurement (ex. Likert Scale). This was the case with this research design, which made use of multiple regression appropriate to analyze research questions three and four.

Multiple regression is also suitable for studying the relationship between naturally occurring independent and dependent variables as opposed to variables manipulated by the researcher. It is helpful for determining if a set of variables is useful for predicting a dependent variable. It can determine whether or not the relationship between the independent variable and dependent variable is statistically significant, how much variance in the dependent variable is accounted for by the predictors, and which are relatively important predictors of the dependent variable (O’Rourke, Hatcher, & Stepanski, 2005). However, it does not provide evidence of cause and effect relationships between the independent and dependent variables. The most important assumptions for multiple regression use involve “independent observations, measurement error, or specification errors” (Pedhazur, 1991, p.89).
Data analysis using multiple regression will be conducted by entering each independent variable separately into each model: gender, race/ethnicity, enrollment status, first-generation status, and transfer status. These regressions will be run on each dependent variable factor scale. To confirm the appropriateness of this procedure, all multiple regression assumptions will be checked. Multicollinearity will be checked by the correlations between the variables and displayed in a table labeled Correlations. Further, SPSS performs ‘collinearity diagnostics’ on the variables which reveals multicollinearity problems that may not be evident in the correlation matrix. These results are presented in the table labeled Coefficients in which two values are given: Tolerance and VIF (Variance Inflation Factor). Tolerance is an indicator of how much of the variability of the specified independent variable is not explained by the other independent variables in the model. If the tolerance value is less than .10, it indicates that the multiple correlation with other variables is high. The VIF values, (the inverse of the Tolerance value, 1 divided by tolerance) above 10 would indicate multicollinearity (Pallant, 2007). Therefore, the cut-off point for determining multicollinearity is a tolerance value of less than .10, or a VIF value above 10.

Lastly, the assumptions of outliers, normality, homoscedasticity, and independence of residuals can be checked in SPSS output by inspecting the Normal Probability Plot (P-P) of the Regression Standardized Residual and the Scatterplot. In the Normal P-P Plot, the points should lie in a reasonably straight diagonal line from bottom left to top right. This would suggest no major deviations from normality (Pallant, 2007). In the Scatterplot of the standardized residuals, the residuals will be roughly rectangularly distributed, with most of the scores concentrated in the center along the 0 point (Pallant, 2007). Deviations from a
centralized rectangle suggest some violation of the assumptions. The presence of outliers can also be detected from the Scatterplot. Tabachnick and Fidell (2007) define outliers as cases that have a standardized residual in the Scatterplot of more than 3.3 or less than -3.3.

Significance of the Study

“Because individual effort and involvement are the critical determinants of college impact, institutions should focus on the ways they can shape their academic, interpersonal, and extracurricular offerings to encourage student engagement.”

Pascarella and Terenzini (2005)

Institutions cannot change who students are when they start college. With the right assessment tools, colleges can identify areas where improvements in teaching and learning will increase the chances that their students attain their educational and personal goals (Kuh, 2009). The emergence of student engagement as an organizing construct for institutional assessment, accountability, and improvement efforts is now accepted as a vital element in improving American higher education (Kuh, 2009).

The engagement premise is straightforward and easily understood: the more students study a subject, the more they know about it, and the more students practice and get feedback from faculty and staff members on their writing and collaborative problem solving, the deeper they come to understand what they are learning and the more adept they become at managing complexity, tolerating ambiguity, and working with people from different backgrounds or with different views (Astin, 1984; Tinto, 1987, 1993; Chickering & Gamson, 1987; Pascarella, 1985; Kuh, Schuh, Whitt, 1991; Kuh et al., 2005). In short, engagement helps to develop habits of the mind and heart that enlarge their capacity for continuous
learning and personal development (Kuh, 2003).

While there is a sizeable amount of information documenting student engagement in general, research documenting the nontraditional students' engagement on a traditional campus is scarce. The findings of this study will be beneficial in providing college and university administrators with a better understanding of nontraditional students' engagement and experiences on campus. This in turn will help administrators with setting priorities and making improvements of student engagement for the nontraditional learner. Researchers must be vigilant to be sure they are interpreting and using engagement data appropriately (Kuh, 2003). Further, they should continue to learn more about what forms of engagement work best under what circumstances for different groups of students.

Students perform better and are more satisfied at colleges that are committed to their success as well as the working and social relations among different student groups on campus, including nontraditional learners (NSSEI, 2009). In fact, Gordon, Ludlum, & Hoey (2007) support in their research that the NSSE benchmark Supportive Campus Environment was the most significant contributor to student retention. Therefore, this study aims to reveal what NSSE factors contribute to the nontraditional student engagement profile so policy and programming decisions could then be examined to assist this student subgroup.

Engagement is a term usually used in higher education to represent constructs such as quality of effort and involvement in productive learning activities. By design, NSSE demonstrates that student engagement can be reliably measured across large numbers of institutions and that engagement data can be used almost immediately by faculty and staff to improve the undergraduate experience (Kuh, 2009). The growing emphasis on assessment,
accountability, and transparency by the Commission on the Future of Higher Education (2006), highlights the relevance of engagement as an indicator of student and institutional performance and underscoring the role that institutions have in encouraging students to take part in educationally purposeful activities (Kuh, 2001, 2003; Kuh et al., 1991; Kuh et al., 2005). Engaging in a variety of educationally productive activities also builds the foundation of skills and dispositions people need to live a productive, satisfying life after college (Kuh, 2009).

This chapter has provided a description of the methodology that will be followed to implement, analyze, and report findings for this study. The processes for recoding variables were explained and the various statistical tests utilized for analyses were outlined.
CHAPTER FOUR: FINDINGS

This study was conducted to examine the student engagement profile of nontraditional students at North Carolina University (NCU). The study addresses the specific questions: 1) What is the factor structure of the National Survey of Student Engagement (NSSE) for nontraditional students at NCU?, 2) What is the factor structure of the NSSE for traditional students at NCU?, 3) To what extent does nontraditional status predict student engagement in college experiences?, and 4) To what extent do the following independent variables: (a) race/ethnicity, (b) gender, (c) first-generation status, (d) enrollment status, and (e) transfer status predict student engagement for nontraditional undergraduate students at NCU?

The data were screened for missing information and outliers using frequency distributions, histograms, and box plots. Data were also screened for normality, linearity, and homoscedasticity. Normality was examined for the study by kurtosis and skewness. According to Hair et al. (2006), kurtosis refers to the height of the distribution, and skewness is used to describe the balance of the distribution. Skewness values falling outside the range of 1 to -1 indicate a substantially skewed distribution (Hair et al., 2006, p. 40). No unusual patterns were identified and thus no data transformations were necessary.

Descriptive results for demographic data are reported, with use of means and standard deviations, frequencies and percentages. Pre-data analyses results including exploratory factor scale analysis and Cronbach’s alpha tests for internal consistency are reported. Factor scales and correlations are described and individual item factor loadings are also reported. This is followed by descriptions of what factors on the NSSE construct the student
engagement profile of both traditional and nontraditional seniors at NCU. Lastly, an exploration of what predicts student engagement in regard to nontraditional status and then by gender, enrollment status, race/ethnicity, first-generation status, and transfer status using multiple regression.

Descriptive Results

Descriptive data collected from the NSSE was comprised of demographic characteristics of the sample. The sample consisted of 523 undergraduate seniors at NCU who participated in the Spring 2009 administration of the NSSE. The following section provides an overview of the respondents’ demographic data of the independent variables of race/ethnicity, gender, enrollment status, first-generation status, transfer status, and nontraditional status based on age (see Table 5).

The average age of the respondents was 25.8 (SD = 8.0) years old. The range of ages was 17 to 62. Table 5 provides frequencies and percentages of the respondents’ categorical demographic data, including enrollment status, gender, age, and transfer status. Nearly 63% (N = 329) of respondents were female and 37% (N = 194) were male. Women students were overrepresented in the sample (N = 329, 63%) compared to the overall NCU spring 2009 female senior student population of 2,833 (52%) and 2,649 (48%) male seniors.

Just over 72% (N = 377) of the students were White. After White, the next largest category of respondents was Black/African American (N = 58, 11%). The remaining race/ethnicities reported were: Asian/Pacific Islander (N = 26, 5%), Hispanic/Latino (N = 5, 1%), Native American/Indian (N = 5, 1%), and Multiracial (N = 11, 2%). Eleven responded “Other” for racial/ethnic background and 26 (5%) did not respond. Similar to the 2009 NCU
NSSE senior respondents, the total spring 2009 senior enrollment (N= 5,482) based on race were: White (N = 4,100, 75%), Black (N = 829, 15%), Asian/ Pacific Islander (N = 272, 5%), Hispanic/Latino (N =190, 3.5%), Native American/Indian (N = 25, .5%), and Other (N = 66, 1.2%).

Table 5  
**NCU 2009 NSSE Respondent Characteristics**

<table>
<thead>
<tr>
<th>Enrollment Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>434</td>
<td>83.0</td>
</tr>
<tr>
<td>Less than full-time</td>
<td>89</td>
<td>17.0</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>329</td>
<td>63.0</td>
</tr>
<tr>
<td>Male</td>
<td>194</td>
<td>37.0</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-traditional (24 or older)</td>
<td>183</td>
<td>35.0</td>
</tr>
<tr>
<td>Traditional (less than 24)</td>
<td>340</td>
<td>65.0</td>
</tr>
<tr>
<td>Transfer Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 or older</td>
<td>256</td>
<td>49.0</td>
</tr>
<tr>
<td>American Indian/Native</td>
<td>222</td>
<td>46.0</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian American or Pacific Islander</td>
<td>26</td>
<td>5.0</td>
</tr>
<tr>
<td>Black or African American</td>
<td>58</td>
<td>11.0</td>
</tr>
<tr>
<td>White (non-Hispanic)</td>
<td>377</td>
<td>72.0</td>
</tr>
<tr>
<td>Other Hispanic or Latino</td>
<td>5</td>
<td>1.0</td>
</tr>
<tr>
<td>Multiracial</td>
<td>11</td>
<td>2.0</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>2.0</td>
</tr>
<tr>
<td>No response</td>
<td>26</td>
<td>5.0</td>
</tr>
</tbody>
</table>
Summary of Demographic Variables

Overall, the majority of senior respondents in the study at NCU were White, female, less than 24 years old, and attended the university full-time. Approximately half of respondents (49%) are students who transferred to NCU from another institution of higher education. This statistic is similar to the overall 2008-2009 NCU demographic of transfer students (3,058) and freshman (3,227). The average age of the respondents was 25.8 years and ranged from 17 to 62 years old. The following sections answer the specific research questions for this study.

Research Question One

What is the factor structure of the NSSE for nontraditional students at North Carolina University (NCU)?

To provide a perspective on how nontraditional students are engaged at NCU, this section provides a general overview of how nontraditional students self-reported on the four engagement scales based on factor analysis data. Factor analysis is a multivariate method used for data reduction purposes. The basic idea is to represent a set of variables by a smaller number of variables (Hair et al., 2006). Data must meet assumptions for factor analysis to deem it is appropriate; it is critical that the data meets the conceptual assumption that some underlying relationship does exist among a group of related variables (Hair et al., 2006).

The main assumptions of factor analysis include linear relations, factorability, and sample size. The statistical assumptions for factorability of the correlation matrix include the Bartlett’s test of sphericity and The Kaiser-Meyer-Olkin measure of sampling adequacy.
After these two assumptions were met, it is vital to identify the criteria for extracting factors. According to Hair et al. (2006), eigenvalues greater than 1 are considered significant but Osborne, Costello, and Kellow (2008) stated that using this method often over estimates the number of factors. Therefore, three other methods were used to explore the data. First, the scree plot was examined to show a graphical representation of the number of factors. The number of factors that existed before the point of inflexion on the curve, or elbow of the curve was extracted. An oblique rotation is best suited to the goal of obtaining several theoretically meaningful factors that should be related to each other (Hair et al., 2006). The Direct Oblimin rotation is an oblique rotation available in SPSS version 17.0 and was used for factor analysis for this research.

For this study, factor loadings were examined in order to determine which factors to retain from NSSE. EFA was conducted for both traditional and nontraditional students separately to determine how they were engaged based upon their NSSE responses. Factor loadings with a value of .40 or higher were retained since 0.3 to 0.4 are minimally acceptable while loadings greater than 0.5 are typically considered practically significant (Hair et al., 2006). Cronbach’s alpha was calculated for each subscale of the NSSE. A Cronbach’s alpha value should exceed .70 to indicate strong reliability of the observed variables in the subscale (Hair et al., 2006). Cronbach’s alpha values are reported in Table 6 below for each of the subscales. Lastly, the NSSE scale scores were modified to replicate a consistent 4-point scale of 1 being the lowest value and 4 being the highest value. These NSSE scales were modified by pragmatically combining scale scores upon distribution of responses and scale values.
A Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is a measure to quantify the degree of intercorrelations among the student engagement factors and the appropriateness for factor analysis (Hair et al., 2006). A KMO coefficient of .803 suggests that the data are suitable for factor analysis because it exceeds the minimum value of .50 (Hair et al., 2006). For the factor analysis, exploratory factor analysis was used. The Direct Oblimin rotation was selected because of the related nature of the constructs (Hair et al., 2006). Significance for the Bartlett’s test of sphericity was set at .05 or less. According to Hair et al. (2006), if a Bartlett's test of sphericity is statistically significant (> .05), “sufficient correlations exist among the variables and it is appropriate to proceed with factor analysis” (p. 115). For this study, Bartlett’s test of sphericity ($X^2 = 7698.990$, $df =$
3321, \( p < .000 \) indicates there is correlation among the variables and it is appropriate to proceed.

Nontraditional Student Engagement Factor Scales

Exploratory Factor Analyses (EFA) was used to test the hypothesized factor scale structure for nontraditional student engagement subscales. The four factors revealed by factor analysis and labeled by the researcher for nontraditional students are Practical Competence & Interpersonal Development, Deep Learning, Collaborative & Supportive Environment, and Academic Rigor. There were four data points above the nature break reflected in the Scree Plot (Figure 3) which supported that the instrument has four factors. The four factor construct for the nontraditional student engagement profile provides support for the four factor solution as proposed in the literature (Hair et al., 2006; Meyers et al., 2006). The factors of Practical Competence & Interpersonal Development (18 items), Deep Learning (14 items), Collaborative & Supportive Environment (8 items), and Academic Rigor (6 items) emerged. All four subscales had appropriate levels of internal consistency (\( \alpha = .944 \)). The nontraditional student engagement profile had factor loading estimates from .830 to .412 for the observed variables.

The factor loadings for Practical Competence & Interpersonal Development ranged between .830 and .443, Deep Learning factor loadings ranged between .670 and .412, Collaborative and Supportive Environment factor loadings ranged between .711 and .440, and factor loadings for Academic Rigor ranged between .556 and .430. All of these loadings were above .30 as suggested by Hair et al. (2006). These factors give empirical support to the theoretical base for the instrument which lies in the evidence stated in Chapter Two that
nontraditional students may have a different student engagement profile than traditional students. Where items in the same scale had different metrics, scores on all items within the scale were related to a common 4-point scale. For example, students estimated their gains on a Likert-type scale, 1= the lowest value to 4= the highest value.

Table 6
Nontraditional Student Engagement Loadings for Factor Analysis

<table>
<thead>
<tr>
<th>Factor/Item</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Practical Competence &amp; Interpersonal Development (α = .936)</strong></td>
<td></td>
</tr>
<tr>
<td>Using computing and information technology</td>
<td>.830</td>
</tr>
<tr>
<td>Thinking critically and analytically</td>
<td>.800</td>
</tr>
<tr>
<td>Analyzing quantitative problems</td>
<td>.788</td>
</tr>
<tr>
<td>Working effectively with others</td>
<td>.673</td>
</tr>
<tr>
<td>Acquiring job or work-related knowledge and skills</td>
<td>.670</td>
</tr>
<tr>
<td>Solving complex real-world problems</td>
<td>.670</td>
</tr>
<tr>
<td>Speaking clearly and effectively</td>
<td>.662</td>
</tr>
<tr>
<td>Writing clearly and effectively</td>
<td>.662</td>
</tr>
<tr>
<td>Acquiring a broad general education</td>
<td>.655</td>
</tr>
<tr>
<td>Institutional emphasis: Providing the support you need to help you succeed</td>
<td>.641</td>
</tr>
<tr>
<td>academically</td>
<td></td>
</tr>
<tr>
<td>Using computers in academic work</td>
<td>.578</td>
</tr>
<tr>
<td>Learning effectively on your own</td>
<td>.571</td>
</tr>
<tr>
<td>Spending significant amounts of time studying and on academic work</td>
<td>.544</td>
</tr>
<tr>
<td>Developing a personal code of values and ethics</td>
<td>.539</td>
</tr>
<tr>
<td>Applying theories or concepts to practical problems or in new situations</td>
<td>.499</td>
</tr>
<tr>
<td>Analyzing the basic elements of an idea, experience, or theory such as</td>
<td>.497</td>
</tr>
<tr>
<td>examining a particular case or situation in depth and considering its</td>
<td></td>
</tr>
<tr>
<td>components</td>
<td></td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td>.489</td>
</tr>
<tr>
<td>Encouraging contact among students from different economic, social, and</td>
<td>.443</td>
</tr>
<tr>
<td>racial or ethnic backgrounds</td>
<td></td>
</tr>
<tr>
<td><strong>Average Total Practical Competence &amp; Interpersonal Development</strong></td>
<td>.646</td>
</tr>
<tr>
<td><strong>Deep Learning (α = .884)</strong></td>
<td></td>
</tr>
<tr>
<td>Learned something that changed the way you understand an issue or concept</td>
<td>.670</td>
</tr>
<tr>
<td>Included diverse perspectives in class discussions or writing assignments</td>
<td>.647</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with others outside of class</td>
<td>.637</td>
</tr>
<tr>
<td>Tried to better understand someone else’s views by imagining how an issue</td>
<td>.617</td>
</tr>
</tbody>
</table>
Table 6 Continued

<table>
<thead>
<tr>
<th>Activities</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looks from his or her perspective b</td>
<td>.615</td>
</tr>
<tr>
<td>Worked on a paper or project that required integrating ideas or information from various sources b</td>
<td>.615</td>
</tr>
<tr>
<td>Examined the strengths and weaknesses of your own views on a topic or issue b</td>
<td>.585</td>
</tr>
<tr>
<td>Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values b</td>
<td>.583</td>
</tr>
<tr>
<td>Put together ideas or concepts from different courses when completing assignments or during class discussions b</td>
<td>.533</td>
</tr>
<tr>
<td>Had serious conversations with students of a different race or ethnicity than your own b</td>
<td>.513</td>
</tr>
<tr>
<td>Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships a</td>
<td>.473</td>
</tr>
<tr>
<td>Attended an art exhibit, play, dance, theater, or other performance b</td>
<td>.463</td>
</tr>
<tr>
<td>Number of books read on your own for personal enjoyment or academic enrichment c</td>
<td>.438</td>
</tr>
<tr>
<td>Prepared two or more drafts of a paper or assignment before turning it in b</td>
<td>.423</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class b</td>
<td>.412</td>
</tr>
<tr>
<td>Average Total Deep Learning</td>
<td>.544</td>
</tr>
<tr>
<td>Collaborative &amp; Supportive Environment (α = .829)</td>
<td></td>
</tr>
<tr>
<td>Institutional emphasis: Helping you cope with your non-academic responsibilities (work, family, etc.) a</td>
<td>.711</td>
</tr>
<tr>
<td>Institutional emphasis: Providing the support you need to thrive socially a</td>
<td>.605</td>
</tr>
<tr>
<td>Developing a deepened sense of spirituality a</td>
<td>.603</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor b</td>
<td>.519</td>
</tr>
<tr>
<td>Participated in a community-based project as part of a regular course b</td>
<td>.517</td>
</tr>
<tr>
<td>Contributing to the welfare of your community a</td>
<td>.513</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework b</td>
<td>.502</td>
</tr>
<tr>
<td>Understanding yourself a</td>
<td>.467</td>
</tr>
<tr>
<td>Quality: Your relationship with other students e</td>
<td>.459</td>
</tr>
<tr>
<td>Participate in a learning community or some other formal program where groups of students take two or more classes together b</td>
<td>.440</td>
</tr>
<tr>
<td>Total Average Collaborative &amp; Supportive Environment</td>
<td>.534</td>
</tr>
<tr>
<td>Academic Rigor (α = .587)</td>
<td></td>
</tr>
<tr>
<td>Number of written papers or reports between 5 and 19 pages c</td>
<td>.556</td>
</tr>
<tr>
<td>Hours per 7-day week spent preparing for class f</td>
<td>.491</td>
</tr>
<tr>
<td>Number of problem sets that take you more than an hour to complete d</td>
<td>.474</td>
</tr>
<tr>
<td>Number of written papers or reports 20 pages or more c</td>
<td>.462</td>
</tr>
<tr>
<td>Worked with classmates outside of class to prepare class assignments b</td>
<td>.459</td>
</tr>
<tr>
<td>Tutored or taught other students b</td>
<td>.430</td>
</tr>
<tr>
<td>Total Average Academic Rigor</td>
<td>.479</td>
</tr>
</tbody>
</table>

`a` 4-point scale: 1= very little to 4= very much
`b` 4-point scale: 1= never to 4= very often
Research Question Two

What is the factor structure of the NSSE for traditional students at North Carolina University (NCU)?

To provide a perspective on how traditional students are engaged at NCU, this section provides a general overview of how traditional students self-reported on the four engagement scales based on factor analysis data. A hypothesis for this research question is that traditional students will have a different engagement profile from nontraditional students that emphasizes more social activities with peers rather than academic based activities.

![Scree Plot](image)

Figure 4 Scree Plot for Traditional Student Engagement Factors
A Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is a measure to quantify the degree of intercorrelations among the student engagement factors and the appropriateness for factor analysis (Hair et al., 2006). A KMO coefficient of .850 suggests that the data are suitable for factor analysis since it exceeds the minimum score value .50 (Hair et al., 2006). For the factor analysis, exploratory factor analysis was used. The Direct Oblimin rotation was selected because of the related nature of the constructs (Hair et al., 2006).

Significance for the Bartlett’s test of sphericity was set at .05 or less. According to Hair et al. (2006), if a Bartlett’s test of sphericity is statistically significant (> .05), “…sufficient correlations exist among the variables and it is appropriate to proceed with factor analysis” (p. 115). For this analysis of traditional student factors, Bartlett’s test of sphericity ($X^2 = 10721.814$, $df = 3321$, $p = <.000$) indicates there is correlation among the variables and it is appropriate to proceed.

Traditional Student Engagement Factor Scales

Exploratory factor analyses were run to test the factor structure for traditional students. The traditional student engagement construct includes the four factors labeled by the researcher as Interpersonal Development (24 items), Academic Preparation (6 items), Out of Class Learning (6 items), and Appreciation of Diversity (6 items). The internal consistency reliabilities of these subscales had appropriate levels of internal consistency (.925, .639, .694, and .820). Exploratory construct for the traditional student engagement profile provides support for the four factor solution as proposed in the literature (Hair et al., 2006; Meyers et al., 2006). The factor loadings for Interpersonal Development ranged
between .804 and .411, the factor loadings for *Academic Preparation* ranged between .551 and .420, *Out of Class Learning* ranged from .621 and .454, and *Appreciation of Diversity* ranged from .716 and .507. All of these loadings were above .30 as suggested by Hair et al., (2006).

Reliability for each of the summated scores was calculated using Cronbach’s alpha. Cronbach’s alpha is an estimate that uses internal consistency to estimate reliability. According to Hair et al. (2006), the minimum value or lower limit for Cronbach’s alpha is .70. Reliability is reported as *Interpersonal Development* $\alpha = .925$, *Academic Preparation* $\alpha = .639$, *Out of Class Learning* $\alpha = .694$, and *Appreciation of Diversity* $\alpha = .820$. Although two scales have alpha values slightly below the standard .70 value, the test for internal consistency for the overall construct of traditional student engagement resulted in a Cronbach’s alpha of .924. Where items in the same scale had different metrics, scores on all items within the scale were related to a common 4-point scale. For example, students estimated their gains on a Likert-type scale, 1= the lowest value to 4= the highest value.

<table>
<thead>
<tr>
<th>Factor/Item</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interpersonal Development ($\alpha = .925$)</strong></td>
<td></td>
</tr>
<tr>
<td>Solving complex real-world problems $^a$</td>
<td>.804</td>
</tr>
<tr>
<td>Working effectively with others $^a$</td>
<td>.773</td>
</tr>
<tr>
<td>Writing clearly and effectively $^a$</td>
<td>.759</td>
</tr>
<tr>
<td>Developing a personal code of values and ethics $^a$</td>
<td>.747</td>
</tr>
<tr>
<td>Thinking critically and analytically $^a$</td>
<td>.737</td>
</tr>
<tr>
<td>Speaking clearly and effectively $^a$</td>
<td>.723</td>
</tr>
<tr>
<td>Analyzing quantitative problems $^a$</td>
<td>.699</td>
</tr>
<tr>
<td>Acquiring job or work-related knowledge and skills $^a$</td>
<td>.662</td>
</tr>
<tr>
<td>Understanding yourself $^a$</td>
<td>.659</td>
</tr>
<tr>
<td>Using computing and information technology $^a$</td>
<td>.651</td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td>.650</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Contributing to the welfare of your community</td>
<td>.617</td>
</tr>
<tr>
<td>Acquiring a broad general education</td>
<td>.591</td>
</tr>
<tr>
<td>Encouraging contact among students from different economic, social, and racial or ethnic backgrounds</td>
<td>.565</td>
</tr>
<tr>
<td>Providing the support you need to help you succeed academically</td>
<td>.565</td>
</tr>
<tr>
<td>Learning effectively on your own</td>
<td>.540</td>
</tr>
<tr>
<td>Institutional emphasis: Providing the support you need to thrive socially</td>
<td>.491</td>
</tr>
<tr>
<td>Voting in local, state, or national elections</td>
<td>.459</td>
</tr>
<tr>
<td>Attending campus events and activities</td>
<td>.453</td>
</tr>
<tr>
<td>Helping you cope with your non-academic responsibilities</td>
<td>.449</td>
</tr>
<tr>
<td>Using computers in academic work</td>
<td>.442</td>
</tr>
<tr>
<td>Developed a deepened sense of spirituality</td>
<td>.439</td>
</tr>
<tr>
<td>Quality: Your relationships with administrative personnel and offices</td>
<td>.430</td>
</tr>
<tr>
<td>Quality: Your relationships with faculty members</td>
<td>.411</td>
</tr>
<tr>
<td>Total Average Interpersonal Development</td>
<td>.597</td>
</tr>
</tbody>
</table>

**Academic Preparation (α =.639)**

| Number of problem sets that take you more than an hour to complete | .551 |
| Worked with classmates outside of class to prepare class assignments | .540 |
| Hours per 7-day week spent preparing for class | .540 |
| Worked harder than you thought you could to meet an instructor’s standards or expectations | .540 |
| Discussed grades or assignments with an instructor | .466 |
| Worked on a paper or project that required integrating ideas or information from various sources | .420 |
| Total Average Academic Preparation | .510 |

**Out of Class Learning (α =.694)**

| Worked with faculty members on activities other than coursework | .621 |
| Work on a research project with a faculty members outside of course or program requirements | .497 |
| Participated in a learning community or some other formal program where groups of students take two or more classes together | .484 |
| Tutored or taught other students | .474 |
| Participated in a community-based project as part of a regular course | .466 |
| Discussed ideas from your readings or classes with faculty members outside of class | .454 |
| Total Average Out of Class Learning | .500 |

**Appreciation of Diversity (α =.820)**

| Tried to better understand someone else’s views from their perspective | .716 |
| Examined the strengths and weaknesses of own views on a topic or issue | .676 |
| Had serious conversations with students of a different race/ethnicity than your own | .613 |
| Had serious conversations with students who are very different from you in | .586 |
Comparison of Traditional and Nontraditional Student Engagement Factors

Both the traditional and nontraditional student engagement profiles revealed four factors after conducting exploratory factor analysis. The traditional student profile is comprised of 42 NSSE items and the nontraditional student engagement profile has a total of 48 items. As mentioned, only NSSE items with factor loadings above 0.4 were used. Next, the profiles of both student groups will be compared by each of their four factors and subscale items respectively (Appendix H).

**Student Engagement Factor One**

Factor one for traditional and nontraditional student engagement was the most similar among the four factors. *Interpersonal Development*, the first factor of traditional student engagement had 24 items in the subscale compared to 18 subscale items that comprised the nontraditional student engagement factor *Practical Competence* and *Personal Development*. Factor one for both student groups shared fifteen of the same NSSE items related to Interpersonal Development and/or Practical Competence. Within the traditional and nontraditional student subscales of factor one (see Tables 6 & 7), they each had the same eight items among the first ten items based on their factor loadings: (a) using computing and
information technology, (b) thinking critically and analytically, (c) analyzing quantitative problems, (d) working effectively with others, (e) acquiring job or work-related knowledge and skills, (f) solving complex real-world problems, (g) speaking clearly and effectively, and (h) writing clearly and effectively.

Three of the factor one items of nontraditional student engagement was not included in the first factor of traditional student engagement: (a) spending significant amounts of time studying and on academic work, (b) applying theories or concepts to practical problems or in new situations, and (c) analyzing the basic elements of an idea, experience, or theory such as examining a particular case or situation in depth and considering its components. Nine items in factor one of the traditional student engagement subscale were not included in the nontraditional student engagement factor one subscale: (a) understanding yourself, (b) contributing to the welfare of your community, (c) providing the support you need to survive socially, (d) voting on local, state, or national elections, (e) attending campus events and activities, (f) helping you cope with your non-academic responsibilities, (h) developed a deepened sense of spirituality, (i) quality of relationships with faculty members, and (j) administrative personnel and offices.

**Student Engagement Factor Two**

*Deep Learning*, factor two for nontraditional student engagement revealed 14 items which related to discussing ideas and coursework with faculty and other students outside of class (see Table 6). Five items not included in the traditional student engagement profile are: (a) discussed ideas from your readings or classes with others outside of class, (b) put together ideas or concepts from different courses when completing assignments or during class
discussions, (c) synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships, (d) attended an art exhibit, play, dance, theater, or other performance, and (e) prepared two or more drafts of a paper or assignment before turning it in. *Academic Preparation*, traditional student engagement factor two was comprised of six factor items. Only one factor item was shared between both student groups for factor two, worked on a paper or project that required integrating ideas or information from various sources. However, the two items (a) discussed grades or assignments with an instructor and (b) worked harder than you thought you could to meet an instructor’s standards or expectations was not a part of the nontraditional student engagement profile.

*Student Engagement Factor Three*

The third factor of nontraditional student engagement is comprised of ten items labeled *Collaborative & Supportive Environment*. These items are related to both academic and social participation and community building efforts. Eight of the ten items are shared with traditional student engagement and specifically, three factor items are shared among the third factor of each student group. These shared items are: (a) participated in a community-based project as part of a regular course, (b) worked with faculty members on activities other than coursework, and (c) participate in a learning community or some other formal program where groups of students take two or more classes together. Traditional student engagement had *Out of Class Learning* (six items) as its third factor that related to external active learning opportunities. Two important items included in the nontraditional student engagement profile are excluded from the traditional student engagement profile, (a) talked about career plans with a faculty member or advisor and (b) quality of relationships with other students.
**Student Engagement Factor Four**

The last factor for both traditional and nontraditional student groups is the most dissimilar even though it is the only factor where both groups each have six factor items. *Academic Rigor* is the fourth factor in the nontraditional student engagement profile and six items relate to the preparation and intensity of their academics. Four of the six items are shared with the traditional student engagement profile but none of the six items are shared within the fourth factor of both student groups. The two factor items not included in the overall traditional student engagement profile are (a) number of written papers or reports between 5 and 19 pages and (b) number of written papers or reports 20 pages or more. *Appreciation of Diversity* makes up the fourth factor in the traditional student engagement profile. These six items are related to the awareness of diverse views and perspectives (see Table 7). All six of these items were included in the overall nontraditional student engagement profile.

In summary, the factor analysis of both traditional and nontraditional students revealed a different profile of student engagement. However, there were more similar and shared items between the student groups than items not shared. Although both groups had four different factors with shared NSSE items, nontraditional students had 48 total items with 13 items not included in the traditional student engagement profile. Forty-two items comprised the traditional student engagement profile with seven items excluded from the nontraditional student engagement profile. Factor one, *Interpersonal Development*, was the most similar and had the most reliability of the four factors between the two student groups. Whereas the main difference revealed nontraditional students seemed to value *Academic*
Rigor as part of their engagement profile, traditional students preferred Appreciation to Diversity. The researcher found interesting that the nontraditional student engagement profile seems to value relationships with fellow peers and the rigor of their academics as part of their engagement compared to the traditional student engagement profile revealing their appreciation of diversity and quality of relationships with faculty and professional staff.

Overall, the student engagement profile for NCU undergraduate traditional and nontraditional seniors revealed more commonalities than the researcher initially assumed.

Research Question Three

To what extent does nontraditional status predict student engagement in college experiences?

Multiple regression analysis was used to test if nontraditional status predicted student engagement. Student engagement in this dataset is defined by using the factor structure defined in question one for nontraditional students. The student engagement factor structure for nontraditional students includes: Personal Competence & Interpersonal Development (PCID), Collaborative & Supportive Environment (CSE), Deep Learning (DL) and Academic Rigor (AR). Scores for each of these four factors were determined by computing the mean of item responses for items within each factor for each participant. A multiple regression was then conducted for each of the four factors individually as the independent variable, with student status (traditional or nontraditional) as the dependent variable. The number of students in each group are traditional 340 (65%) and nontraditional 183 (35%) (see Table 5).

The results of the multiple regression indicated that status (traditional or nontraditional) was significant in predicting student engagement in three of the four factors:
Personal Competence & Interpersonal Development, Collaborative & Supportive Environment, and Academic Rigor (see Table 8). The only factor not found to be significant was Deep Learning ($R^2 = .000$, $F(1,487) = .006$, $p < .936$). Deep learning consisted of fourteen NSSE items related to class and coursework preparation, synthesizing and organizing ideas, concepts or experiences, and discussing ideas and coursework with both faculty and students outside of class. The factor Deep Learning shared eight items with the traditional student profile with six items excluded. A list of NSSE items that make up Deep Learning can be found in Table 6. A possible explanation for Deep Learning not being statistically significant is that the tendency for students in higher education to already be involved in deep learning experiences. In particular, senior traditional and nontraditional students are most likely deeply involved in their studies and already have a greater understanding of the academic culture.

Table 8

<table>
<thead>
<tr>
<th>Factor</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical Competence &amp; Interpersonal Development</td>
<td>-.130</td>
<td>.054</td>
<td>-.108*</td>
<td>.012</td>
</tr>
<tr>
<td>Deep Learning</td>
<td>.004</td>
<td>.049</td>
<td>.004</td>
<td>.000</td>
</tr>
<tr>
<td>Collaborative &amp; Supportive Environment</td>
<td>-.242</td>
<td>.056</td>
<td>-.193**</td>
<td>.037</td>
</tr>
<tr>
<td>Academic Rigor</td>
<td>-.136</td>
<td>.059</td>
<td>-.103*</td>
<td>.011</td>
</tr>
</tbody>
</table>

Note: *p < .05; **p < .001.
Research Question Four

To what extent do the following independent variables: (a) race/ethnicity, (b) gender, (c) first generation, (d) status enrollment status, and (e) transfer status predict student engagement for nontraditional undergraduate students at North Carolina University?

Both nontraditional students and traditional students have different engagement constructs and items as revealed in the factor analysis data in research questions one and two. Therefore, a total score for student engagement was computed by attaining the mean of both traditional and nontraditional overall scores on the NSSE items. To compute the mean score of the sample, first some items on the NSSE had to be rescaled so all items had the same scale structures. For example, some items used a Likert-scale with 1 being the highest value and 4 being the lowest value. Other NSSE items used a 7-point scale from unfriendly and unsupportive to friendly and supportive to describe students’ quality of relationships with other students, faculty members, and administrative personnel and offices. Upon equal distribution of responses, this 7-point scale was reduced to a 4-point scale by combining scales 1 and 2 into point-1, scales 3 and 4 into point-2, scales 5 and 6 into point-3, and keeping scale 7 separate as point 4. Also, three items used a 5-point scale from 1= None to 5= More than 20 to describe the number of written pages or reports during the current school year. Specifically, the 5-point scale was reduced to a 4-point scale by combining scales 4 (11-20) and 5 (More than 20) into one scale to reflect the response More than 11. Lastly, an 8-point Likert-scale was used for two items with 1= 0 and 8= More than 30. The 8-point scale was evenly reduced to a 4-point scale by combining every two scales: responses of 0 and 1-5 into point-1, responses 6-10 and 11-15 into point-2, responses 16-20 and 21-25 into
Findings for the fourth research question were determined by following the steps outlined by Hair et al., (2006) and Meyers et al., (2006) on conducting a regression analysis. Table 9 provides the results to the stepwise regression analysis used to examine the amount of variance that predictor variables explain nontraditional student engagement. The dependent variable, nontraditional student engagement, was computed by finding a mean score value from each of the subscale values: Practical Competence & Interpersonal Development, Deep Learning, Collaborative & Supportive Environment, and Academic Rigor. Predictor variables were entered into the regression one at a time in the following order: race, gender, first-generation status, enrollment status, and transfer status.

The stepwise regression $F (1, 169) = 8.55; p < .001$, revealed that only one variable, enrollment status ($t = 2.924, p = .004$) entered the model and had a significant impact on the student engagement score. Enrollment status for this study was defined and coded as 1= less than full-time (12 credit hours). Overall, enrollment status explained 4.8% of the variance in nontraditional student engagement. This low value indicates that other factors may be present that would impact nontraditional student engagement. Based upon the analysis of the excluded variables, while all of the other variables were excluded from the model, first-generation status ($t = 1.042, p = .299$) while not significant, would be the next variable to enter the model. Of the other predictor variables gender ($t = .859, p = .391$), transfer status ($t = 206, p = .837$), and race/ethnicity ($t = -.093, p = .926$) were not close in value of the probability of F and should not be used for further examination.
Table 9

*Stepwise Multiple Regression Analysis to Explore if Predictor Variables of Gender, Race, First-Generation Status, Enrollment Status, and Transfer Status Explain a Significant Amount of Variance in Nontraditional Student Engagement*

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1.895</td>
<td>1</td>
<td>1.895</td>
<td>8.547</td>
<td>.004*</td>
</tr>
<tr>
<td>Residual</td>
<td>37.474</td>
<td>169</td>
<td>.222</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39.369</td>
<td>170</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Overall R²</th>
<th>B</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
<th>Collinearity</th>
<th>Tolerance</th>
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</thead>
<tbody>
<tr>
<td>Constant (46.038)</td>
<td>.048</td>
<td>.211</td>
<td>.219</td>
<td>.2924</td>
<td>.004</td>
<td>1.000</td>
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<tr>
<td>Step 1 Enrollment Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Excluded Variables</th>
<th>B</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
<th>Collinearity</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (Female)</td>
<td>.859</td>
<td>.391</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race/Ethnicity (White)</td>
<td>-.093</td>
<td>.926</td>
<td>.989</td>
<td></td>
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<tr>
<td>First-Generation Status</td>
<td>1.042</td>
<td>.299</td>
<td>.997</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Transfer Status</td>
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<td>.837</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05

Summary

Chapter Four presented the findings of analyzed data. Demographics for the undergraduate senior population were described. Exploratory factor analysis and correlations were conducted and presented to address research questions one and two to discover what NSSE items generated specific factors to best distinguish the engagement profile of traditional versus nontraditional students. In order to address research question three, multiple regression was used to determine the extent nontraditional student status predicted student engagement based upon the new factors revealed in research question one and two. Lastly, research question four utilized stepwise multiple regression to explore if independent
variables of race, gender, first-generation status, enrollment and transfer status predicted nontraditional student engagement at NCU. Based upon data results, *Deep Learning* was the only factor in research question three that was not significant in predicting nontraditional student engagement. However, enrollment status was the only independent variable that was significant among race/ethnicity, gender, first-generation status, and transfer status in research question four. Results using stepwise multiple regression are entirely consistent with what was obtained using the standard regression method with the five independent variables. In the next chapter, a detailed summary is given for each research question including implications and recommendations.
CHAPTER FIVE: SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

The primary objective of this study was to learn how nontraditional students are engaged at North Carolina University (NCU). A secondary purpose was to determine whether there were differences between traditional and nontraditional students’ engagement at NCU. Additionally, the research questions were developed to broaden understandings of what student engagement behaviors are and what predicts student engagement of nontraditional students based on specific variables such as: gender, enrollment status, race/ethnicity, first-generation status, and transfer status. In this chapter the findings for each of the research questions are summarized, and theoretical implications for practice are discussed. Also provided are considerations for future research and concluding thoughts.

To help frame this research study, Astin’s Theory of Involvement (1984) was used to address the research questions. First, what is the factor structure of National Survey of Student Engagement (NSSE) for nontraditional students at North Carolina University (NCU)? Second, what is the factor structure of NSSE for traditional students at North Carolina University (NCU)? Third, to what extent does nontraditional status predict student engagement? Finally, to what extent do the following independent variables: (a) race/ethnicity, (b) gender (c) first-generation status, (d) enrollment status, and (e) transfer status predict student engagement for nontraditional undergraduate students at North Carolina University?

Summary of Demographics and Each Research Question

The majority of senior respondents in the 2009 NSSE study were White, female, less than 24 years old, and attended full-time. Approximately half of respondents are students
who transferred to NCU from another institution of higher education. The average age of the respondents was 25.8 years.

**Summary of Research Question One**

To address research question one, factor analysis was conducted. The research question asked, what is the factor structure of the NSSE for nontraditional students at North Carolina University (NCU)? Exploratory factor analysis was used to reduce the 81 NSSE items into a forced factor structure that best reflects the nontraditional student engagement profile. The four factor model was tested and found most appropriate. The four factors, named by the researcher of this study, used to explain nontraditional student engagement are: *Practical Competence & Interpersonal Development, Deep Learning, Collaborative & Supportive Environment,* and *Academic Rigor.* Each of the four factors were comprised of NSSE items that had a factor loading of .4 or higher.

Eighteen NSSE items made up the first construct of *Personal Competence & Interpersonal Development* (Appendix G). These items relate to an understanding and awareness of diversity, ability using computers and information technology, and development of character and social skills. The reliability of this construct was high ($\alpha = 936$). *Deep Learning* construct was derived from fourteen NSSE items and revealed an alpha of .884. These items consist of learning through personal reflections, discussions with other students and faculty, and change in paradigms based from multiple perspectives. Ten NSSE items develop the construct *Collaborative & Supportive Environment.* Again, this factor had a high reliability of .829. Items are related to support and managing multiple responsibilities, participating in community/civic activities, learning in groups, and a deepening sense of
spirituality and self. Lastly, *Academic Rigor* construct is composed of six NSSE items with an alpha of .587. These items are related to class preparation and intensity of course requirements, specifically written papers or reports, and problem solving skills.

**Summary of Research Question Two**

Factor analysis was used to answer the research question, what is the factor structure of the NSSE for traditional students at North Carolina University (NCU)? Exploratory factor analysis was used to reduce the 81 NSSE items into a forced factor structure that best reflects the traditional student engagement profile. A four factor model was tested and found most appropriate. The researcher labeled the four factors used to explain traditional student engagement as: *Interpersonal Development, Academic Preparation, Out of Class Learning,* and *Appreciation of Diversity.* Each of the four factors were comprised of NSSE items that had a factor loading of .4 or higher.

The traditional student engagement profile reveals more similarities than differences from their nontraditional student counterparts. The first construct of *Interpersonal Development* ($\alpha = .925$) consists of twenty-four NSSE items that relate to working effectively with others, civic responsibility and character development, and valuing the quality of relationships with administrators and faculty (Appendix H). *Academic Preparation* ($\alpha = .639$) is a construct with six items that include time spent outside of class preparing for assignments with classmates, integration of ideas and sources for coursework, and discussing course requirements and grades with faculty. The third construct of *Out of Class Learning* reveals six items with a reliability of .694. Discussions and working with faculty on external projects rated high compared to items related to tutoring others and community-based
projects. Finally, *Appreciation of Diversity* has a high reliability of .820 for its six NSSE items. Serious conversations with students very different from themselves, understanding diverse views, and changing own perspectives through self-reflection were items that made up the last traditional student engagement construct for this study.

*Summary of Research Question Three*

Multiple regression analysis was conducted to test if nontraditional status predicted student engagement. Scores for each of the four factors were determined by computing the mean of item responses for items within each factor for each participant. The student engagement factor structure for nontraditional students includes: *Personal Competence & Interpersonal Development (PCID), Collaborative & Supportive Environment (CSE), Deep Learning (DL)* and *Academic Rigor (AR)*. Multiple regression analysis was conducted for each of the four factors individually as the dependent variable, with student status (traditional or nontraditional) as the independent variable. The results of the multiple regression indicated that status, traditional or nontraditional, was significant in predicting student engagement in three of the four factors: *Personal Competence & Interpersonal Development, Collaborative & Supportive Environment*, and *Academic Rigor* (see Table 8). *Deep Learning* was the only factor found not significant in predicting nontraditional student engagement.

*Summary of Research Question Four*

Multiple regression analysis was conducted to test if five independent variables predicted nontraditional student engagement. Gender did not predict nontraditional student engagement. Race/ethnicity did not predict nontraditional student engagement. First-generation status was found to be not significant in predicting nontraditional student
engagement. Transfer students was found to be not significant in predicting nontraditional student engagement. Only enrollment status showed significance in predicting nontraditional student engagement.

Research has demonstrated that students who enroll full-time have higher success rates (McSwain & Davis, 2007; O’Brien & Shedd, 2001; Pascarella & Terenzini, 2005). Research also shows that working over 20 hours per week is detrimental to academic success but that on-campus work study increased success (Pascarella & Terenzini, 2005).

Theoretical Implications

The engagement premise has been in the literature for more than seventy-five years, with the meaning of the construct evolving over time. Since then, scholars have contributed scores of research addressing different dimensions of student effort and time on task and their relationship to various desired outcomes of college (Astin, 1975, 1993; Pascarella and Terenzini, 2005; Pike, 2006; Tinto, 1987; Pace, 1980).

The theoretical framework for this research was based on Astin’s Theory of Student Involvement. Pascarella’s model of environmental factors was described since it was grounded in engagement theory. Lastly, Student Development Theory by Chickering & Reisser was also included to describe the differences between traditional and nontraditional student development. Each theorist contributed to the study of student engagement. In this section, the connections between these theories and the findings of this study are presented.

Astin’s Theory of Student Involvement

The theory of student involvement has its roots in a longitudinal student of college dropouts (Astin, 1975) that endeavored to identify factors in the college environment that
significantly affect the student’s persistence in college. The factors that contributed to the students remaining in college suggested involvement, where as those factors that contributed to the students dropping out implied a lack of involvement. The principal advantage of the student involvement theory over traditional pedagogical approaches is that it directs attention away from subject matter and technique and toward the motivation and behavior of the student. It views student time and energy as institutional resources (Astin, 1984). Therefore, all institutional policies and practices, those relating to non-academic as well as academic matters can be evaluated in terms of the degree to which they increase or reduce student involvement. Similarly, all college personnel can assess their own activities in terms of their success in encouraging students to become more involved in the college experience. Theory of Involvement offers students a wide variety of both academic and social opportunities to become involved with new ideas.

The theory of student involvement is qualitatively different from the developmental theories that propose a series of hierarchically arranged developmental stages (Kohlberg, 1971; Loevinger, 1966) and those that view student development in multi-dimensional terms (Chickering, 1969; Chickering et al., 1981; Brown & DeCoste, 1982). Whereas these theories focus primarily on developmental outcomes, the theory of student involvement is more concerned with the behavioral mechanisms or processes that facilitate student development.

*Pascarella’s Theory of Environmental Influences*

Pascarella (1985) built upon Astin’s tenets of student involvement to also include the integration of experiences from academic and social engagement. Pascarella also
incorporated Chickering’s (1969) analysis of the influence of college on student development into the model labeled as Student Characteristics. Overall, Pascarella’s (1985) model of environmental influences on college outcomes examines the effects of group differences on students’ college experiences and learning outcomes.

Each of these scholars has helped higher education better understand student engagement; however, a clear gap exists in the literature as it relates to supporting and retaining nontraditional students through engagement behaviors. Very few studies have examined the experience of nontraditional students or methods for increasing their engagement. A significant body of literature exists on what is important to nontraditional students, but these concepts are rarely examined in relation to student engagement.

Implications and Recommendations for Policy and Practice

Student engagement is generally considered to be among the better predictors of learning and personal development. The premise is deceptively simple; the more students study or practice a subject, the more they tend to learn about it. Likewise, the more students practice and get feedback on their writing, analyzing, or problem solving, the more adept they should become (Kuh, 2003). The very act of being engaged also adds to the foundation of skills and dispositions that is essential to live a productive and satisfying life after college. Students who are involved in educationally productive activities in college are developing habits of the mind and heart that enlarge their capacity for continuous learning and personal development (Shulman, 2002). The widespread use of the NSSE survey underscores the need to understand the degree to which, and the processes whereby student engagement contributes to more favorable outcomes for college students (Carini, Kuh, & Klein, 2006).
Nontraditional students comprised approximately 25.4% of the undergraduate student population at NCU in Spring 2011 and just over half of the total undergraduates were transfer students for the 2010-2011 academic year (3,455 Transfer and 3,109 Freshman). The implications from this study reveal regardless of age, both traditional and nontraditional students are more similar than different in their engagement. Further, the diversity in age of NCU senior students, 17-62 years-old, indicates a commonality among their engagement profile. Due to the engagement findings being mostly non-significant between traditional and nontraditional students, they can be treated statistically as a homogeneous student population. For NCU this means activities, programs, academic and support services can be inclusive of all student populations. However, attention must be given to the fact that nontraditional students value academic rigor more than their traditional counterparts while traditional students appreciate diversity more in their engagement profile. These distinguishing factors are important and should be incorporated into program planning to maximize the value and benefits for the students participating.

Program planning for students in higher education is not easy, especially if program planners are practicing on assumptions of student behaviors. The assumptions of differences between traditional and nontraditional students explained in this study have been proven incorrect. For example, nontraditional students prefer to focus on learning and the practical relevance of their learning being applicable to their lives; their focus is not on socializing or making more friends. Therefore, recommended pragmatic programming for nontraditional students should consist of ways to emphasize academics in conjunction with other campus
support systems such as the Career Center for resume writing and interviewing skills and the Learning Center for time management and test-taking workshops.

Recommendations

The findings from this research have implications for future student engagement research. Based upon the results of this study, the following recommendations for future research and practice are proposed:

1. One of the limitations of this study was its restriction to one traditional, doctoral research intensive university. Future studies might draw from multiple years of NSSE data from the same institution and also from a larger sample by including other types of institutions in different regions.

2. NCU makes a financial investment by purchasing membership in the NSSEI but only participates on a biennial basis. Utilizing similar assessment questions through course evaluations will expand the number of student responses and give NCU more frequent data to analyze. Currently, the course evaluation process is governed by each individual college and the results are mostly applied to faculty tenure and promotion decisions. Expanding the purpose and use of these evaluations would expand the knowledge NCU has about student engagement both in and out of class.

3. This study focused primarily on the engagement patterns of traditional and nontraditional students who were classified as seniors. The study could be replicated to include traditional and nontraditional students who are classified
as first-year students. This would be useful in determining if there are
differences in engagement profiles between traditional and nontraditional
students during the first-year but also beneficial in examining the differences
in engagement during the first-year and senior year.

4. This study revealed several significant differences in patterns and behaviors of
engagement between nontraditional status and enrollment status. Further
research might be to build on research question four by examining further if
there are differences in nontraditional students’ engagement based on
race/ethnicity.

5. Related to the findings, changes in programming and practice should be
considered as it relates to separating nontraditional students from traditional
students when offering orientation programs or transition seminar classes. It
would benefit all students if university programs were inclusive to all.

6. Regardless of age, future NSSE studies could explore the work-school-life
balances among specific groups of students.

Research on large research campuses privileges knowledge about a relatively elite
group of young people while disregarding knowledge that we need to gain about the
increasingly diverse students now represented on many campuses of higher learning. Most
research is based on white males who are traditionally college aged and from Western
cultures (Donaldson & Townsend, 2007). “The responsibility of creating campus climates
that are engaging for all students rests solely on the institution” (Lundberg et al., 2007, p.77).
Concluding Remarks

A recent national dialogue has focused on the importance of a more diversified undergraduate student population, including adult and nontraditional learners, for the future viability of our nation. For example, Dennis Jones, president of the National Center for Educational Management Systems, noted the need to more effectively serve nontraditional higher education students and specifically adult students (Jones, Mortimer, & Sathre, 2007). This concern is based on the shrinking of the traditional young undergraduate population as well as the growing need for collegiate education across the lifespan to support economic development and educated workforce vitality.

Moreover, by 2015, undergraduates of age 25 and older will be the growing population for higher education, with a decline in 18- to 21-year-old undergraduate enrollments (National Center for Education Statistics, 2006). Given societal needs for a well-educated workforce and changing student enrollment patterns, the research university faces important challenges to realign its undergraduate mission and environment in support of a more diverse student population and specifically in support of the nontraditional undergraduate. Past limited research has suggested that the research university has attempted to maintain its historic ethos to serve the young, residential undergraduate and has refused, “…to acknowledge its prejudiced culture and customs” significantly affecting adult student participation (Quinnan, 1997, p.3). Adult education researchers have also investigated the problematic relationship between the nontraditional student and the university environment, noting lack of sufficient policies, procedures, and services to adequately support the success of adult undergraduates (Kasworm, Sandmann, & Sissel, 2000).
Could it possibly be researchers do not study nontraditional students because it is difficult to reach them and control for their heterogeneity? Or as this study indicates, there are no major differences between nontraditional and traditional students? It is usually more convenient to study traditional-age students than nontraditional students, especially on the campuses of major research institutions where many traditional-age students are found and many researchers are located. Basing research on convenience, however, only contributes to a perpetuation of research weighted toward traditional-age students, even as the number of these truly traditional students continues to shrink (NCES, 2002). If this study was completed every two years, would the results be the same between traditional and nontraditional students? Also, in this economy could the change agent be more of the traditional students rather than their nontraditional counterparts? Much focus is given to nontraditional students but currently traditional students are having to work and manage other competing responsibilities as well.

Higher education literature about adult and nontraditional students frequently treat them as different, but not positively different from traditional students. Research needs to develop new models that incorporate an understanding of nontraditional students’ contributions to higher education institutions and also illustrates the benefits that institutions gain by having nontraditional students participate in their programs. For example, questions could focus on what binds students together, regardless of age; how students with varying characteristics, including that of age, relate to and complement each other; and what their relationship is within broader contexts. Difference would be seen as richness, and multiple views could be used to capture the complexity of college ‘student-ness’. In this perspective,
both scholars and practitioners would move beyond using labels (such as traditional and nontraditional) to create a new language to reflect the complex reality of today’s undergraduate student body.

A key to understanding nontraditional students is knowing what is meant by the term and how best to support their individual uniqueness; there is as much diversity within this student group as there is external of nontraditional learners. Regardless of their differences, a common theme is a strong desire to succeed and achieve their goals, however they define their goals. Researchers have defined student success in terms of learning outcomes, personal satisfaction and goal attainment, job placement and career advancement, civic and life skills, social and economic well-being, and commitment to lifelong learning (Ewell & Wellman, 2007, p. 6).

Perna and Thomas (2006) defined student success in terms of four transitions: (a) readiness (aspirations and expectations); (b) enrollment (access and choice); (c) achievement (performance and persistence); and (d) post-college attainment. In November 2006 the National Postsecondary Education Cooperative held a national symposium on student success. The salient theme from the symposium was the lack of a consistent definition of student success and the summary report from the symposium called on higher education and government to identify a clear definition that can be used through research to develop more comprehensive programs.

Programmatic efforts to increase academic success for nontraditional students need to be comprehensive and encompass the entire campus. Specifically these programs are most effective for at-risk students: first-generation, nontraditional, and students of color benefit
from these programs greater than their peers (Duffy, 2007). However, most institutions continue to use these programs in an elective manner instead of assigning at-risk students into required programs proven to contribute to their success. For example, programs like Student Support Services and TRIO incorporate these vital aids for success but normally have enrollment caps based on funding.

The importance of completing the bachelor’s degree has never been more important in American history as it relates to a changing workforce and greater economic benefits both to the individual and society (O’Brien & Shedd, 2001). This degree gap has significant implications for the continued viability of the United States. Higher education remains a cornerstone upon which American society was built and now, more than ever in its history, colleges and universities have a responsibility to find ways to improve the academic success of all students, regardless of age.

Limitations and Delimitations

The study was delimited to one sample of undergraduate seniors at one institution, North Carolina University, divided into two groups, traditional and nontraditional. The instrument used in this study was given 100% web-based rather than paper and pencil. Further, the data analyzed was collected by a separate entity, NSSE Institute. The students who completed the 2009 NSSE did so voluntarily and without influence. Secondly, it was assumed that students answered honestly when self-reporting. The NSSE survey form was developed by an elite group of higher education researchers and, under the guidance of a highly qualified Technical Advisory Group and National Advisory Board, has undergone numerous revisions since its initial development in 1998. In addition, and with a few
exceptions, the internal consistency reliabilities of the scales used in this study are high. Finally, the study relies on student reports of their gains in academic competence as the criterion measure in this study, and such self-reports are open to challenges to their construct validity. However, a growing body of evidence suggests that under appropriate circumstances self-reported outcomes are reasonable proxies for more objective, standardized measures (Anaya, 1999; Dumont and Troelstrup, 1980; Hansford and Hattie, 1982; Pike, 1995, 1996).

Kuh (2005) reviewed the literature on the validity of student self-reports and identified five conditions that, when met, suggest self-reports are reasonably proxies for more objective, standardized measures: “(1) the information requested is known to the respondents; (2) the questions are phrased clearly and unambiguously; (3) the questions refer to recent activities; (4) the respondents think the questions merit a serious and thoughtful response; and (5) answering the questions does not threaten, embarrass, or violate the privacy of the respondent or encourage the respondent to answer in socially desirable ways” (p. 158). We believe the student reports used in this study meet all five of these conditions. Moreover, while self-reports have their limitations when compared with standardized tests, the latter also come with their own limitations, including availability, length, cost, administration requirements, and relevance to the question at hand. It is also assumed that the data were accurately recorded in the university and NSSE database. Additionally, it was also assumed that the student sampling is representative of the traditional and nontraditional student population at the university.
Overall this study was limited by the sample demographics, its single institution design, and the overall definition used to determine nontraditional students. The sample population for this study encompassed 523 participants from an eligible 1983 participants. Compared to enrollment demographics at North Carolina University female students were overrepresented in the sample (72.8%) and students of color were underrepresented (8.3%). This disproportion may have affected the results and limits the findings. Replication of the study with more proportionally distributed participants is suggested.

This research study provided a great deal of description specific to one institution and thus its generalizability is limited. However, this study allows NCU to better understand student engagement behaviors of traditional and nontraditional students. Conversely, it also dictated that the information provided was based on the experience of a small percentage of students. Overall, this study had the strength of providing detailed information about a small percentage of participants at a single institution. It is important to note this research study was exploratory in nature and should be used as a springboard to other investigations related to nontraditional student engagement and development. Engagement can best be understood by examining the issue from two angles: from those who are engaged, and from those who are not. Simply stated, the best way to understand successful measures is to discuss not only what a campus did well, but to hear from students what environmental influences impacted and/or impeded their success.
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APPENDICES
Appendix A: Institutional Review Board Approval Letter

UNC CHARLOTTE

Compliance Office / Office of Research Services
9201 University City Boulevard, Charlotte, NC 28223-0001
Tel: 704.687.3311 F: 704.687.2292 www.research.uncc.edu/comp/compliance.cfm

Institutional Review Board (IRB) for Research with Human Subjects

Approval of Exemption

Protocol # 10-06-21
Title: Traditional and Nontraditional College Students: A Comparison of Student Engagement
Date: 9/20/2010
Investigator Ms. Cricket Bonetaud OASES
Co-investigator Dr. James Bartlett North Carolina State University

The Institutional Review Board (IRB) certifies that the protocol listed above is exempt under category 4.

Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

This approval will expire one year from the date of this letter. In order to continue conducting research under this protocol after one year, the "Annual Protocol Renewal Form" must be submitted to the IRB. Please note that it is the investigator's responsibility to promptly inform the committee of any changes in the proposed research, as well as any unanticipated problems that may arise involving risks to subjects. Amendment and Event Reporting forms are available on our web site: http://www.research.uncc.edu/comp/human.cfm

[Signature]
Dr. M. Lee Exum, IRB Chair
Date 9/20/10

The UNIVERSITY of NORTH CAROLINA at CHARLOTTE
An Equal Opportunity/Affirmative Action Employer
May 5, 2010

Ms. Cricket Bonnetaud  
OASES Office  
UNC Charlotte  
Charlotte, NC 28223-0001

Dear Ms. Bonnetaud:

The purpose of this letter is to confirm my intention to provide you with the de-identified dataset from the National Survey of Student Engagement research project where I serve as principal investigator and custodian of the dataset. The survey was conducted in accordance with a previously submitted and approved IRB protocol that includes student demographics, performance outcome measures, and first year program participation data, all of which is de-identified to ensure the protection of student educational records. The de-identified dataset is to be used by you in accordance to the provisions associated within the IRB proposal that you will be submitting to the IRB in order to pursue your Doctoral dissertation research.

Please feel free to contact me should you have any questions relative to this letter.

Sincerely,

Theodore W. Elling  
Associate Vice Chancellor for Student Affairs
Appendix C: The National Survey of Student Engagement (NSSE) Instrument

### National Survey of Student Engagement 2009

#### The College Student Report

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

<table>
<thead>
<tr>
<th>Very often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>a. Asked questions in class or contributed to class discussions</td>
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</tr>
<tr>
<td>b. Made a class presentation</td>
<td></td>
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<tr>
<td>c. Prepared two or more drafts of a paper or assignment before turning it in</td>
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<td></td>
</tr>
<tr>
<td>d. Worked on a paper or project that required integrating ideas or information from various sources</td>
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<tr>
<td>e. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments</td>
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<tr>
<td>f. Came to class without completing readings or assignments</td>
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<tr>
<td>g. Worked with other students on projects during class</td>
<td></td>
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</tr>
<tr>
<td>h. Worked with classmates outside of class to prepare class assignments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Put together ideas or concepts from different courses when completing assignments or during class discussions</td>
<td></td>
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<tr>
<td>j. Tutored or taught other students (paid or voluntary)</td>
<td></td>
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<tr>
<td>k. Participated in a community-based project (e.g., service learning) as part of a regular course</td>
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<tr>
<td>l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m. Used e-mail to communicate with an instructor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n. Discussed grades or assignments with an instructor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o. Talked about career plans with a faculty member or advisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. Discussed ideas from your readings or classes with faculty members outside of class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>q. Received prompt written or oral feedback from faculty on your academic performance</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Very much</th>
<th>Quite a bit</th>
<th>Some</th>
<th>Very little</th>
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<tbody>
<tr>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>r. Worked harder than you thought you could to meet an instructor’s standards or expectations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>u. Had serious conversations with students of a different race or ethnicity than your own</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</td>
<td></td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Very much</th>
<th>Quite a bit</th>
<th>Some</th>
<th>Very little</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
<td>□ □ □ □</td>
</tr>
<tr>
<td>a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c. Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships</td>
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<td></td>
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<tr>
<td>d. Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions</td>
<td></td>
<td></td>
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<tr>
<td>e. Applying theories or concepts to practical problems or in new situations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Options</td>
<td>done</td>
<td>Plan to do</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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<td>-----</td>
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</tr>
<tr>
<td>During the current school year, about how much reading and writing have you done?</td>
<td>None, 1-4, 5-10, 11-20, More than 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Number of assigned textbooks, books, or book-length packs of course readings</td>
<td>None, 1-4, 5-10, 11-20, More than 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Number of books read on your own (not assigned) for personal enrichment, academic enrichment</td>
<td>None, 1-4, 5-10, 11-20, More than 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Number of written papers or reports of 20 pages or more</td>
<td>None, 1-4, 5-10, 11-20, More than 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Number of written papers or reports between 5 and 19 pages</td>
<td>None, 1-4, 5-10, 11-20, More than 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Number of written papers or reports of fewer than 5 pages</td>
<td>None, 1-4, 5-10, 11-20, More than 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In a typical week, how many homework problem sets do you complete?</td>
<td>None, 1-2, 3-4, 5-9, More than 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Number of problem sets that take you more than an hour to complete</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Number of problem sets that take you less than an hour to complete</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mark the box that best represents the extent to which your examinations during the current school year have challenged you to do your best work.</td>
<td>Very little, Very much</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Relationships with other students</td>
<td>Unfriendly, Unsupportive, Sense of alienation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Relationships with faculty members</td>
<td>Unavailable, Unhelpful, Unsympathetic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Relationships with administrative personnel and offices</td>
<td>Unhelpful, Inconsiderate, Rigid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. About how many hours do you spend in a typical 7-day week doing each of the following?

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

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

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

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

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

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

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

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

<table>
<thead>
<tr>
<th>Decision</th>
<th>Definitely yes</th>
<th>Probably yes</th>
<th>Probably no</th>
<th>Definitely no</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Emphasis</th>
<th>Very much</th>
<th>Quite a bit</th>
<th>Some</th>
<th>Very little</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Spending significant amounts of time studying and on academic work</td>
<td></td>
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<tr>
<td>b. Providing the support you need to help you succeed academically</td>
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<tr>
<td>c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds</td>
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<tr>
<td>d. Helping you cope with your non-academic responsibilities (work, family, etc.)</td>
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<tr>
<td>e. Providing the support you need to thrive socially</td>
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<tr>
<td>f. Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Using computers in academic work</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
15 Write in your year of birth: 19

16 Your sex:
- Male
- Female

17 Are you an international student or foreign national?
- Yes
- No

18 What is your racial or ethnic identification? (Mark only one.)
- American Indian or other Native American
- Asian, Asian American, or Pacific Islander
- Black or African American
- White (non-Hispanic)
- Mexican or Mexican American
- Puerto Rican
- Other Hispanic or Latino
- Multiracial
- Other
- I prefer not to respond

19 What is your current classification in college?
- Freshman/first-year
- Sophomore
- Junior
- Senior
- Unclassified

20 Did you begin college at your current institution or elsewhere?
- Started here
- Started elsewhere

21 Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply.)
- Vocational or technical school
- Community or junior college
- 4-year college other than this one
- None
- Other

22 Thinking about this current academic term, how would you characterize your enrollment?
- Full-time
- Less than full-time

23 Are you a member of a social fraternity or sorority?
- Yes
- No

24 Are you a student-athlete on a team sponsored by your institution’s athletics department?
- Yes
- No
- (Go to question 25.)

25 On what team(s) are you an athlete (e.g., football, swimming)? Please answer below:

26 What have most of your grades been up to now at this institution?
- A
- B+
- C+
- A-
- B
- C
- B-
- C- or lower

27 Which of the following best describes where you are living now while attending college?
- Dormitory or other campus housing (not fraternity/sorority house)
- Residence (house, apartment, etc.) within walking distance of the institution
- Residence (house, apartment, etc.) within driving distance of the institution
- Fraternity or sorority house
- None of the above

28 What is the highest level of education that your parent(s) completed? (Mark one box per column.)

Father
- Did not finish high school
- Graduated from high school
- Attended college but did not complete degree
- Completed an associate’s degree (A.A., A.S., etc.)
- Completed a bachelor’s degree (B.A., B.S., etc.)
- Completed a master’s degree (M.A., M.S., etc.)
- Completed a doctoral degree (Ph.D., J.D., M.D., etc.)

Mother
- Did not finish high school
- Graduated from high school
- Attended college but did not complete degree
- Completed an associate’s degree (A.A., A.S., etc.)
- Completed a bachelor’s degree (B.A., B.S., etc.)
- Completed a master’s degree (M.A., M.S., etc.)
- Completed a doctoral degree (Ph.D., J.D., M.D., etc.)

29 Please print your major(s) or your expected major(s).
   a. Primary major (Print only one):

   b. If applicable, second major (not minor, concentration, etc.):
Appendix D: Differences Between Nontraditional and Traditional Students

The major differences between nontraditional students and traditional students in the following ways (Kasworm, 2003):

• Nontraditional students are predominately part-time students
• Nontraditional students are more likely than traditional students to work fulltime
• Nontraditional students are more likely to fund their education through their own discretionary funds, loans, or government aid;
• Nontraditional students are more likely to have major family responsibilities.
Appendix E: Factors Increasing Involvement

Factors Astin identified as increasing involvement, and as a result, persistence (p.23):

• Living in a campus residence;
• Working part-time on campus;
• Attending a four-year college;
• Participating in extracurricular activities, faculty research or honors programs;
• Interacting frequently with faculty;
• Identifying with college through a similarity of race or religion;

Conversely, factors that decrease student involvement are:

• Spending little time on campus;
• Working full-time;
• Abstaining from extracurricular activities;
• Having little contact with faculty members or others.
Appendix F: NSSE Benchmark Scales

The five dimensions are the following: Level of Academic Challenge, Active and Collaborative Learning, Student-Faculty Interactions, Enriching Educational Experiences, and Supportive Campus Environment. The items within each of the scales are described below. (p.4)

**Level of Academic Challenge - 11 items**

- Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities).
- Worked harder than you thought you could to meet an instructor's standards or expectations.
- Number of assigned textbooks, books, or book-length packs of course readings.
- Number of written papers and reports of 20 pages or more.
- Number of written papers or reports 5 and 19 pages.
- Number of written papers and reports of fewer than 5 pages.
- Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering it components.
- Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships.
- Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions.
• Applying theories or concepts to practical problems or in new situations.
• Spending significant amounts of time studying and on academic work.

**Active and Collaborative Learning - 7 items**
• Asked questions in class contribute to class discussions.
• Made a class presentation.
• Worked with other students on projects during class.
• Worked with classmates outside of class to prepare class assignments.
• Tutored or taught other students (paid or voluntary).
• Participated in a community-based project (e.g., service learning) as part of a regular course.
• Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.).

**Student-Faculty Interactions - 6 items**
• Discussed grades or assignments with an instructor.
• Talked about career plans with a faculty member or advisor.
• Discussed idea from your readings or classes with faculty members outside of class.
• Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.).
• Received prompt feedback from faculty on your academic performance
• Work on a research project with a faculty member outside of course or program requirements.

**Enriching Educational Experiences - 13 items**
• Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values.
• Had serious conversations with students of a different race or ethnicity than your own.
• Encouraging contact among students from different economic, social, and racial or ethnic backgrounds.
• Used an electronic medium (listserv, chat group, internet, instant messaging, etc.) to discuss or complete an assignment.
• Practicum, internship, field experience, co-op experience, or clinical assignment
• Community service or volunteer work.
• Work on a research project with a faculty member outside of course or program requirements.
• Foreign language coursework.
• Study abroad.
• Independent study or self-designed major.
• Culminating senior experience (capstone course, thesis, project, comprehensive exam)
• Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, intercollegiate or intramural sports, etc.).
• Participate in a learning community or some other formal program where groups of students take two or more classes together.

Supportive Campus Environment - 6 items

• Providing the support you need to help you succeed academically.
• Helping you cope with your non-academic responsibilities (work, family, etc.).
• Providing the support you need to thrive socially.

• Quality of your relationship with other students.

• Quality of your relationship with faculty members.

• Quality of your relationship with administrative personnel and offices.
Appendix G: Nontraditional Student NSSE Factor Items

*Practical Competence & Interpersonal Development* (18 items)

- Using computing and information technology
- Thinking critically and analytically
- Analyzing quantitative problems
- Working effectively with others
- Acquiring job or work-related knowledge and skills
- Solving complex real-world problems
- Speaking clearly and effectively
- Writing clearly and effectively
- Acquiring a broad general education
- Institutional emphasis: Providing the support you need to help you succeed academically
- Using computers in academic work
- Learning effectively on your own
- Spending significant amounts of time studying and on academic work
- Developing a personal code of values and ethics
- Applying theories or concepts to practical problems or in new situations
- Analyzing the basic elements of an idea, experience, or theory such as examining particular case or situation in depth and considering its components
- Understanding people of other racial and ethnic backgrounds
- Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
backgrounds

*Deep Learning* (14 items)

- Learned something that changed the way you understand an issue or concept
- Included diverse perspectives in class discussions or writing assignments
- Discussed ideas from your readings or classes with others outside of class
- Tried to better understand someone else’s views by imagining how an issue looks from his or her perspective
- Worked on a paper or project that required integrating ideas or information from various sources
- Examined the strengths and weaknesses of your own views on a topic or issue
- Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values
- Put together ideas or concepts from different courses when completing assignments or during class discussions
- Had serious conversations with students of a different race or ethnicity than your own
- Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships
- Attended an art exhibit, play, dance, theater, or other performance
- Number of books read on your own for personal enjoyment or academic enrichment
- Prepared two or more drafts of a paper or assignment before turning it in
- Discussed ideas from your readings or classes with faculty members outside of class

*Collaborative & Supportive Environment* (10 items)
Institutional emphasis: Helping you cope with your non-academic responsibilities (work, family, etc.)

Institutional emphasis: Providing the support you need to thrive socially

Developing a deepened sense of spirituality

Talked about career plans with a faculty member or advisor

Participated in a community-based project as part of a regular course

Contributing to the welfare of your community

Worked with faculty members on activities other than coursework

Understanding yourself

Quality: Your relationship with other students

Participate in a learning community or some other formal program where groups of students take two or more classes together

*Academic Rigor (6 items)*

Number of written papers or reports between 5 and 19 pages

Hours per 7-day week spent preparing for class

Number of problem sets that take you more than an hour to complete

Number of written papers or reports 20 pages or more

Worked with classmates outside of class to prepare class assignments

Tutored or taught other students
Appendix H: Traditional Student NSSE Factor Items

Interpersonal Development (24 items)

- Solving complex real-world problems
- Working effectively with others
- Writing clearly and effectively
- Developing a personal code of values and ethics
- Thinking critically and analytically
- Speaking clearly and effectively
- Analyzing quantitative problems
- Acquiring job or work-related knowledge and skills
- Understanding yourself
- Using computing and information technology
- Understanding people of other racial and ethnic backgrounds
- Contributing to the welfare of your community
- Acquiring a broad general education
- Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
- Providing the support you need to help you succeed academically
- Learning effectively on your own
- Institutional emphasis: Providing the support you need to thrive socially
- Voting in local, state, or national elections
Attending campus events and activities

Helping you cope with your non-academic responsibilities

Using computers in academic work

Developed a deepened sense of spirituality

Quality: Your relationships with administrative personnel and offices

Quality: Your relationships with faculty members

Academic Preparation (6 items)

Number of problem sets that take you more than an hour to complete

Worked with classmates outside of class to prepare class assignments

Hours per 7-day week spent preparing for class

Worked harder than you thought you could to meet an instructor’s standards or expectations

Discussed grades or assignments with an instructor

Worked on a paper or project that required integrating ideas or information from various sources

Out of Class Learning (6 items)

Worked with faculty members on activities other than coursework

Work on a research project with a faculty members outside of course or program requirements

Participated in a learning community or some other formal program where groups of students take two or more classes together

Tutored or taught other students
Participated in a community-based project as part of a regular course

Discussed ideas from your readings or classes with faculty members outside of class

*Appreciation of Diversity* (6 items)

- Tried to better understand someone else’s views from their perspective
- Examined the strengths and weaknesses of own views on a topic or issue
- Had serious conversations with students of a different race/ethnicity than your own
- Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values
- Learned something that changed the way you understand an issue or concept
- Included diverse perspectives in class discussions or writing assignments
## Appendix I: Comparison of Traditional and Nontraditional Student NSSE Items

<table>
<thead>
<tr>
<th>Factor/ Item</th>
<th>Traditional</th>
<th>Nontraditional</th>
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<tbody>
<tr>
<td>Discussed grades or assignments with an instructor</td>
<td>X</td>
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<tr>
<td>Using computing and information technology</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Thinking critically and analytically</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Analyzing quantitative problems</td>
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<td>X</td>
</tr>
<tr>
<td>Working effectively with others</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Acquiring job or work-related knowledge and skills</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Solving complex real-world problems</td>
<td>X</td>
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<tr>
<td>Speaking clearly and effectively</td>
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<tr>
<td>Writing clearly and effectively</td>
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<tr>
<td>Acquiring a broad general education</td>
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<td>Institutional emphasis: Providing the support you need to help you succeed academically</td>
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<td>X</td>
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<tr>
<td>Using computers in academic work</td>
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<td>X</td>
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<tr>
<td>Learning effectively on your own</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Spending significant amounts of time studying and on academic work</td>
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<td>X</td>
</tr>
<tr>
<td>Developing a personal code of values and ethics</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Applying theories or concepts to practical problems or in new situations</td>
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<td>X</td>
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<tr>
<td>Analyzing the basic elements of an idea, experience, or theory such as examining a particular case or situation in depth and considering its components</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Understanding people of other racial and ethnic backgrounds</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Encouraging contact among students from different economic, social, and racial or ethnic backgrounds</td>
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<td>X</td>
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<tr>
<td>Voting in local, state, or national elections</td>
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<tr>
<td>Learned something that changed the way you understand an issue or concept</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Included diverse perspectives in class discussions or writing assignments</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Discussed ideas from your readings or classes with others outside of class</td>
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<td>X</td>
</tr>
<tr>
<td>Tried to better understand someone else’s views by imagining how an issue looks from his or her perspective</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Activity</td>
<td>X</td>
<td>X</td>
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<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Worked on a paper or project that required integrating ideas or information from various sources</td>
<td></td>
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<tr>
<td>Examined the strengths and weaknesses of your own views on a topic or issue</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Put together ideas or concepts from different courses when completing assignments or during class discussions</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Had serious conversations with students of a different race or ethnicity than your own</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships</td>
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<tr>
<td>Attended an art exhibit, play, dance, theater, or other performance</td>
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<td>Number of books read on your own for personal enjoyment or academic enrichment</td>
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<td>Prepared two or more drafts of a paper or assignment before turning it in</td>
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<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Attending campus events and activities</td>
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<tr>
<td>Institutional emphasis: Helping you cope with your non-academic responsibilities (work, family, etc.)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Institutional emphasis: Providing the support you need to thrive socially</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Developing a deepened sense of spirituality</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Participated in a community-based project as part of a regular course</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Contributing to the welfare of your community</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Understanding yourself</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Quality: Your relationship with other students</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Participate in a learning community or some other formal program where groups of students take two or more classes together</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Quality: Your relationships with administrative personnel and offices</td>
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<td>X</td>
</tr>
<tr>
<td>Number of written papers or reports between 5 and 19 pages</td>
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<td>Activity</td>
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<td>X</td>
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<td>--------------------------------------------------------------------------</td>
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<tr>
<td>Hours per 7-day week spent preparing for class</td>
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<tr>
<td>Number of problem sets that take you more than an hour to complete</td>
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<td>Number of written papers or reports 20 pages or more</td>
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<td>Worked with classmates outside of class to prepare class assignments</td>
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<td>Tutored or taught other students</td>
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<td>X</td>
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<tr>
<td>Quality: Your relationships with faculty members</td>
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<td>X</td>
</tr>
<tr>
<td>Work on a research project with faculty members outside of course or program requirements</td>
<td></td>
<td>X</td>
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</table>