ABSTRACT

Diana K. Bond. PRE-LICENSURE BACCALAUREATE NURSING STUDENTS' CAREER CHOICE GOAL FOR A FUTURE FACULTY ROLE AND GRADUATE EDUCATION: ADAPTATION AND TESTING OF SOCIAL COGNITIVE CAREER THEORY (Under the direction of Dr. D. Elizabeth Jesse, College of Nursing, November, 2011).

The purpose of this study was to adapt and test the Social Cognitive Career Theory (SCCT) to (1) determine the intent of pre-licensure baccalaureate nursing students for a future faculty role and graduate education, and (2) investigate how well derived SCCT constructs predict intent for a future faculty role and graduate education. Walker and Avant's theory derivation procedures guided the adaptation of SCCT to the profession of nursing. A prospective correlational research design was used with a convenience sample of 1,078 pre-licensure baccalaureate nursing students who responded to an online survey. Almost 25% of the study sample reported high/very high intent to pursue a future faculty role and 76% expressed high/very high intent for graduate education. Logistic regression analysis revealed that the full SCCT model with eleven independent variables was partially supported to predict students' high intent to pursue a future faculty role. The high intent students were significantly more likely to (1) have interests in the activities/tasks of a faculty role; (2) be enrolled in an accelerated baccalaureate nursing program; (3) perceive the advantages in a faculty role; (4) have previous teaching experiences; (5) have received encouragement from faculty to pursue a faculty role; and 6) perceive few disadvantages of a faculty role. In contrast, the students' age, gender, race/ethnicity, parent education and occupation, educational level and background, supports and barriers, self-efficacy for a faculty role, and role modeling by a faculty member did not significantly impact their intent for a future faculty role. Furthermore, the logistic regression analysis indicated that the SCCT model was partially supported to predict students' intent to pursue graduate education, accounting for 26.2% to 39.4% of the variance.

This study offered several unique findings. It was the first study to expand and adapt SCCT theory to understand how undergraduate nursing students perceived a future nursing faculty role and graduate education. The measures demonstrated good reliability overall, providing a solid foundation for future research on this topic. The knowledge gained in this study could be used to develop and test effective strategies to interest students in a future nursing faculty role and graduate education.

PRE-LICENSURE BACCALAUREATE NURSING STUDENTS' CAREER CHOICE GOAL FOR A FUTURE FACULTY ROLE AND GRADUATE EDUCATION: ADAPTATION AND TESTING OF SOCIAL COGNITIVE CAREER THEORY

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PRE-LICENSURE BACCALAUREATE NURSING STUDENTS' CAREER CHOICE GOAL FOR A FUTURE FACULTY ROLE AND GRADUATE EDUCATION: ADAPTATION AND TESTING OF SOCIAL COGNITIVE CAREER THEORY

by

Diana K. Bond

APPROVED BY:

DIRECTOR OF DISSERTATION:_____
D. Elizabeth Jesse

COMMITTEE MEMBER:_____
Melvin Swanson

COMMITTEE MEMBER:_____
Connie Mullinix

COMMITTEE MEMBER:_____
Carol Winters-Moorhead

COMMITTEE MEMBER:_____
Martha Alligood

DEAN OF THE COLLEGE OF NURSING:

_____
Sylvia Brown

DEAN OF THE GRADUATE SCHOOL:

_____
Paul Gemperline

DEDICATION

This research study is dedicated to nursing faculty everywhere and to the nursing students who will one day fill all the available nursing faculty roles.

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CHAPTER ONE: INTRODUCTION

The growing shortage of nurse faculty in the United States will contribute to a nursing shortage that will exceed more than one million nurses by the year 2020 (National League for Nursing [NLN], 2008; Tracy & Fang, 2010; U.S. Department of Health and Human Services Health Resources and Services Administration [DHHS], 2004). Reports from *NLN (2008) noted that there were 1,900 vacant full-time nursing faculty positions in 2007, an increase of 21% (510 positions) since the previous year (Kovner, Fairchild, & Jacobson, 2006). Whereas, the *American Association of Colleges of Nursing [AACN] (Tracy & Fang, 2010) reported there were 880 vacant positions for the academic year 2010-2011 or 1.6 vacancies per school. This number was an increase from the AACN's previous year's report of 803 vacant positions or 1.4 vacancies per school (Fang & Tracy, 2009). Although the data from these two national sources was reported differently, both groups indicated impending nursing faculty shortages (NLN, 2008; Tracy & Fang, 2010). The growing faculty shortage was the primary reason that qualified undergraduate and graduate nursing students were denied admission into baccalaureate and graduate nursing programs (Fang, Tracy, & Bednash, 2009). For example, 67,563 qualified nursing students were not admitted into undergraduate baccalaureate and graduate programs in 2010, an increase of 12,572 students from 2009, which reflects a substantial and continuing increase in numbers of students who were denied admission (Fang, Hu, & Bednash, 2011). The continued inability to admit undergraduate and graduate students into nursing programs reduces the number of nurses that can subsequently enter into the nursing workforce (Cleary, McBride, McClure, & Reinhard, 2009) and will contribute to the nursing shortage.

*Note: NLN data is from associate degree, diploma and baccalaureate nursing programs and AACN data is from baccalaureate and graduate nursing programs.

A future nursing shortage looms, according to the two major sources of data on the registered nursing workforce in the United States (DHHS, 2004; DHHS, 2010; U.S. Department of Labor [DOL], 2010). Using the national data, along with information from recent economic trends and other surveys, Buerhaus, Auerbach and Staiger (2009) projected that 260,000 more registered nurses will be required to provide health care for the U.S. population by the year 2025. As "baby boomers" continue to age, more health care services will be needed by them (Cohen, 2009). Furthermore, the chronically ill in the United States currently number over 100 million (Rahn & Wartman, 2007) and this number will increase as the population ages (Joynt & Kimball, 2008). The increasing numbers of aging and chronically ill will require more nursing services in community and geriatric settings, such as physician offices, home care and long term care (DOL, 2010; Rich & Nugent, 2010). Furthermore, the growing complexity of medical treatment in acute care settings will also require increased numbers of nurses to provide nursing care (DOL, 2010; Rich & Nugent, 2010). According to the Bureau of Labor Statistics (DOL, 2010), there will be a need for 581,500 or 22% new nursing positions by 2018. This projected number of new nursing positions is the largest number of new jobs in any category (DOL, 2010). Reasons for the anticipated increase in new nursing positions are the greater use of technology for patient care, increased numbers of aging and chronically ill in the population, and the replacement of registered nurses who leave the occupation (DOL, 2010). It has been repeatedly demonstrated that insufficient numbers of nurses negatively impacted the quality of patient care (Agency for Healthcare Research and Quality [AHRQ], 2002; Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2006). Yet, without sufficient nursing faculty to educate nursing students, there will not be

enough nurses in the workforce to care for the growing and complex health care needs of the aging and those who are chronically ill in the US.

A recent review of the nursing faculty workforce numbers by the Institute of Medicine [IOM] (2011) found that between 5,000 and 5,500 faculty positions will remain unfilled for the next fifteen years, primarily due to retirements of the current nursing faculty workforce. Despite the need to increase the numbers of younger nursing faculty, little is known about how undergraduate nursing students may view a nursing faculty role as a future career choice. Few have examined how undergraduate nursing students might be attracted to or dissuaded from a future nursing faculty role or what variables might influence this choice. Yet, the undergraduate years may be the most influential in the choice of a faculty career (Bieber & Worley, 2006). Only one qualitative study (Seldomridge, 2004) was found in the nursing literature regarding undergraduate nursing students and their interest in a future faculty role. After a faculty shadowing intervention study, Seldomridge reported that 32% of pre-licensure baccalaureate nursing students would consider a future nursing faculty role. Seldomridge also reported insights gained by the students about the faculty role and their perceptions of benefits and deterrents to the role. While Seldomridge's small qualitative study ($N = 54$) held promise for understanding undergraduate nursing students' perceptions of a future nursing faculty role, it had many limitations. But without further research in this area, such as large, theoretically based studies using reliable instruments as in this study, the development of effective strategies to interest students in a future nursing faculty role is impaired and negatively impacts the ability to effectively recruit nursing faculty for the future.

There was a paucity of data, insights and theories in the nursing literature about undergraduate nursing students' interest in a future nursing faculty role. The constructs and

structure of SCCT were validated in studies of undergraduate college students pursuing non-nursing majors, such as engineering and mathematics (Lent, Brown, Schmidt, Brenner, Lyons, & et al., 2003; Lent, Brown, Sheu, Schmidt, Brenner, & et al., 2005). Therefore, this study used theory derivation of the constructs of SCCT from the career counseling field to the field of nursing, specifically the application of interest and intent among undergraduate nursing students for a future nursing faculty role and graduate education. Walker and Avant's (2010) theory derivation procedures were chosen for this study. Theory derivation is an effective strategy when little is known about a phenomenon (Walker & Avant, 2010). Theory derivation is a process of taking a set of concepts (or constructs per the terminology of SCCT) or a whole structure from one field and modifying them to fit the second field, thus adding to the body of knowledge in the second field (Walker & Avant, 2010). SCCT from the career counseling field (Lent, Brown, & Hackett, 1994) was chosen for the theory derivation procedures in this study. While theories may seem relevant from other fields, they must be validated (Walker & Avant, 2010). The derivation of SCCT to nursing was the first step towards understanding how undergraduate nursing students perceived a future nursing faculty role. This study also provided information about the profile of undergraduate nursing students who had an interest in working in academia and pursuing graduate education in the future. The applicability of SCCT to nursing may lead to intervention studies that will test strategies for promoting a future nursing faculty role and graduate education to undergraduate nursing students.

Statement of the Problem

The U.S. Department of Health and Human Services [DHHS] (2004) predicted that the nursing shortage will exceed more than one million nurses by the year 2020. Using a nurse supply trending model that considered the effects of the current recession, a more conservative

number of 260,000 registered nurses will be needed by 2025 (Buerhaus, Auerbach, & Staiger, 2009). While the 2010 report from the U.S. DHHS (2010) showed a net growth of more than 153,000 nurses since the 2004 study, this pattern of growth will be insufficient to meet the projected nursing shortage in 2025 (Buerhaus, Auerbach, & Staiger, 2009). To alleviate the projected nursing shortage, more registered nurses will be needed.

Despite the need for more registered nurses, many qualified student applicants were not accepted into schools of nursing, primarily due to an inadequate number of nursing faculty (AACN, 2010c; NLN, 2008). Furthermore, the number of qualified nursing school applicants denied admission has consistently grown over the past nine years. According to data from AACN, 3,600 qualified undergraduate baccalaureate and graduate applicants were not admitted in 2002 (AACN, 2009), but this number grew to over 67,000 in 2010 (Fang et al., 2011). According to the AACN (2010c), nearly 66% of respondents stated they were unable to admit all of the qualified applicants due to an insufficient number of nursing faculty. In addition, a National League for Nursing [NLN] report declared that the lack of faculty and clinical sites accounted for almost 39% (or 119,000) of qualified applicants being rejected from undergraduate nursing programs in the United States in the academic year 2007-08 (Kaufman, 2010a). In another study (NLN, 2008), 79% of nursing school respondents reported that it was difficult to hire new faculty during the academic year 2007-08. This study also reported that 43% of respondents from associate degree programs and 51% from baccalaureate programs stated that they were unable to find qualified candidates for their vacant faculty positions (NLN, 2008).

Educating the future nursing faculty workforce will be dependent upon admission of nurses to graduate nursing programs. Yet in 2008, 5,902 qualified applicants to master's programs and 1,002 qualified applicants to doctoral programs were denied admission (Fang et

al., 2009). In 2010, this number grew to 10,223 qualified applicants denied admission to master's programs and 1,202 qualified applicants turned away from doctoral programs (Fang et al., 2011). The primary reason these qualified applicants were not being admitted into masters and doctoral programs was a shortage of qualified nursing faculty (Fang et al., 2011). More nursing faculty cannot be educated without the nursing faculty to teach them, which further constrains the ability to produce sufficient numbers of nurses.

Background of the Problem

Many have described the reasons for the impending nursing faculty shortage (Allan & Aldebron, 2008; Evans, 2005; Reinhard, Wright, & Cook, 2007; Stevenson, 2003; Walrath & Belcher, 2006; Yordy, 2006). First, the aging and retirement of large numbers of nursing faculty from academia were cited as key issues contributing to the current and growing nursing faculty shortage (AACN, 2010c; Allen, 2008; NLN, 2008; Yordy, 2006). The mean age of faculty was reported as 55 (Kaufman, 2007; Southern Regional Education Board [SREB], 2003) and it is expected that only one-half of the nation's current faculty will be in the workforce by 2016 (Robert Wood Johnson Foundation [RWJF], 2007). While the current economy may have postponed the retirement of many nursing faculty, this will only be a temporary respite (Cleary, et al., 2009; Tanner, 2010).

Second, fewer nurses pursue masters or doctoral education in the numbers required to fill faculty roles. The results from the national study (DHHS, 2010) of registered nurses revealed that only 5% of associate degree nurses and 7.1% of diploma nurses later earned a master's degree in nursing. Additionally, 16.7% of baccalaureate degree nurses later earned a master's degree in nursing (DHHS, 2010). While the numbers of registered nurses with masters or doctoral degrees increased from 2004 to 2008, the percentage remained at only 13.2% of the

nursing workforce (DHHS, 2010). In 2010, 3,864 nurses graduated with a master's degree in nursing education (Fang et al., 2011), however, university schools of nursing prefer to hire faculty with a doctoral degree in nursing. For example, of the university schools of nursing with vacancies, 64.5% of the vacancies were for tenure track positions and required or preferred that candidates hold a doctoral degree; yet 30% of the schools were unable to find doctorally prepared faculty (Tracey & Fang, 2010). Kovner et al. (2006) reported that some nursing programs eliminated many unfilled faculty positions or filled some nursing faculty positions with individuals who did not meet minimum standards.

Third, nurses who pursue graduate education have many other career paths to consider than a nursing faculty role. For example, in 2010, nearly one-half of all nurses graduating with a master's degree chose to enroll in the nurse practitioner or clinical nurse specialist major, while only 17.8% chose nursing education (Fang et al., 2011). For those earning doctoral degrees in 2010, only one-half (49.9%) of those with research focused doctorates indicated their intentions to work in academia (Fang et al., 2011). The remaining graduates indicated they would work in hospital research, administration, clinical, other positions, or did not know (Fang et al., 2011).

Fourth, unlike many other professions, nurses are encouraged to work in clinical practice settings prior to pursuing graduate education (Reinhard et al., 2007; Stevenson, 2003; Yordy, 2006). This has resulted in nurses seeking a master's degree when they are in their mid-thirties, re-entering the work force upon completion of their master's degree and working for another decade before finally returning to graduate school to obtain a doctoral degree (IOM, 2011). Nurses who began their nursing career with a baccalaureate degree took an average of 8.2 years to earn a master's degree (DHHS, 2010). Yet, results from Plunkett, Iwasiw and Kerr's (2010) study suggested that the ideal time to recruit nurses into graduate programs was immediately

upon baccalaureate degree completion. Not only do nurses enter master's degree education later in their careers, they also enter doctoral programs later and take longer to complete their doctoral degrees. Nurses in doctoral programs take an average of 8.3 years to complete their degree, while those in all other fields take an average of 6.8 years (Berlin & Sechrist, 2002). Nurses also take many years between earning the master's and doctoral degrees. The median amount of time from entry into graduate education for a master's degree to completion of the doctorate was 15.9 years while the median time for all other disciplines was 8.5 years (Berlin & Sechrist, 2002). Additionally, nurses tend to pursue their education on a part-time basis more than those in other disciplines, thus taking longer to complete their educational degrees (Reinhard et al., 2007). This lengthy time between undergraduate and graduate degrees impedes the movement of nurses into nursing faculty roles.

Fifth, nurses working in advanced practice reported a significantly higher salary than nursing faculty, despite similar academic preparation (AACN, 2010c; Allan & Aldebron, 2008; Evans, 2005; IOM, 2011; Larson, 2010; Walrath & Belcher, 2006; Yordy, 2006). Respondents from schools of nursing cited the inability to offer competitive salaries as one of the major obstacles to hiring new faculty (NLN, 2008; Tracy & Fang, 2010). Finally, in one study more than 50% of nursing faculty stated heavy workloads was the reason they were considering leaving the nursing faculty role (NLN, 2005). A heavy faculty workload was also a deterrent for keeping graduate prepared nurses from choosing nursing faculty roles (Brendtro & Hegge, 2000; Lacey & McNoldy, 2008).

Many strategies have been proposed and implemented to address the problem of insufficient numbers of nursing faculty (Allan & Aldebron, 2008; Proto & Dzurec, 2009). Allan and Aldebron's (2008) national study summarized strategies most frequently used to address the

nursing faculty shortage, including: (1) efforts to raise public awareness of the nursing and nursing faculty shortage, such as the Johnson and Johnson media campaign; (2) educational partnerships between schools of nursing and hospitals, such as offering scholarships to staff nurses to pursue graduate education and subsequent faculty roles; (3) academic innovation, such as creative ways for expanding the programs that prepare nurses as faculty; and (4) pursuit of funding from the public, health care industry or philanthropic organizations to expand faculty and campus resources. Proto and Dzurec conducted a similar analysis and found comparable results. However, neither of these articles reported strategies based on the use of a theory, such as SCCT, to determine undergraduate nursing students' career choice goal for a future nursing faculty role and graduate education as this study proposes.

One strategy to increase nursing school admissions and the numbers of nurses holding masters' and doctoral degrees is the development of innovative nursing programs to "fast track" individuals towards graduate education (AACN, 2005). For example, there are accelerated baccalaureate programs, generic master's degree programs for individuals with baccalaureate or graduate degrees in other fields, baccalaureate to doctoral programs (AACN, 2008; Wink, 2005) and baccalaureate degrees offered by community colleges (Murray, 2007). Yet, 64% of doctoral programs and 50% of all registered nurses-to-baccalaureate and master's programs were unable to expand due to a shortage of faculty (Kaufman, 2010a). Furthermore, it is not known how many nursing graduates from these innovative programs will be interested in or intend to pursue a future faculty role.

Several authors (Brady, 2007; DeYoung & Bliss, 1995; Eddy, 2010; Hessler & Ritchie, 2006; Reinhard et al., 2007; Sims, 2009; Trossman, 2009; Yordy, 2006) proposed important strategies for recruiting undergraduate nursing students into future nursing faculty roles. In 1995,

DeYoung and Bliss called for a sustained effort to encourage undergraduate nursing students to pursue a faculty career, but they never developed or investigated their proposition. In a narrative report about their own experience in becoming nursing faculty, Hessler and Ritchie suggested that schools of nursing "grow their own" faculty by choosing the best undergraduate candidates and nurturing them into faculty roles. Additionally, other authors suggested that more undergraduate nursing students could be encouraged to pursue a role in academia (Eddy, 2010; Reinhard et al., 2007; Sims, 2009; Trossman, 2009; Yordy, 2006). Brady stated that faculty should consider every undergraduate student as a potential nursing faculty member. Regardless of the basic degree with which a nurse enters the profession, faculty should feel obligated to show students the way to their next degree and advanced career opportunities (IOM, 2011).

Another strategy proposed for influencing undergraduate nursing students to pursue a faculty role was to provide them with peer teaching assignments as a way of inspiring them to become interested in a future faculty role (Gazza, 2009). In suggesting these strategies, no theory was suggested as to how these strategies could encourage undergraduate nursing students' interest in a future faculty role. Iwasiw (2008) and Northam (2005) proposed that few undergraduate nursing students will consider a career as a faculty member, even if specific strategies were implemented, but neither provided data to support their suppositions. Only one qualitative study (Seldomridge, 2004) was found in nursing that explored undergraduate nursing students' interest in a future faculty role. While Seldomridge's study focused on the outcomes of offering a faculty shadowing experience to the students, it did not investigate variables associated with a career choice goal for a future faculty role as this study proposes. Development and testing of theoretical models is an important first step to understanding and selecting variables to be studied.

In summary, there was no unifying theory and only a limited understanding of whether undergraduate nursing students might be interested in a future faculty role. Therefore, the variables that may be associated with undergraduate nursing students' career choice goal to pursue a future nursing faculty role are unknown. The examination of the constructs of SCCT may provide an initial understanding of undergraduate nursing students' career choice for a future nursing faculty role.

Purpose

The purpose of this study was to use the Social Cognitive Career Theory (SCCT) to (1) determine the degree of interest and intent of pre-licensure baccalaureate nursing students for a future nursing faculty role and graduate education; (2) develop and adapt measures for the SCCT constructs that are applicable to the prediction of a nursing faculty career choice goal (interest and intent) in pre-licensure baccalaureate nursing students; (3) assess the psychometric properties and correlations among the measures derived from SCCT; (4) examine whether students indicating a high intention for a faculty role differ from students indicating a low or unsure intention on any of the SCCT constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role); and (5) investigate how well the derived SCCT constructs predict the probability of a survey respondent indicating a career choice goal in pursuing a nursing faculty role and graduate nursing education. For the purposes of this study, undergraduate nursing students were defined as pre-licensure baccalaureate nursing students, which included students enrolled in traditional and accelerated baccalaureate nursing programs. Because of the dearth of studies on a career choice goal for a future nursing faculty role and graduate education in the nursing literature, theory derivation was used to adapt the constructs and variables of SCCT and

apply them to nursing. The application of selected constructs and variables derived from SCCT to the field of nursing may help the profession of nursing begin to understand the complex career choice goal for a future nursing faculty role among pre-licensure baccalaureate nursing students. The relationship of the following constructs derived from SCCT were examined for their effect on the career choice goal for a nursing faculty role among pre-licensure baccalaureate nursing students: (1) person inputs; (2) distal background; (3) proximal background; (4) self-efficacy; (5) learning experiences; (6) outcome expectations of a nursing faculty role; and (7) interests in the activities related to a nursing faculty role. The broad goal of examining the constructs and variables derived from SCCT to determine undergraduate nursing students' career choice goal for a future nursing faculty role may provide evidence to inform future programs and interventions that may encourage pre-licensure baccalaureate nursing students to pursue graduate education and a future nursing faculty role.

Research Questions

This study seeks to answer the following, research questions:

1. What is the degree of interest and intent (career choice goal) of pre-licensure baccalaureate nursing students in pursuing a future nursing faculty role?
2. What is the degree of interest and intent (career choice goal) of pre-licensure baccalaureate nursing students in pursuing graduate nursing education?
3. What are the (a) psychometric properties of the multiple item measures of the SCCT constructs for those intending and those not intending to pursue a future nursing faculty role and (b) was there a comprehensive sampling of items within the SCCT measures?

4. Do high intent students for a future faculty role differ from those in the low/unsure intent group on any of the SCCT constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role)?
5. How well do the (a) SCCT constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role) predict intention to pursue a future nursing faculty role and (b) which of the SCCT variables within the constructs are the significant predictors of intention to pursue a future nursing faculty role?
6. How well do the (a) SCCT constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role) predict intention to pursue graduate education and (b) which of the SCCT variables within the constructs are the significant predictors of intention to pursue graduate education?

Theoretical Approach

This proposal applied theory derivation procedures as described by Walker and Avant (2010) to apply derived constructs and the associated variables from SCCT (Lent et al., 1994) to career choice goals for a future nursing faculty role and graduate education among pre-licensure baccalaureate nursing students. First, a definition and description of theory derivation are presented. Second, the procedure of theory derivation is applied to this study and lastly, the theoretical and operation definitions are discussed.

Definition and Description of Theory Derivation

Theory derivation is defined as a process of using analogy to explain or predict a phenomenon in one field to a phenomenon in a second field (Walker & Avant, 2010). The theory used in one field may offer new insights for a second field and allow one to develop a theory in the second field (Walker & Avant, 2010). Walker and Avant distinguish theory derivation from theory borrowing: Theory borrowing is moving the theory unchanged from field one to a second field (Walker & Avant, 2010). Theory derivation requires modification when the theory is moved from one field to a second field (Walker & Avant, 2010). In theory derivation, either the structure of the theory or the constructs is modified from one field to the second field (Walker & Avant, 2010). Walker and Avant (2010) use the term "concepts"; however, SCCT uses the term "constructs". Therefore, the term "constructs" was used for the purposes of this study.

When little is known about a phenomenon in the second field, theory derivation adds to the body of literature in a "significant and rapid way" (Walker & Avant, 2010, p. 95). Because little is known about how undergraduate nursing students may perceive or be attracted to or dissuaded from a future nursing faculty role, theory derivation from SCCT seemed appropriate because SCCT has been validated in determining career choice goals among college students enrolled in a variety of majors and across multiple college campuses. The steps involved in theory derivation are: (1) becoming familiar with the literature concerning the phenomenon in the second field and evaluating the theories currently used to explain the phenomenon; (2) reading the literature from other disciplines to discover potential analogies; (3) selecting a parent theory from a field to explain the phenomenon in the second field; (4) identifying the constructs or structure from the parent theory that will be used in the second field; and (5) modifying the

constructs or structure from the parent theory and restating them for study in the second field (Walker & Avant, 2010). The application of each of these steps to this study is described.

Theory Derivation Step One: Becoming Familiar with the Literature in the Second Field

A review of the literature suggested that nursing studies were inclined to describe why individuals selected nursing as a career (Dunnion, Dunnion, & McBride, 2010; Larsen, McGill, & Palmer, 2003; McGregor, 2007; Rognstad & Polit, 2002; Shattell, Moody, Hawkins, & Creasia, 2001) or how graduating nursing students chose clinical specialties (Cox, Murrells, & Robinson, 2003; Ganz & Kahana, 2006; Marsland & Hickey, 2003; McCann, Clark, & Lu, 2010; Price, 2008; Roberts & Ward-Smith, 2010; Rognstad, Aasland, & Granum, 2004). McGregor (2007) used SCCT to understand why individuals select nursing as a career. Only one qualitative study (Seldomridge, 2004) explored pre-licensure baccalaureate nursing students' interest in a faculty role; however, it was based on the results of an intervention, limited to one school of nursing, and did not propose a theory. Because of the paucity of research about how undergraduate nursing students may view and choose a future nursing faculty role, theory derivation procedures continued to step two.

Theory Derivation Step Two: Reading the Literature from Other Disciplines

Because of the lack of studies on the career choice goal for a future nursing faculty role guided by theory in the nursing literature, the search was expanded to other fields. The literature was reviewed in the fields of education, career counseling and the health sciences, including medicine, allied health and dental health. Interestingly, similar issues of faculty shortages were cited in the education and health sciences literature. A relevant study was found in the education literature that tested SCCT and the variables that influenced high school students' career decisions. From a search of the educational, health sciences and psychological databases, 106

studies were found that used SCCT between 1999 and 2010. SCCT has been studied for 25 years and used to investigate such areas as: (1) career choice for undergraduate and graduate college students (Rottinghaus, Lindley, Green, & Borgen, 2002); (2) academic performance and persistence in college students (Brown et al., 2008); (3) women's career choices (O'Brien, Friedman, Tipton, & Linn, 2000); (4) how individuals choose nursing as a career (McGregor, 2007); and (5) career development of physician-scientists (Bakken, Byars-Winston, & Wang, 2006). Because of the extensive use and testing of SCCT, this theory was further explored. No studies were found that had applied this theory to pre-licensure baccalaureate nursing students' career choice goal for a future nursing faculty role. The comprehensive nature of the theory seemed appropriate for a complex topic such as career choice for a nursing faculty role.

Theory Derivation Step Three: Select a Parent Theory

Because SCCT had been used to study college students' career choices in a variety of majors and across multiple college campuses, it was chosen as the parent theory for theory derivation for this study. SCCT incorporates constructs from several other major career development theories, such as trait-variables (interests, abilities, values and personality) and developmental processes (milestones faced by most individuals through adulthood) (Lent, 2005), Lent, Brown and Hackett (2000). SCCT was derived from Bandura's Social Cognitive Theory (Lent et al., 1994). Therefore, Bandura's Social Cognitive Theory is presented, followed by a discussion of SCCT.

Bandura's Social Cognitive Theory. Social Cognitive Theory was designed to explain human behavior (Bandura, 1986). The theory states that behavior is shaped by the complex interaction of personal, cognitive, social and environmental factors (Bandura, 1986). In Social Cognitive Theory, social interaction shapes behavior and is learned vicariously through

observing and modeling others (Bandura, 1986). According to social cognitive theory, when behaviors that individuals use to achieve a positive outcome are reinforced, the individuals are more likely to continue to set goals in that area (Bandura, 1994). Setting goals or intentions helps individuals proactively shape their environment and increase the likelihood of goal achievement (Bandura, 1986).

In Social Cognitive Theory, a goal is defined as the determination to engage in an activity or achieve a particular outcome (Bandura, 1986). Having clear goals or intentions serve as excellent predictors of what persons will actually act upon (Bandura, 1986). Additionally, goals or intentions operate in a dynamic state and are impacted by multiple aspects of the individual, such as gender, and the context of the distal and proximal environment, such as past and current parental influence (Bandura, 1986). Additionally, individuals choose actions based on judgments about their abilities to be successful, a construct Bandura (1986) termed "self-efficacy".

Self-efficacy is defined as a set of self-beliefs linked to whether one believes one can do a particular activity or achieve a specific outcome (Bandura, 1986). Self-efficacy is dynamic, changing with the task one needs to accomplish and is oriented towards what one believes him/herself capable of accomplishing (Bandura, 1986). Bandura (1986) describes the sources of self-efficacy as follows: "(1) performance attainments; (2) vicarious experiences of observing the performances of others; (3) verbal persuasion and other types of social influences that one possesses certain capabilities; and (4) physiological states from which people partly judge their capableness, strength, and vulnerability to dysfunction" (p. 399). Performance attainments have the most influence on self-efficacy, primarily because they arise from authentic past experiences of successes and failures (Bandura, 1986; Bandura, 1994).

Social Cognitive Career Theory (SCCT). SCCT is a middle-range theory derived from Bandura's Social Cognitive Theory (Lent et al., 2000). SCCT attempts to explain "the complex manner in which people, behavior and environment mutually influence one another" (Lent, 2005, p. 102) in the selection of a career. The premises of SCCT were supported through path analysis resulting in structural equation modeling in undergraduate college students in computer sciences (Lent, Lopez, Lopez, & Sheu, 2008), engineering (Lent, Sheu, & et al., 2008), and math and science (Blanco, 2010; Fouad, Hackett, Smith, Kantamneni, Fitzpatrick, & et al., 2010) to name a few. Applicability of SCCT to diverse ethnic/racial groups was supported in studies including African American undergraduate students (Byars-Winston, 2005; Lent et al., 2005) and Hispanic college women (Rivera, Blumberg, Chen, Ponterotto, & Flores, 2007). Most of the research on SCCT focused on self-efficacy and interests (Lent, 2005). For example, Rottinghaus, Larson and Borgen's (2003) meta-analysis of 53 empirical studies (N = 37,829) found a significant correlation between self-efficacy and interests in an occupation (r = .59). Furthermore, Lent (2005) summarized the research on SCCT and concluded that:

- Interests are related to self-efficacy and outcome expectations.
- Performance accomplishments lead to increased interests, self-efficacy and future performance.
- Self-efficacy and outcome expectations relate to career choices, partially through interests.
- Self-efficacy is most strongly related to past performance accomplishments.

Each of the constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role) and the variables within the constructs of SCCT is briefly discussed.

Person inputs. In SCCT, the person inputs are defined as the physical attributes, such as race and gender (Lent et al., 1994). Race, gender and other physical characteristics evoke social and psychological affects that impact learning experiences, career interests and contextual barriers and supports (Lent et al., 1994). Person inputs influence the perception of appropriate or non-appropriate career choices (Lent, 2005).

Distal background variables. Distal background variables are defined as those influences that affect early learning experiences and through which the individual begins to develop interests, self-efficacy and outcome expectations (Lent et al., 2000). Examples of distal background variables are the cultural and socialization processes during the early years that form one's self-perception and gender role (Lent et al., 1994). Distal background factors also help to shape one's learning experiences (Lent et al., 2000).

Proximal background variables. The proximal background variables are defined as those contextual variables that are important during the active time of career decision making (Lent et al., 2000). The proximal background variables may be supportive or serve as barriers, real or perceived (Lent & Brown, 2006). Supports in the SCCT model may be such areas as income or psychological support, while barriers may be discrimination or financial constraints (Lent & Brown, 2006). An example of a proximal background variable is the influence of one's peer group (Lent & Brown, 2006).

Self-efficacy. Self efficacy, a core construct in Bandura's Social Cognitive Theory, is also a core construct in SCCT. Self-efficacy is defined as one's belief about one's capabilities to perform a task or achieve a particular outcome (Lent & Brown, 2006). Self-efficacy is dynamic, changing with the task that one needs to accomplish and is future oriented towards what one supposes one can do (Lent & Brown, 2006). In studies of SCCT, self-efficacy was shown to be

related to interests in the activities of a career (Lent et al., 2001; Lent et al., 2003; Lent et al., 2005).

Learning experiences. Learning experiences are defined as personal performance accomplishments, vicarious learning (through observation), social persuasion (encouragement especially by those most like one), and physiological and affective states, such as anxiety (Lent & Brown, 2006). They are the sources of self-efficacy and further lead to self-efficacy, interests and goals (Lent & Brown, 2006).

Outcome expectations. Outcome expectations, the second core construct in SCCT (Lent & Brown, 2006), are defined as one's beliefs about the consequences or outcomes of one's behaviors if one pursues a particular career path (Lent & Brown, 2006). Some examples of outcome expectations in SCCT are benefits to one's family, financial gains or self fulfillment if one pursues a particular career (Lent & Brown, 2006). People behave in ways that gain valued outcomes and avoid behaviors that produce negative consequences (Lent & Brown, 2006).

Career interests. Career interests, the third core construct of SCCT, are defined as either the patterns of like, dislike or indifference for activities associated with an occupation or an interest in an occupation (Lent et al., 1994). Career interests are influenced by early childhood and adult experiences, self-efficacy, outcome expectations and other contextual variables (Lent, 2005). If one views him or herself as competent (self-efficacious) at an activity and if performance of the activity yields positive benefits (outcome expectations) to the individual, there will be continued interest in the activity, which positively influences career choice goals in that area (Lent, 2005). Interests are directly related to the careers that individuals intend to enter or career choice goals (Lent et al. 1994). According to SCCT, interests draw one to a specific career (Lent & Brown, 2006). Individuals may develop a career choice goal because of their

interest in the activities associated with that role, self-efficacy and outcome expectations (Lent et al., 1994).

Goals. Goals are defined in SCCT as either the goals one wishes to pursue or the quality of performance to which one aspires (Lent & Brown, 2006). Career choice goals serve as motivators and help to organize, direct and sustain behavior toward achieving one's chosen career and are linked to intent (Lent & Brown, 2006). Clear goals serve as excellent predictors of what persons will actually act upon (Lent & Brown, 2006). Goal is named "choice goal" in SCCT and is defined as the plan or intention to engage in a particular field or role (Lent et al., 1994). An interest for pursuit of a particular career is the underlying element in goal formation (Lent et al., 1994). Intention is the expression of one's particular actions that leads to goal attainment (Lent et al., 1994).

Lastly, SCCT includes choice actions and performance domains/attainments (Lent, 2005). Choice actions are the actual job seeking behaviors that follow career choice, such as applying for a specific job (Lent, 2005). Performance domains and attainments are the rewards, recognitions and skills that one attains while in one's chosen career, which further develop self-efficacy and interests in a feedback loop (Lent, 2005). Refer to Figure 1 for a depiction of SCCT.

Theory Derivation Step Four: Identify Constructs and/or Structure from the Parent Theory

In theory derivation, all or part of the theoretical constructs and/or structure may be used (Walker & Avant, 2010). In this study, examining the applicability of selected constructs of SCCT was the initial step in investigating the complex variables associated with career choice goal for a nursing faculty role among pre-licensure baccalaureate nursing students. The selected constructs derived from SCCT for this study were: person inputs, distal and proximal

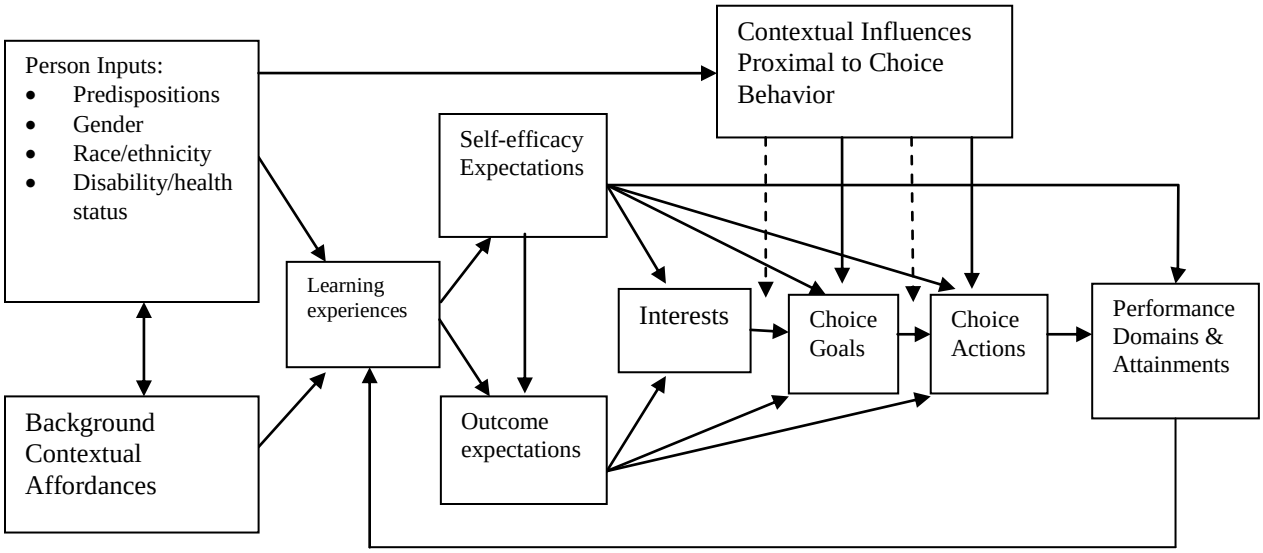

Figure 1. Model of social cognitive influences on career choice behavior.

From Lent et al. (1994). Reprinted with permission.

background variables, self-efficacy, learning experiences, outcome expectations, and interests in the activities related to a nursing faculty role on the career choice goal for a nursing faculty career choice. Choice actions and performance domains and attainments from SCCT were not included since they relate to active pursuit and attainment of a career choice, rather than the future career choice goal as this study proposes. The applicability of each of the included constructs and the associated variables are briefly discussed below.

Person inputs. In the nursing literature, there was some evidence that males and minorities were more apt to pursue graduate education (Bevill, Cleary, Lacey, & Nooney, 2007). Bevill et al. (2007) made a supposition that both males and minorities may be more likely to pursue a faculty role; however they provided no evidence to support their proposal. Therefore, gender and race/ethnicity were included in the derived variables for person inputs. Additionally, because of the issues around the aging of nursing faculty as previously discussed, age was also included as one of the person inputs in SCCT.

Distal background variables. There was little information in the nursing literature about the effects of distal background variables associated with the career choice goal for a future nursing faculty role. As stated earlier, only one qualitative study examined the effects of an intervention on pre-licensure baccalaureate nursing students' interest in pursuing a future faculty role (Seldomridge, 2004). Research on distal variables in the education and career counseling literature indicated that parent education and occupation were influences that may affect career choice (Mau & Bikos, 2000; Watt, Richardson, & Pietsch, 2007a) and were thus, included in this study. Parent education was defined as the highest level of education completed by either parent. Parent occupation was defined as either parent currently or previously in a teaching, nursing or health care occupation.

Proximal background variables. There was some evidence that individuals with a baccalaureate nursing degree were more likely to pursue graduate education (DHHS, 2010). Therefore, type of nursing program (associate degree, diploma, RN (registered nurse) to BSN (baccalaureate), baccalaureate pre-licensure, master's pre-licensure, and doctoral pre-licensure) and educational background were included. In this study, analysis was limited to data from baccalaureate pre-licensure nursing students since they were more likely to pursue graduate education (DHHS, 2010). Educational level and background of pre-licensure baccalaureate students were incorporated. Supports and barriers for choosing a teaching role may impact career choice and were also included.

Self-efficacy. Plunkett et al. (2010) found that self-efficacy for graduate education was significant for baccalaureate nursing students' pursuit of graduate education. Therefore self-efficacy was included in this study. A pre-licensure baccalaureate nursing student may feel he/she is capable of becoming a nurse, but may not believe that he/she could be successful in a nursing faculty role. Additionally, the sources of self-efficacy, which are prior learning experiences, were investigated.

Learning experiences. Pre-licensure baccalaureate nursing students are provided with numerous clinical experiences to prepare them for a nursing role and some students have limited opportunities for research and management functions, yet they are rarely exposed to opportunities to practice teaching, which might encourage their interest in a nursing faculty role (Brady, 2007; DeYoung & Bliss, 1995; DeYoung, Bliss, & Tracy, 2002; Iwasiw, 2008; Northam, 2005; Yordy, 2006). Hence, personal performance accomplishment, through teaching experiences such as peer teaching during nursing school, was included. Second, vicarious learning or observing a nursing faculty role model was also included. Seldomridge (2004) found

that 32% of accelerated baccalaureate nursing students were interested in a future faculty role after an intervention; however, the author did not assess future faculty interest prior to the intervention. Thus, it is not known if teaching experience and observation of a faculty role model influences undergraduate nursing students towards a future nursing faculty role. DeYoung, Bliss and Tracy urged faculty to encourage undergraduate nursing students to pursue graduate education and a future faculty role (social persuasion). Therefore, this study included encouragement by nursing faculty members for consideration of a future nursing faculty role. Studies examining physiological and affective states, such as task performance during relaxed or anxious states, were not found in the literature about SCCT. As a result of this, few operationalizations of the construct exists and thus, was not included in this study. In summary, if a pre-licensure baccalaureate nursing student has experiences that develop skills related to achievement as a faculty member (sources of self-efficacy), he or she may become interested in a nursing faculty role and develop a career choice goal towards achieving that role.

Outcome expectations. There was some limited evidence that once pre-licensure baccalaureate nursing students were exposed to a faculty role, they perceived some advantages and disadvantages of that role (Seldomridge, 2004). If a pre-licensure baccalaureate nursing student perceives there are advantages in attaining a faculty role, he or she may develop an interest and intent towards that role. On the other hand, if the individual perceives there are disadvantages to attaining a faculty role, he or she will be less interested and less likely to intend to become a faculty member.

Interests in the activities related to a nursing faculty role. In the Seldomridge (2004) qualitative study, students were provided a two-day exposure to the clinical nursing faculty role and after this experience, 32% indicated an interest in a faculty role. Seldomridge's study was

the only evidence found about the level of interest in the activities associated with a nursing faculty role by pre-licensure nursing students, the subject of this study.

Choice actions and performance domains. Because the population of interest was pre-licensure baccalaureate nursing students, they had not applied for a faculty position. Therefore the constructs of choice actions and performance domains and attainments from SCCT were not included.

Career choice goal. Little is known about how pre-licensure baccalaureate nursing students may perceive a career choice goal for a future nursing faculty role and graduate education. Even if students have an interest in a nursing faculty role, they may not actually intend to pursue the role, perhaps due to the influences of self-efficacy, outcome expectations or other variables. For this study, career choice goal was composed of: (1) interest in the nursing faculty role and graduate education and (2) intent to pursue a future nursing faculty role and graduate education. Refer to the research model, Framework for Career Choice Goal (Interest and Intent) in Nursing Faculty Role and Graduate Education Derived from Social Cognitive Career Theory (SCCT) in Figure 2.

Theory Derivation Step Five: Modifying the Constructs or Structure to the Field of Study

In theory derivation, the constructs or structure of the parent theory are modified in order to be meaningful to the second field (Walker & Avant, 2010). Refer to Table 1 for the key constructs from the parent theory of SCCT to the derived theory in the field of nursing for examining the variables that influence a career choice goal for a future nursing faculty role and graduate education among pre-licensure baccalaureate nursing students. .

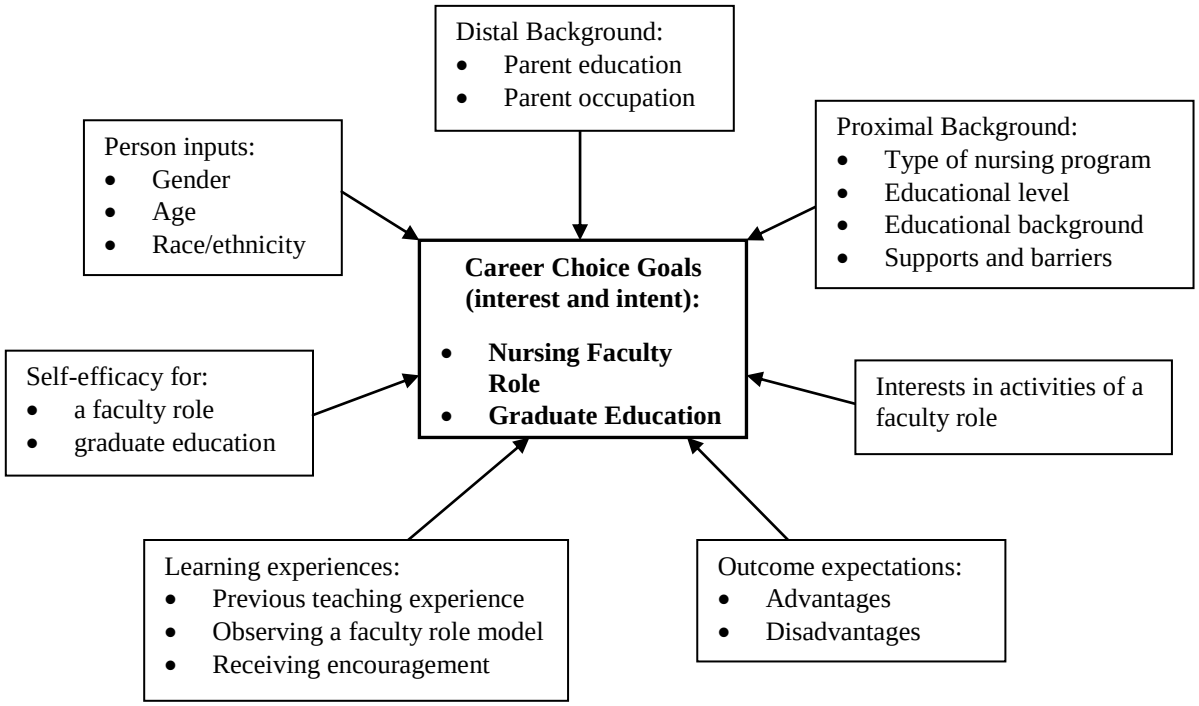

Figure 2. Conceptual framework for career choice goal (interest and intent) in nursing faculty role and graduate education derived from social cognitive career theory (SCCT).

Table 1

Parent Theory (SCCT) Constructs and Derived Theory Constructs

Parent Theory-SCCT Constructs	Derived Theory Constructs
Interests are related to self-efficacy and outcome expectations.	Interests and intent (career choice goal) for a future nursing faculty role and graduate education are related to self-efficacy, outcome expectations, learning experiences, and interests in the activities of a faculty role.
Performance accomplishments lead to increased interests, self-efficacy and future performance.	Learning experiences, to include (1) teaching experiences such as peer teaching, peer tutoring or other experiences; (2) receiving role modeling from a nursing faculty member; and (3) receiving encouragement to consider a future faculty role and graduate education lead to increased interests, self-efficacy, outcome expectations and a career choice goal for a future nursing faculty role and graduate education.
Self-efficacy and outcome expectations relate to career choices, partially through interests.	Self-efficacy, outcome expectations and interest in the activities of a faculty role relate to a career choice goal for a future nursing faculty role and graduate education.

Summary

In summary, variables associated with a career choice goal for a nursing faculty role among pre-licensure baccalaureate nursing students are unknown. This study used theory derivation procedures, as described by Walker and Avant (2010), to apply derived constructs and variables from SCCT (Lent et al., 1994) to a career choice goal for a future nursing faculty role and graduate education among pre-licensure baccalaureate nursing students. Lent et al. (1994) proposed SCCT as a way to understand how individuals make career choices. SCCT theory incorporates the influences of person inputs, proximal and distal background, self-efficacy, learning experiences, interests in the activities associated with a career, outcome expectations, goals, choice actions and performance domains and attainments in career choices. SCCT was tested and validated in at least 50 studies and was found to be predictive in a number of populations, especially among college students; however, SCCT had not been applied in a population of pre-licensure baccalaureate nursing students to determine if the SCCT constructs and variables were predictive of their career choice goal for a future nursing faculty role and graduate education. This study incorporated the following derived constructs from SCCT: Person inputs; distal and proximal background, self-efficacy, learning experiences, outcome expectations, interests in the activities of a nursing faculty role and the career choice goal (interest and intent) for a future nursing faculty role and the requisite graduate education for that role.

Theoretical Definitions

The following theoretical definitions were used in this study:

SCCT constructs- person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role (Lent et al., 1994).

Pre-licensure baccalaureate nursing students - Students enrolled in a nursing program that prepares them to take the initial licensing examination to become registered nurses and included students in traditional baccalaureate and accelerated pre-licensure programs (DOL, 2010; National Council of State Boards of Nursing [NCSBN], 1999).

Nursing faculty role - An academic position where the faculty member teaches undergraduate or graduate nursing students on a part-time or full-time basis.

Person inputs - The predispositions, gender, race/ethnicity of the individual (Lent, 2005).

Distal background variables - Variables in the background of each individual that shape career choices such as cultural influences and skill development opportunities (Lent, 2005).

Proximal background variables - The attributes present at critical points of career decision making, such as emotional or financial support, job availability or barriers (Lent, 2005).

Self-efficacy - The belief that individuals have regarding his/her capabilities to complete actions or to perform at a certain level (Bandura, 1986; Lent, 2005).

Learning experience variables - Experiences that impact self-efficacy as follows: (1) personal performance accomplishments; (2) vicarious learning; and (3) social persuasion (Bandura, 1986; Lent, 2005).

Outcome expectations - The beliefs one has about the consequences or outcomes of behaving in a particular way (Lent, 2005).

Interest in the activities of a career - The patterns of like, dislike or indifference regarding career-relevant activities (Lent et al., 1994).

Career Choice Goal - The pattern of like, dislike or indifference regarding an occupation and intent is the aim of pursing an occupation (Lent et al., 1994) or to engage in a particular activity (Lent, 2005).

Limitations and Delimitations

One limitation of this study was the sample, members of National Student Nurses' Association (NSNA), the official professional organization of nursing students. Student nurses who were within this organization were those who are professionally motivated to belong to their nursing organization and thus, may be more oriented towards career achievement, such as assuming a role as a future nursing faculty role. This study was delimited to nursing students enrolled in traditional baccalaureate and accelerated pre-licensure programs and cannot be generalized to all undergraduate nursing students. Secondly, non-response bias was another limitation to the study and the respondents may not have been representative of the population of pre-licensure baccalaureate nursing students enrolled in nursing programs. To compensate for non-response bias as much as possible, the survey was sent via email by NSNA to their membership. To motivate student nurses to respond, they had the option to select one of three charities to receive a percentage of a $500 contribution. Additionally, the sample was compared to national demographics of nursing students when available. However, even using these methods, error may still have existed that affected external validity and generalization of the study. Third, the survey contained some questions that had not had previous reliability or validity established. While the survey was piloted for readability among pre-licensure baccalaureate nursing students, questions may not have been interpreted as intended by the researcher. Fourth,

the survey was administered electronically, which limited participation to those who were adept at responding to questionnaires electronically. Fifth, this study used logistic regression analysis. Whereas, the research in the career counseling field used structural equation modeling to determine the theoretical structure of SCCT. Lastly, the results of this study may demonstrate a relationship among the predictor variables; however, only a longitudinal study will provide evidence of the long-term predictability of the variables.

Significance of the Study

This study was relevant for undergraduate nursing students, the nursing faculty workforce and the profession of nursing. From the perspective of undergraduate nursing students, this study may lead to future intervention studies that will help nursing students make long-term career choices, especially for graduate education, at earlier stages in their careers. The nursing faculty workforce may benefit from this study by understanding more about how undergraduate nursing students may perceive a faculty role and the advantages and disadvantages of such a role. From this understanding, interventions may be designed that encourage undergraduate nursing students towards graduate education and a future faculty role earlier in their careers. The nursing profession may also gain if pre-licensure nursing students choose graduate education and a future faculty role earlier in their careers, thus minimizing the effects of the impending nursing faculty shortage on the numbers of students who can be admitted into nursing programs.

This study applied theory derivation, a useful way of thinking about a phenomenon where little information exists (Walker & Avant, 2010), such as career choice goal for a future nursing faculty role and graduate education. Derived theories are in the "context of discovery" and require validation (Walker & Avant, 2010, p. 101), such as this study proposed. Theory derivation can serve as a means for developing new insights about a phenomenon (Walker &

Avant, 2010), thus this study was the first step towards a better understanding of how the derived constructs and variables predict pre-licensure undergraduate nursing students' choice for a future nursing faculty role and graduate education. The use of theory derivation may also help to discern which derived constructs and variables are *not* applicable to a career choice goal for a faculty role. Additionally, the testing of the instruments is useful to other researchers who may study career choice for a future faculty role and graduate education.

Theory derivation can be used to develop a program of research (Walker & Avant, 2010). For example, in this study, constructs and variables were derived, but the structure, using pathway modeling, was not applied. Future studies may derive structure from SCCT, a theory that has had numerous tests of pathway modeling to create a theoretical structure. Additionally, theory derivation leads researchers to hypothesis testing, another way to extend knowledge of a phenomenon (Condon, 1986). Thus, the results of this study may better inform which derived constructs and variables from SCCT should be used to build a program of research about the selection of a future nursing faculty role and graduate education.

Summary

The current faculty shortage is expected to increase over the next 10-15 years as more faculty retire. However, only one qualitative study investigated an interest in a future faculty role with pre-licensure baccalaureate nursing students (Seldomridge, 2004). Few long-term solutions exist that encourage pre-licensure baccalaureate nursing students to seek a future faculty role. Thus, a long-term approach is needed to assist in replacing retiring nursing faculty before a greater shorter emerges. Strategies for decreasing the nursing faculty shortage have included partnering with other schools of nursing or hospitals, seeking more funding to increase nursing faculty, and increasing the throughput of students to master's and doctoral education; however,

the nursing literature was bereft of studies that investigated the variables that may influence pre-licensure baccalaureate nursing students' pursuit of a future faculty role. Without more nurses becoming future nursing faculty, fewer students will be admitted into undergraduate and graduate nursing programs.

To better understand how pre-licensure nursing students may choose a future nursing faculty role and graduate education, this study proposed using theory derivation procedures to examine constructs and variables derived from SCCT. The application of the steps involved in theory derivation for this study were described: (1) becoming familiar with the literature concerning the phenomenon in the second field and evaluating the theories currently used to explain the phenomenon; (2) reading the literature from other disciplines to discover potential analogies; (3) selecting a parent theory from a field to explain the phenomenon in the second field; (4) identifying the constructs or structure from the parent theory that will be used in the second field; and (5) modifying the constructs or structure from the parent theory and restating them for study in the second field (Walker & Avant, 2010). The derived constructs and variables were defined and included: person inputs, distal and proximal background variables, self-efficacy, learning experiences, outcome expectations, and interests in the activities related to a nursing faculty role on the career choice goal for a nursing faculty career choice are included. Theory derivation helps to clarify thinking and build a body of knowledge about a phenomenon (Walker & Avant, 2010). Thus, the results of this study may inform the nursing profession about: (1) the degree of interest and intent pre-licensure nursing students have for graduate education and a future faculty role; (2) measures that may be developed and adapted for predicting a nursing faculty career choice among pre-licensure baccalaureate nursing students; (3) the psychometric properties among the measures derived from SCCT; and (4) how well the SCCT

constructs predict that a pre-licensure nursing student indicates a career choice for a future nursing faculty role and graduate education. The next chapter, Chapter Two, defines and discusses the current career choice theories and critically examines the constructs and the associated variables in SCCT to better understand the profile of pre-licensure baccalaureate nursing students who may choose an academic career.

CHAPTER TWO: REVIEW OF THE LITERATURE

The purpose of this study was to use the Social Cognitive Career Theory (SCCT) to (1) determine the degree of interest and intent of pre-licensure baccalaureate nursing students for a future nursing faculty role and graduate education; (2) develop and adapt measures for the SCCT constructs that are applicable to the prediction of a nursing faculty career choice goal (interest and intent) in pre-licensure baccalaureate nursing students; (3) assess the psychometric properties and correlations among the measures derived from SCCT; (4) examine whether students indicating a high intention for a faculty role differ from students indicating a low or unsure intention on any of the SCCT constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role); and (5) investigate how well the derived SCCT constructs predict the probability of a survey respondent indicating a career choice goal in pursuing a nursing faculty role and graduate nursing education. This chapter defines and discusses the current career choice theories and critically examines the constructs and associated variables in SCCT to better understand the profile of pre-licensure baccalaureate nursing students who may choose an academic career. The review of the literature begins with a brief summation of career theories, followed by a discussion of SCCT. Each of the constructs and the associated variables within SCCT is discussed, beginning with a review of the findings and a critical analysis of the nursing literature when available. Because literature focusing on career issues of nursing students is limited, the review was expanded to include other fields, such as studies from other health sciences, education and career counseling. Additionally, studies of career choice among college-aged students that used SCCT are included. Due to the paucity of research literature in nursing on this topic, a more in depth analysis of the nursing studies is incorporated.

Overview of Career Development Theories

Brown (2002) stated that helping individuals to identify appropriate careers began in the fifteenth century. Since the early twentieth century, numerous career development theories have been proposed. Rojewsi (2005) categorized current career development theories as psychological, sociological or social-psychological. Examples of each of these will be highlighted.

According to Rojewski (2005), an example of a psychological theory is that of Super's developmental theory. Super's development theory focuses on specific tasks that must be accomplished sequentially over time, growing more stable by adolescence (Rojewski, 2005). Other theories in the psychological classification include the trait-factor theories, which are most popular for spawning such tests as the General Aptitude Battery (a test to measure interests, aptitudes and personality) and Holland's Theory of Personality, which is known for its typology (a systematic classification of occupations into one of six types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) (Brown, 2002; Holland, 1985). Several authors (Brown, 2002; Dawis, 2005) also include the Minnesota Theory of Work Adjustment (TWA) as a psychological theory, which incorporates the person and the environment in its constructs.

Sociological theories reflect society's influences, cultural norms, stereotypes and social attitudes (Rojewski, 2005). An example of a sociological theory is the Status Attainment Theory. Status Attainment Theory includes antecedent variables (such as the father's educational status) and intervening variables (such as educational attainment) (Rojewski, 2005).

Rojewski (2005) describes social-psychological theories as emphasizing the interaction of the individual's preferences with culture, gender, and life events. Furthermore, Rojewski states that examples of social-psychological theories are the Theory of Career Circumscription

and Compromise by Gottfredson and SCCT by Lent, Brown and Hackett. In Gottfredson's Theory of Career Circumscription and Compromise, career aspirations reflect an individual's self-concept and circumscription is the progressive narrowing of career options until a suitable career is reached (Rojewski, 2005). SCCT incorporates self-efficacy, outcome expectations, personal goals, interests, contextual, and learning experience variables to explain career choices (Lent, 2005).

Overview of Studies Using SCCT

One hundred six studies were found that used SCCT during the past ten years, but only one study applied the SCCT to student aspirations for choosing a career in nursing (McGregor, 2007). In McGregor's study, self-efficacy and outcome expectations were correlated to choice of a nursing career. While this is a promising first step, McGregor did not investigate the choice of a future faculty role in nursing, such as this study proposes. The majority of studies applying or testing SCCT were in career counseling. These studies frequently used structural equation modeling (SEM) to test the model pathway of SCCT among undergraduate students to better inform those counselors who advise students on career choice (Fouad, Smith & Zao, 2002; Lent et al., 2001; Lent, et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Rottinghaus et al., 2003). The following review will briefly examine a select group of research studies on career choice and the findings of SEM among the major constructs within SCCT among college students.

In one of the earlier tests of SCCT, Lent et al. (2001) (N = 111) found that 35% of the choice goal could be explained by interests in the activities of the math or science field, respectively, among college students majoring in these fields. The researchers also found that interests in the activities and choice were predicted by self-efficacy and outcome expectations

and that 42% of the variance in choice goal was explained by outcome expectations and interests in the activities of the respective career. The researchers concluded that the choice goal was strongly predicted by interests in the career activities. The study was limited to one college and there was little discussion of how the survey was administered. However, studies among students enrolled in general college courses (Fouad et al., 2002), engineering (Lent et al., 2003; Lent et al., 2005) and computing (Lent, Lopez, Lopez, & Sheu, 2008) found similar results. Additionally, a meta-analysis of empirical studies (N = 53) (Rottinghaus et al., 2003) also found support for a relationship between interests in the occupation and self-efficacy. Study samples for the meta-analysis were from adolescents (N = 2,932), college students (N=20,687) and working adults (N = 2,932). In this meta-analysis, most of the studies using SCCT examined self-efficacy and investigated Holland's typology. Holland's typology is a classification of all occupations into six unique areas: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC) (Holland, 1985). Furthermore, in this meta-analysis, most of the studies that investigated interests in the occupation and self-efficacy among college students were conducted with students majoring in math and science. For performing this meta-analysis, the researchers transformed all correlations to a Fisher's *Z*, calculated the mean and then transformed the mean back to a correlation. They concluded that there was a moderate relationship between interests in the occupation and self-efficacy.

In summary, numerous quantitative studies in the career counseling literature found that interests in the activities associated with a career led to a career choice goal for that field (Fouad et al., 2002; Lent et al., 2001; Lent, Lopez, Lopez, & Sheu, 2008) and that there is a significant relationship between interests in the activities of the career, career choice goal, self-efficacy and outcome expectations, major constructs in SCCT (Fouad et al., 2002; Lent et al., 2001; Lent et

al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008) Rottinghaus et al.'s (2003) meta-analysis also concluded that interest in an occupation was moderately associated with self-efficacy. Yet, in nursing, only one study was found that used SCCT (McGregor, 2007) and it applied the theory to student aspirations for choosing a career in nursing. While this is a promising first step, McGregor failed to investigate the choice of a future faculty role in nursing, such as this study proposes. Also in nursing, one qualitative study (Seldomridge, 2004) (N = 54) reported that 32% of pre-licensure baccalaureate nursing students would consider a future nursing faculty role. This study applies SCCT to pre-licensure baccalaureate nursing students' career choice goal for a future nursing faculty role. The constructs and associated variables in SCCT are discussed next.

Constructs and Variables Derived from Social Cognitive Career Theory (SCCT)

The constructs and variables derived from SCCT and included in this study were: (1) person inputs (gender, age and race/ethnicity); (2) distal background variables (parent education and occupation); (3) proximal background variables (type of nursing program, educational level and background, supports and barriers to pursuing a faculty role); (4) self-efficacy; (5) learning experience variables (having had a teaching experience, observing a faculty role model and receiving nursing faculty encouragement to pursue a future faculty role); (6) outcome expectations of a future faculty role; and (7) interests in the activities related to a nursing faculty role. A critical review of each of the derived variables from the associated construct follows.

Person Inputs

The influences of person inputs on career choice, specifically gender, race and socio-economic status, have been the most researched areas in career development theory (Rojewski, 2005). While Rojewski did not specifically recognize age as one of the person inputs, numerous

studies have been conducted on children, middle-school aged, high school aged, and college-aged participants. For the purposes of this study, age was included with gender and race/ethnicity. The literature review is limited to studies found that were conducted on college-aged students, the focus of this study.

Person inputs: Gender. Gender role perception is developed through various psychosocial phenomena that begin at birth (Bandura, 1986). These phenomena include interactions that occur between the individual and family members, friends and acquaintances and within schools and other social and cultural activities. These interactions subsequently influence behaviors, attitudes and abilities that one develops about one's gender role. Gender role experiences lead to the development of stereotypes that become ingrained into one's identity and impact career interests and occupational choice (Bandura, 1986). Additionally, biological gender differences also impact career choice. For example, women's child bearing capacity may lead to career interruptions (Domenico & Jones, 2006).

Nursing is typically regarded as a female occupation. Despite efforts to increase the numbers of males in nursing, the percent of males graduating from undergraduate schools of nursing in the US has varied only between 10-12% each year over the past fifteen years (NLN, 2007). Recently, Kaufman (2010b) reported that the percentage of males in undergraduate nursing programs increased during 2008-09 to 13.8%; however, the author stated this is not unusual during economic downturns such as that occurring during 2008-2010. This small percentage increase also does not mean that more males will seek nursing faculty roles. In fact, a nursing faculty position may be perceived as a female oriented role (Muldoon & Reilly, 2003), since females continue to dominate nursing faculty roles. The number of females in nursing faculty roles has been reported as 95% to 96% (AACN, 2010b; Kaufman, 2007). However, no

data sources were found that report the number of males enrolled in masters in nursing education programs. Additionally, it is not known whether gender is significant in regards to the consideration of a faculty role among pre-licensure baccalaureate nursing students, a subject of this proposed study.

Gender differences in career aspirations and attainment are viewed as more complex for females than males, primarily due to concerns from females about balancing career and family responsibilities and the desire for or presence of children (Rojewski, 2005). Since 2000, only one study (Muldoon & Reilly, 2003) (N = 384) was found in the nursing literature related to gender and career aspirations. Muldoon and Reilly investigated the effects of gender role orientation on career choice in nursing, such as a choice for midwifery, oncology, or a nurse manager role. Gender role orientation was defined as the perception of one's own inclination towards male or female roles, regardless of one's actual physical gender. Participants were in their first four weeks of study in nursing in the United Kingdom. The authors used the Bern Sex Role Inventory, a tool that measures psychological characteristics of sex role and that has demonstrated reliability and validity. In this inventory, low scores indicate psychological masculinity, mid-range scores represent androgyny (neither male nor female) and high scores represent psychological femininity. Participants also ranked nursing specialties as more appropriate for males or females and indicated their career aspirations for each of nineteen nursing careers. Muldoon and Reilly found that students who scored higher as psychologically female were more interested in highly female nursing careers, such as midwifery, whereas students scoring higher as psychologically male, were more interested in gender neutral nursing careers, such as a nurse manager. They also found that a nursing faculty role or "nurse teacher" was rated as a female oriented position. Additionally, "nurse teacher" was near the bottom of the

ranking for popularity (16th out of 19 nursing occupations); however the meaning of this low ranking was not explored. The authors concluded that both male and female nursing students had rigid views of the gender appropriateness of each nursing specialty and that faculty needed to help students consider a broader range of nursing occupations. This study was unique because it measured gender role orientation rather than gender and because the researchers specifically asked participants to rate nursing specialties as appropriate for males or females, including the "nurse teacher" role. The limitations of the study were acknowledged by the researchers, primarily the low number of males in the study (N = 34) compared to females (N = 350). However, these numbers are representative of the number of males who enter nursing.

Similarly, some studies from the career counseling literature reported that beliefs about gender role predict career goals (Evans & Diekman, 2009; Lease, 2003: Rivera et al., 2007). In turn these beliefs predicted gender-typical career interest (Evans & Diekman, 2009). Rivera et al.'s (2007) study found that Hispanic females attending a community college (N = 131) were more likely to choose traditional gender occupations, especially when their perceptions of career barriers increased. However, in this study, the distinct role played by gender versus race/ethnicity was not apparent. Additionally, Lease (N = 154) found that male college students with more liberal social attitudes were more likely to choose a traditional female occupation. Yet, none of the males in their study chose nursing.

Several studies from career counseling (Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Schaub & Tokar, 2005; Williams & Subich, 2006) sought to determine the effects of gender on the constructs of SCCT. Two of the studies (Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008) included the differences between females and males and their interest in and pursuit of male dominated careers, such as engineering and computer sciences. Each of these studies

(Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Schaub & Tokar, 2005; Williams & Subich, 2006) used SCCT as a theoretical basis and multiple reliable and valid instruments. Some of the studies were conducted with participants from more than one college campus (Lent et al., 2005) and one study (Lent, Lopez, Lopez, & Sheu, 2008) had participants from 42 college campuses. Among students in general college and in fields typically chosen by males, such as science, engineering and computing (Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Schaub & Tokar, 2005; Williams & Subich, 2006), no differences were found in the structural equation modeling for SCCT by gender.

In summary, it is known that the number of males in undergraduate nursing programs has not increased over the last 15 years (NLN, 2007), but it is not known whether males are more or less likely to indicate an interest and intent to pursue a faculty role than female nursing students. Nursing is typically regarded as a female occupation and the role of nursing faculty may also be perceived as female oriented; however, the evidence was from one study (Muldoon & Reilly, 2003) and it was limited to one school of nursing in the United Kingdom. In the career counseling literature, some studies (Evans & Diekman, 2009; Lease, 2003: Rivera et al., 2007) found that gender does play a role in career choice. Other studies found that there were no differences by gender in the constructs of SCCT (Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Schaub & Tokar, 2005; Williams & Subich, 2006). Whether pre-licensure baccalaureate nursing students' interest in or intent to later pursue a faculty role differs by gender is unknown.

Person inputs: Age. One of the concerns of nursing leaders has been the aging of the nursing workforce (Buerhaus, Staiger & Auerbach, 2009). In 2010, one RN in three was over the age of 50, whereas in the 1970s, one RN in five was over the age of 50 (Buerhaus, Staiger, & Auerbach, 2009; DHHS, 2010). One of the major reasons for the rapidly aging nursing

workforce has been the trend of older individuals entering into nursing as second-career seekers (Buerhaus, Staiger, & Auerbach, 2009). For example, in 2003, among enrolled nursing students, 21% of baccalaureate, 38% of diploma and 41% of associate degree nursing students were over the age of 30. In 2009, enrolled baccalaureate nursing students over the age of 30 decreased from 21% to 14% of students, while among nursing students in all other types of undergraduate nursing programs, 40% (diploma) and 49% (associate degree), those over the age of 30 increased, respectively (NLN, 2009a). This trend is reflective of the numbers of individuals who enter nursing from other careers, opting for shorter paths to employment in nursing (Buerhaus, Staiger, & Auerbach, 2009). Furthermore, the number of younger individuals who are entering baccalaureate nursing programs will not be enough to reverse the trend towards an older registered nursing workforce (Buerhaus, Staiger, & Auerbach, 2009). The older registered nursing workforce, in addition to the long clinical careers nurses tend to have prior to the pursuit of the requisite graduate education needed for a nursing faculty role (Allen, 2008; Yordy, 2006), negatively influences the numbers of individuals prepared and available for the future nursing faculty workforce. Stevenson (2003) stated that, "Nursing is one of the few professions in which new graduates are not directed to pursue graduate education immediately, but, rather, are encouraged to obtain clinical experience before considering a faculty position" (p. 24). Unfortunately, there is no evidence indicating the amount of clinical experience needed by nurses before seeking graduate education (Donley & Flaherty, 2009).

In fact, the advancing age of current nursing faculty and the resulting and impending retirement from teaching in record numbers was cited as the primary reason that undergraduate and graduate nursing students cannot be admitted and subsequently graduated (AACN, 2010c; Allen, 2008; NLN, 2008; Yordy, 2006). The average age of nursing faculty with the rank of

professor (and the most experienced of the nation's faculty) was 59 (AACN, 2010c); for doctorally prepared nurses beginning their faculty careers at the rank of assistant professor, the average age was 52; and for those with a master's degree, the average age was 50 (AACN, 2010c). According to the *NLN/Carnegie National Survey*, 50% of the nation's 32,000 nursing faculty expect to retire within the next ten years and 21% expect to retire within the next five years (Kaufman, 2007). From 2003-2012, there will be 200-300 nursing faculty with doctorate degrees eligible for retirement annually (Berlin & Sechrist, 2002). In the only study investigating the retirement plans of nursing faculty, Kowalski, Dalley and Weigand (2006) found that nursing faculty anticipated retiring at age 64, yet others found that faculty actually retire at age 62.5 (Berlin & Sechrist, 2002). While the current economy may have postponed the retirement of some nursing faculty, this is temporary (Cleary, et al., 2009) and younger nurses are not moving into faculty roles in sufficient numbers to fill the void. For example, from 1993 to 2001, faculty members above the age of 46 increased each year, while those younger than the age of 46 decreased each year (Berlin & Sechrist, 2002). More recent data show this trend continuing. The percentage of faculty younger than age 60 decreased by 3% from 2006 to 2009 while the percentage of faculty over age 60 grew from 9% in 2006 to almost 16% in 2009 (NLN, 2010). For these reasons, it is even more imperative to understand if age is predictive on pre-licensure baccalaureate nursing students' interest and intent to pursue a future nursing faculty role.

Unfortunately, there is a paucity of research regarding the career choice or perceptions of pre-licensure baccalaureate nursing students for particular roles in nursing, such as a nursing faculty role. Yet, in the career counseling literature, researchers (Hansen, 2005; Mello, 2008) have found that expressed interest in career choice during adolescence and young adulthood remains stable over time. In Mello's longitudinal study (N = 10,364), career expectations at age

14 positively predicted corresponding attainment at age 26. In a review of the literature, Hansen concluded that career interests are stable by age 20 and very stable by age 26. Furthermore, Hansen found that career interests at age 20 corresponded to career interests at age 30 with test-retest reliability coefficients of .80 to .90. Therefore, learning about pre-licensure baccalaureate nursing students' interest and intent during their college years, and recruiting them into a faculty role earlier in their careers, is critical for the continuance of nursing education.

In summary, the aging of the nursing student (NLN, 2009a) creates a domino effect that results in aging of the RN workforce (Buerhaus, Staiger & Auerbach, 2009) and in turn, results in nurses receiving advanced degrees and entering into academia at an advanced age (AACN, 2010c). Furthermore, the large numbers of impending retirements of nursing faculty, with few nursing faculty to replace them, endangers the capacity for educating new nurses. However, there is some evidence to support that career interests expressed during young adulthood show some stability over time (Hansen, 2005; Mello, 2008). Therefore, it is imperative to know if learning the future career interests of pre-licensure baccalaureate nursing students is predictive of their later career interests and pursuits, such as for a future nursing faculty role.

Person inputs: Race/ethnicity. Depending on the source, the numbers of all undergraduate nursing students who are from diverse racial/ethnic groups has trended upward over the past 10 years and is reported as between 24-26% (Fang et al., 2011; Kaufman, 2010b; NLN, 2009b). Kaufman (2010b) reported that data from 2008-09 academic year demonstrated that almost 25% of students enrolled in master's programs and 20% enrolled in doctoral programs were racial/ethnic minorities. The general RN workforce racial/ethnic minority percentage is 6.8 to 20% (Buerhaus, Staiger, & Auerbach, 2009; DHHS, 2010). Yet only 7% - 16% of nursing faculty are from racially/ethnically diverse groups (AACN, 2010b; Kaufman,

2007; SREB, 2003). A diverse nursing faculty workforce is needed to serve as role models for nursing students and to address the health care needs of a diverse population (AACN, 2010b; Joynt & Kimball, 2008; Stanley, Capers, & Berlin, 2007). Stanley et al. (2007) suggests there is great competition among academic and clinical settings for racially/ethnically diverse graduate prepared nurses. However, little is known about the effects of racial/ethnic background and pre-licensure baccalaureate nursing students' attraction to a nursing faculty role, one of the variables in this research.

Researchers (Fouad & Byars-Winston, 2005; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Rojewski, 2005) from the career counseling discipline found that race/ethnicity had little effect on career aspirations. Fouad and Byars-Winston's meta-analysis (N = 16) investigating racial differences among undergraduate college students concluded that there were no differences by race in the careers to which college students aspire. They also found that college students from racial minority groups perceived fewer career opportunities and greater career barriers. Their review and inclusion criteria for this meta-analysis were described clearly and each study was reviewed by two researchers.

Several other studies (Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008) supported this finding. In a test of SCCT among engineering students (N = 487) from historically black colleges and universities (HBCUs) (N = 221) and students from predominantly white universities (PWIs) (N = 266), Lent et al. (2005) found that the pathway for SCCT was consistent regardless of university type with one exception: the pathway for support and barriers was larger in magnitude for students from the HBCUs. Additionally, the students from the HBCUs reported stronger self-efficacy, outcome expectations, social support, interests in career related activities and intent to pursue a particular field than students from PWIs. One of the study limitations was

that the data was analyzed according to type of university rather than by race/ethnicity of the individual participants. However, 98% the students at the HBCUs were racial/ethnic minorities (87% were African American) and 63% of the students at the PWIs were Caucasian. In a later and larger study, also comparing results by type of university, Lent, Lopez, Lopez and Sheu confirmed this finding.

In contrast, other studies (Byars-Winston, 2005; Metz, Fouad & Ihle-Helledy, 2009) found the opposite to be true. Metz et al. (2009) reported a small effect for racial/ethnic minority status on the career aspirations of college students (N = 677); but 70% of the study participants were white. Another study by Byars-Winston (N = 141) found that the racial ideological group was significant for career interests and influenced several variables within SCCT. However, the study was limited to one historically black college/university.

In summary, while the numbers of racial/ethnic minority nursing students grew, (Buerhaus, Staiger, & Auerbach, 2009; Fang et al., 2011), Stanley et al. (2007) there is fierce competition to recruit diverse racial/ethnic minority nurses to academia. Additionally, it is not known whether pre-licensure baccalaureate students' career choice goal for a future faculty role varies by race/ethnicity, one variable investigated in this study. Studies using structural equation modeling (Fouad & Byars-Winston, 2005; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008) found that racially and ethnically diverse groups of students have similar career aspirations as Caucasian students. On the other hand, two other studies demonstrated an effect for racial/ethnic minority status on career aspirations (Metz et al., 2009; Byars-Winston, 2005), but there were significant limitations in the racial make-up of the sample or in the study setting.

Distal Background – Parent Education and Occupation

According to SCCT, distal background variables are those influences that affect early learning experiences and through which the individual begins to develop self-efficacy and outcome expectations (Lent et al., 2000). Examples of distal background variables are the cultural and socialization processes during the early years (Lent et al., 1994). In this study, distal background variables derived from SCCT are the influences of parent education and occupation and are discussed next.

Intuitively, it stands to reason that parent education and occupation would have an effect on the career choice of their children. Yet, in studies conducted on college students examining the effects of parent education and occupation, findings are contradictory. Due to the dearth of studies among undergraduate college students, the variables parent education and occupation will be discussed together.

Using SCCT as one of the guiding theoretical frameworks for their longitudinal study, Mau and Bikos (2000) (N = 14,915) examined 10th grade high school students to determine their interest for a professional career. They repeated the study after the students graduated. Using logistic regression, they found that socioeconomic status, defined as parent education, occupation, and family income, was significant; however, the specific effects of parent education and occupation or the stability of the results over time were not identified.

Two studies (Watt et al., 2007a; Williams, Graham, McCary-Henderson, & Floyd, 2009) in the education literature indicated that the parents' occupation influenced college students' career choice. Williams et al. (2009) conducted a qualitative study of African American undergraduates (N = 33) enrolled in the teaching curriculum and found that the influence of parents or extended family who were educators were the top motivators for selecting teaching as

a career. All study participants were enrolled in the field of education. In this study, the focus groups were led by researchers trained in this methodology and detail was provided on the analysis of the data. Quantitatively, Watt et al. (2007a) (N = 245) examined the motivations of students choosing to teach in the discipline of science, technology, engineering or mathematics (STEM). They reported that 22-43% of the participants had parents in one of the STEM fields and 2-10% had parents as teachers. From this study, it appears that the effect of the parents' occupation may be more influential on students' major course of study, such as the choice of nursing, than the choice of a role associated with that major, such as teaching. Participants were from undergraduate (30%) and graduate curriculums (70%) at three universities in Australia.

Contrary to these findings, two other studies (Lease, 2003: Metz et al., 2009) found no effects of parent education or occupation on career choice. Metz et al. (2009) (N = 677) explored the effects of parent education and occupation prestige on career aspiration among college students at three college campuses and found there was no significant effect of parent education or occupation on undergraduates' career choice. Eighty-three percent of the study participants had selected a major, including 5% who had selected nursing. However, this study examined the average of both parents' education instead of the effect of each parent's education and investigated the prestige of parents' occupation, rather than the specific parent occupation.

Using a national data set, Lease (2003) examined the effect of the mother's career on the feminine or masculine traditionality of career choice among male college students (N = 354) at two time intervals, four years apart. Lease found there was no direct or indirect effect of the mother's occupation and traditionality on career choice by the study participants. Traditionality was defined by using national labor statistics and examining the percentage of males or females in that occupation. The sample was composed of males who had chosen traditionally male

occupations (N = 200) and those who had chosen traditionally female occupations (N = 154). As stated earlier in the section on gender, while this study found that males with liberal social attitudes were more likely to choose more traditionally female occupations, none of the males chose nursing.

In summary, the findings on the influence of parent education or occupation on college students' career choice were mixed. Some (Mau & Bikos, 2000; Watt et al., 2007a) reported a significant effect of parent education and occupation on undergraduates' career choice, while others did not (Metz et al., 2009; Watt et al., 2007a; Williams et al., 2009). Metz et al. (2009) established no significant effect of parent education or occupation on undergraduates' career choice and Lease (2003) found there was no direct or indirect effect of the mother's occupation on traditionality of career choice. Little is known on the influence of parent education or occupation on pre-licensure baccalaureate nursing students' interest and intent for in a future faculty role, a variable investigated in this study.

Proximal Background

The proximal background variables are those contextual experiences that are important during the active time of career decision making (Lent, 2005). These variables are supportive of career choice or serve as barriers (Lent et al., 2000). In this study, proximal background variables were the attributes present at critical points in the pre-licensure baccalaureate nursing students' career decision making times and were defined as (1) type of baccalaureate nursing program (generic, accelerated baccalaureate); (2) educational level and background; and (3) supports and barriers to pursuing a future faculty role. Each of these variables is examined.

Proximal background variable: Type of nursing program. There are many types of undergraduate nursing programs leading to licensure as a registered nurse: Associate degree,

diploma, baccalaureate, pre-licensure masters and pre-licensure doctorate. This study focuses on pre-licensure baccalaureate undergraduate nursing students and includes students from traditional and accelerated baccalaureate nursing programs. In 2008, only 36% of all graduates from nursing programs earned the baccalaureate degree (NLN, 2008). Nonetheless, the nursing faculty role requires that the individual is masters or doctorally prepared, yet few nurses have these academic degrees. Instead, one-half of the current nursing work force holds either a diploma or associate's degree (DHHS, 2010) and these same nurses rarely pursue graduate education in the numbers needed to fill advanced practice and faculty roles.

In a national study (DHHS, 2010) of registered nurses, only 5% of associate degree nurses and 7.5% of diploma nurses returned to school to earn a master's degree in nursing. Whereas, 16.7% of baccalaureate and higher degree nurses (includes pre-licensure master's degrees) earned a master's degree in nursing (DHHS, 2010). Bevill et al. (2007) found similar results in a statewide study in North Carolina. They reported that only 2% of associate degree nurses in North Carolina earned a master's degree, whereas, 12-14% with a baccalaureate degree earned a master's degree. Of those nurses earning a masters' or doctoral degree, 80% began their nursing career with a baccalaureate degree (Bevill et al., 2007). A recent policy statement from the Tri-Council members for nursing (American Association of College of Nursing, American Nurses Association, American Organization of Nurse Executives and National League for Nursing) (AACN, 2010a), urged all registered nurses to pursue higher education in order to fill current and future nursing faculty, leadership roles and advanced practice nursing roles. They also requested that schools of nursing continue educational models that will increase the numbers of nurses pursuing graduate education. More specifically, the IOM (2011) stated that The Commission on Collegiate Nursing Education and the National League for Nursing Accrediting

Commission should ensure that each accredited nursing school matriculates at least 10% of baccalaureate graduates into a master's or doctoral program within 5 years of graduation.

In summary, few studies described career choice for a nursing faculty role among pre-licensure baccalaureate nursing students or career choice for a nursing faculty role by type of nursing program. Findings from several sources indicated, however, that nurses who begin their nursing career with a bachelors' degree are more likely to earn the requisite graduate degree necessary for the pursuit of a future faculty role (Bevill et al., 2007; DHHS, 2010). Therefore, this study enrolled pre-licensure baccalaureate nursing students because the literature suggests they are more likely to earn the requisite master's and doctoral degrees required for a nursing faculty role.

Proximal background variable: Educational level and background. Educational background was defined as the number of semesters of the nursing program that the pre-licensure baccalaureate student had completed and previous academic degrees obtained. Only one study (McCann et al., 2010) (N = 230) in nursing examined undergraduate nursing students preferences for clinical specialties by their college year in Australia. In that study, almost 40% of first year nursing students were unsure of their preferred clinical specialty, whereas by their second year, 18% were unsure and by the final year, only 3% were unsure. However, this study only inquired about clinical specialty choice and not about a future faculty role.

In medicine, different findings were found by college year of student as related to interest in a faculty role. Neacy, Stern, Kim and Dronen (2000) (N = 2,189) surveyed residents in emergency medicine for their interest in an academic career. They found that significantly more first year residents than senior residents were interested in a faculty role. The authors speculated that the declining interest over time for a faculty role among the residents might be related to

such variables as lack of teaching skill or lack of confidence in teaching skills (Neacy et al., 2000). They failed to discuss how their survey was developed or to describe the demographics of the respondents. Straus, Straus and Tzanteos's (2006) review of the literature (N = 25) substantiated the findings of Neacy et al. and also speculated that length of training or lack of exposure to mentors might be variables in this waning interest. Most of the studies in their review had small sample sizes, provided little detail on the methodology and were descriptive in nature. On the contrary, Lent, Lopez, Lopez and Sheu (2008) (N = 1,208), in a test to determine if SCCT was applicable at all college years, found that the results were similar across all college years of undergraduate computer science students, freshmen through seniors.

As mentioned earlier, one study (Bieber & Worley, 2006) found that the undergraduate years may be the most influential in the choice of a faculty career. Bieber and Worley's retrospective qualitative study asked doctoral students (N = 34) from a variety of disciplines about their conceptualizations of the faculty role and when and how these conceptualizations were formed. They found that most of the study participants had formulated their conceptualizations of the faculty role during their undergraduate years. All data was obtained by one of the two researchers and, while they did not identify the qualitative methodology used, they provided a detailed description of their data analysis.

In summary, undergraduate nursing students appear to become more certain regarding choice of clinical specialty as they progress through their undergraduate program (McCann et al., 2010); however, it is not known if they may consider a future faculty role and if their future plans change as they progress through their undergraduate nursing curriculum. In medicine, residents became less interested in a faculty role as they proceeded through their education program (Neacy et al., 2000; Straus et al., 2006). Lent, Lopez, Lopez and Sheu (2008) found that

SCCT, including the formation of interests in the activities of a career and the career choice goal, was applicable across all college years for computing students, freshmen through seniors. Doctoral students preparing for a faculty role reported that their impressions of a future faculty role were formulated during their undergraduate years (Bieber & Worley, 2006). Therefore, pre-licensure baccalaureate nursing students may be forming impressions of a faculty role, which may influence their likelihood for pursuit of a future faculty role; however, none have determined if pre-licensure baccalaureate nursing students who are just beginning their nursing curriculum may be more interested and have more intent for choosing a faculty role in the future than pre-licensure baccalaureate nursing students who are closer to graduation. This study proposes to discover this information.

Proximal background variable: Supports/barriers. Supports and barriers are those environmental variables that are perceived by the individual as having the potential to support or hinder one's efforts towards achieving a career goal (Lent et al., 2001). Support for career choice comes from multiple social supports, such as from friends and family (Lent, Brown, Talleyrand, McPartland, Davis & et al., 2002; Lent et al., 2005), financial assistance and working conditions. Identified barriers for career choice are financial, personal difficulties, negative family and friends, life events, working conditions and lack of career related experience (Lent et al., 2002). Studies that describe supports and barriers in career choice are analyzed.

Only one qualitative study (Seldomridge, 2004) (N = 54) in nursing was found that described student interest in a future nursing faculty role among pre-licensure baccalaureate nursing students. This study's purpose was not to examine supports and barriers specifically, but to determine if students would consider a future faculty role after being assigned to a faculty member who provided them with clinical teaching experience. Thirty two percent of the nursing

students expressed interest in pursuing a teaching career in nursing; however the lack of available doctoral education was identified as a barrier to pursuing a faculty role. In a later section on learning experience variables, more detail about the Seldomridge study is provided. Supports and barriers for pursuit of a faculty role, as perceived by pre-licensure baccalaureate nursing students, are largely unknown. This proposed study sought to discover those variables.

In the education literature from Schutz, Crowder and White's (2001) (N = 49) qualitative study, students identified a combination of family, teachers and friends as their source of support for pursuit of a teaching role. While the data for the study was collected at three points in time over three years, participants were limited to one university. Supporting Schutz et al.'s (2001) findings, Lent et al.'s (2002) qualitative study (N = 31) identified the perceived supports and barriers in selecting and implementing their career choices among college students from a large public university and an intercity technical college. Supports identified, in order of frequency from highest to lowest were: social support from friends and family; personal strengths (such as perceived ability and perseverance); direct experience with career-relevant tasks; role models; goal setting; expected outcomes (beliefs about job opportunities or rewards); and financial support. Barriers identified, in order of frequency from highest to lowest were: financial concerns, personal difficulties (such as depression or time management problems), lack of ability, negative family or friends, life events (such as death of a parent), and lack of exposure to the needed skills. The study methodology was thoroughly described; however the analysis was bereft of participant quotes for understanding how the categories were derived.

Lent et al. (2001) used the data from their qualitative study (N = 111) to create a supports/barriers instrument for investigating the role of supports and barriers among math and science majors based on SCCT. Analysis of the tool confirmed reliability and validity for this

sample. This study also found that: (1) barrier perceptions were lower when supports were higher; (2) barriers and supports were linked to career choice through self-efficacy; and (3) proximal supports and barriers affected career choice by raising or lowering self-efficacy. Lent et al.'s (2003) later study of engineering students (N = 328) at one university found that supports and barriers explained 56% of the variance in the self-efficacy beliefs of SCCT. This study also found that supports created the larger of the paths to self-efficacy; however both supports and barriers were significant (Lent et al., 2003).

Lent et al. (2005) (N = 487) proceeded to determine the applicability of SCCT among engineering students from historically black colleges and universities (HBCUs) (N = 221) and a predominantly white university (PWI) (N = 266) and found that students at HBCUs reported significantly stronger general supports (faculty, peer, family) than those at the PWI and that the support-barrier coefficients were significantly larger at the HBCUs. The authors concluded that the support traditionally offered by faculty in HBCUs, such as same-race mentoring, may have been one of the reasons for this finding. Rivera et al. (2007) (N = 131) also found that as the perception of barriers for career choice increased among Hispanic women at one community college, the participants were more likely to select female dominated careers. In their study, there was no relationship between acculturation, influence of role models and the perception of barriers.

In summary, other than one qualitative study (Seldomridge, 2004), little was found in the nursing literature on supports and barriers for pre-licensure baccalaureate nursing students' consideration of a future faculty role, the subject of this study. There was some evidence that supports (Schutz et al., 2001) and barriers (Rivera et al., 2007) significantly influenced career choice (Lent et al., 2001; Lent et al., 2002; Lent et al., 2003; Lent et al., 2005). Perceived

supports may play a larger role in their impact on career choice than barriers (Lent et al., 2003). Enhancement of support and limitation of barriers may have more impact on career choice, particularly among racial/ethnic minorities (Lent et al., 2005).

Self-Efficacy

Self-efficacy is a set of self beliefs linked to whether one believes one can do a particular activity or achieve a specific outcome (Bandura, 1986; Lent, 2005). It is dynamic, changing with the task one needs to accomplish and is oriented towards what one believes him/herself capable of accomplishing (Bandura, 1994; Lent & Brown, 2006). Perceived ability or the ability to develop the requisite skills is important for individuals to consider the actions necessary to produce a desired outcome (Bandura, 1986). This study defined self-efficacy as the set of beliefs that pre-licensure baccalaureate nursing students have about their capabilities of performing in a future nursing faculty role. Selected studies concerning the impact of self-efficacy on career choice among undergraduates are critically reviewed next.

Little is known about self-efficacy for a future nursing faculty role among pre-licensure baccalaureate nursing students. Three studies (Muldoon & Reilly, 2003; Nugent, Bradshaw, & Kito, 1999; Yang, Kao, & Huang, 2006) were found in the nursing literature related to self-efficacy and career choice. Muldoon and Reilly (2003) (N = 384) found that male nursing students reported higher levels of perceived academic self-efficacy than female nursing students. In this study, academic and occupational self-efficacy were the only significant predictors of careers; but in the analysis, they explained only 14% of the variance. Additionally, self-efficacy for teaching nursing was not included and the study was limited to one school of nursing with less than 10% males in the study population. Nugent et al. (1999) (N = 346) investigated teacher self-efficacy in nursing faculty having less than five years of experience and found that age,

years of teaching and nursing experience were significant for self-efficacy. Similar to Nugent et al., Yang et al. (2006) (N = 266) examined background variables on self-efficacy and job involvement among clinical nursing instructors and found that greater job involvement, higher levels of formal education and increased age were significant in the regression model. Yet these studies on self-efficacy did not include pre-licensure baccalaureate nursing students as the population of interest.

Self-efficacy for career choice was widely studied in the career counseling literature (Lent et al., 2001; Lent et al., 2002; Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Quimby & DeSantis, 2006; Schaub & Tokar, 2005; Williams & Subich, 2006) and overall, found to be linked to most of the variables in SCCT. Self-efficacy was predictive of interests in the activities of the career and career choice goal (Lent et al., 2001; Lent et al., 2003; Lent et al. 2005; Quimby & DeSantis, 2006), supports and barriers for career choice (Lent et al., 2001; Lent et al., 2003; Lent, Lopez, Lopez, & Sheu, 2008), outcome expectations in career choice (Lent et al., 2003) and learning experiences (Schaub & Tokar, 2005; Williams & Subich, 2006).

Lent et al. (2001) (N = 111) tested SCCT's pathway and found that self-efficacy was predictive of interests in the activities of the career and the career choice goal and linked supports and barriers to career choice among math and science students. Studies (Lent et al., 2003; Lent et al., 2005) of engineering undergraduate students further confirmed these results. Lent et al. (2003) (N = 328) established that self-efficacy was linked to interests in the activities of the career and to supports and barriers at one university. In this study, self-efficacy accounted for 38% of the variance in interests in the activities of the career and produced a direct path to the career choice goal and an additional indirect path through interests in the activities of the

career to the career choice goal. Furthermore, Lent et al. (2003) found that, in this study, self-efficacy accounted for 58% of the variance in outcome expectations (benefits and disadvantages of pursuit of a particular career), but the study was limited to one university.

A later study (Lent et al., 2005) tested SCCT among engineering students across three campuses in two historically black colleges and universities (HBCUs) (N = 221) and one predominantly white university (PWI) (N = 266). The study found significantly higher academic self-efficacy was reported by the participants from the HBCUs. Furthermore, the pathway for self-efficacy to interests in the activities of the career was significant (coefficient .54) and was the primary predictor of career choice goals. This leads one to suppose that believing in one's abilities to perform in a career, leads to increased interests and intent in that area. Quimby and DeSantis (2006) (N = 368) also learned that self-efficacy accounted for 23% of the variance in the career choice goal in SCCT among female undergraduates. The study used Holland's typology and the variance reported here is for individuals in the Social classification, which includes nursing and teaching (Holland, 1985).

Lent, Lopez, Lopez and Sheu (2008) expanded the study of SCCT to freshmen, sophomore, junior and senior computing students (N = 1,208) and included participants from 21 HBCUs or 21 PWI universities. They found that self-efficacy was predicted by supports and barriers across different college years of undergraduate students and types of universities. The strengths of this study were the large numbers of participants from multiple universities and the use of structural equation modeling.

Lent (2005) considers the development of self-efficacy as dependent upon previous learning experiences. Studies (Schaub & Tokar, 2005; Williams & Subich, 2006) established that learning experiences were significant predictors in self-efficacy. More detail about these studies

(Schaub & Tokar, 2005; Williams & Subich, 2006) is provided in the section on learning experiences.

Studies (Watt et al., 2007a; Watt, Richardson, & Pietsch, 2007b) from the education literature reference "teacher abilities" instead of self-efficacy. Watt et al.'s (2007a) (N = 245) study of undergraduate and graduate students found that one of the primary motivations for teaching in any one of the prospective STEM (Science, Technology, Engineering, and Mathematics) disciplines was their perceived teaching abilities; however, this study reported only percentages in the data analysis. In another study by Watt et al. (2007b), a tool, the Factors Influencing Teaching Choice (FIT-Choice), was developed to measure the factors influencing the choice to teach for undergraduate teacher education candidates (N = 678) enrolled in a bachelors' program or a master's program at one university in Australia. Perceived teaching ability was the second highest mean, 5.57 and 5.65, respectively, out of a possible 7.0 points.

In summary, there was evidence to support that self-efficacy is significantly related to interests in the activities of the career and intent (Lent et al., 2001; Lent et al., 2003; Lent et al., 2005; Quimby & DeSantis, 2006). The perception of supports and barriers explained much of the variance in self-efficacy (Lent et al., 2003; Lent, Lopez, Lopez, & Sheu, 2008) and affected career choice (Lent et al., 2001; Lent et al., 2005). In two studies about prospective teachers, perceived teaching abilities were important for those entering into the teaching profession (Watt et al., 2007a; Watt et al., 2007b). Self-efficacy in undergraduate students appeared to be significant in SCCT across freshmen, sophomore, junior and senior college years (Lent, Lopez, Lopez, & Sheu, 2008), gender (Quimby & DeSantis, 2006), type of university (as a proxy for race/ethnicity) (Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008), and major (Lent et al., 2001; Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Quimby &

DeSantis, 2006). The studies that explored self-efficacy in career choice used reliable and valid instruments and rigorous statistical analysis, such as structural equation modeling. And finally, self-efficacy was predicted by learning experiences in two studies (Schaub & Tokar, 2005; Williams & Subich, 2006). However, no studies examined the role of self-efficacy among pre-licensure baccalaureate nursing students and its role in pursuit of a future nursing faculty role. The role of learning experiences in career choice is discussed in more detail in the next section.

Learning Experiences

Learning experience variables are the sources of self-efficacy and are defined as (1) personal performance accomplishments; (2) vicarious learning; and (3) social persuasion (Bandura, 1986; Lent & Brown, 2006). In this study, learning experiences were those incidences occurring during nursing school that may support a career choice goal for a nursing faculty role and were described as (1) having had a teaching experience such as in peer teaching; (2) observing a nursing faculty role model; and (3) receiving nursing faculty encouragement to pursue a future faculty role. Studies that described the relationship of learning experience variables and career choice are summarized and critiqued in the following section.

Learning experience variables: Having had a teaching experience. Theorists stated that past performance accomplishments are the most powerful of the learning experience variables (Bandura, 1986; Lent, 2005). In this study, teaching experience was defined as previous experiences that the pre-licensure baccalaureate nursing student has had in a teaching role. Examples of these experiences may be peer teaching, tutoring, serving as a teaching assistant, or other classroom experiences that involve teaching peers. If a nursing student had a teaching experience while an undergraduate, they may be more apt to later pursue a nursing faculty role.

One qualitative study (Seldomridge, 2004) suggested that senior year accelerated baccalaureate nursing students' intent to choose a faculty role was influenced by their faculty shadowing experience in a leadership course during their final semester. Because this study was the only one found in the nursing literature related to this topic, it is discussed in detail. The senior students were paired with one of ten faculty to share clinical teaching for beginning students in the accelerated baccalaureate nursing curriculum over two days. The senior students met with their assigned faculty member to plan and organize a two-day clinical experience for the beginning students. The senior students helped the beginning students collect and organize clinical information, assisted the nursing faculty member with oversight of the beginning students while in their clinical rotation, and led clinical conferences. The senior students kept a reflective journal about their experience and wrote about what they did, how the beginning students responded to their teaching, how challenges were managed by the faculty member, how they would have handled these challenges, what they learned about the faculty role, what characteristics they believed are needed to be an effective teacher, if they would consider teaching, and what would encourage or deter them from teaching. While the article did not identify how the data was obtained for the study, follow-up communication with the researcher clarified that the reflective journals were analyzed by the researcher and that the researcher also interviewed the senior students (L. Seldomridge, personal communication, September 10, 2009).

After the faculty shadowing experience, almost a third (32%) of the 54 participants indicated they would consider teaching as a career; yet almost half (46%) would not and 22% were undecided. Two themes emerged of how beginning nursing students responded to the senior students' teaching: (1) admiration for the senior students' clinical knowledge and skill and (2) appreciation for the collegial support of the senior students. It is unclear as how the data was

obtained from the beginning students or analyzed. The article reported that some of the senior students were flattered that faculty thought they would make good teachers and without this experience, they would not have considered teaching. Furthermore, Seldomridge stated (L. Seldomridge, personal communication, July 13, 2009) that five students continued into graduate study with a goal of teaching nursing and that all of these students stated the importance of opportunities to "practice teach" such as those provided in the shadowing experience. This qualitative study was limited by the small numbers of participants at one school of nursing. Quotes were included in the article to demonstrate how the themes were derived; however, no description of the analysis method of the reflective journals was provided. There was no mention of whether the interviews were transcribed or how the interviews were conducted and later analyzed. Furthermore, the author failed to describe how rigor and trustworthiness were maintained. While there were ten faculty involved in the faculty shadowing experience, it is also not known whether the faculty provided a consistent experience for the senior students. Additionally, the results would have been strengthened if the researcher had inquired about interest in a future nursing faculty role prior to the faculty shadowing experience. This small, promising study described pre-licensure baccalaureate nursing students' interest in a future faculty role after a shadowing experience at one school of nursing, but it did not explore a theory regarding the variables that might influence pre-licensure baccalaureate nursing students towards a faculty role. This paucity of evidence about pre-licensure baccalaureate nursing students' interest and intent for a future faculty role impairs the ability of nursing education to understand how students may view and be attracted to or dissuaded from a future faculty role.

In contrast to the limited research in nursing, there were a few studies in dentistry that reported that dental students who experienced a teaching role were more likely to be interested in

and intend to pursue a future faculty role (Bibb & Lefever, 2002; Rupp, Jones, & Seale, 2006). Bibb and Lefever (2002) (N = 21) found that 20 of 21 students teaching a course for first year dental students indicated teaching in his/her future plans and 100% indicated that teaching a mini-course for first year dental students played a moderate to significant role in their decision to teach. In Rupp et al.'s descriptive study (N = 556), fourth year dental students who had some type of teaching experience, either before or during dental school, were significantly more likely to desire to teach part-time than dental students without this prior experience ($p<.01$). In contrast, another study in dentistry (Haj-Ali, Walker, Petrie, & Steven, 2007) performed a similar investigation, however the number of participants (N = 5) were too small to be of significance and were not included in this review.

In education, Schutz et al. (2001) used a phenomenological approach (N = 49) and found that undergraduate education students became interested in teaching due to past experiences (i.e. teaching in Sunday school) (19%) and the influence of past teachers (18%). Most of the study participants indicated that more than one experience influenced them, such as (1) suggestions by others that they become a teacher, (2) encouragement to become a teacher, (3) role modeling by teachers, and (4) exposing them to teaching experiences. These researchers clearly explained their methodology and used rich quotes, demonstrating how the categories were derived. Other qualitative research findings from Hammond (2002) concurred that graduate students (N = 15) in education are most highly influenced by prior positive teaching experience or teacher-like activities in the past (N = 11). The author concluded that conducting teacher-like activities in a safe setting led to interest in teaching. Additionally, using grounded theory, this researcher also proposed a theory of developing interest in teaching.

When examining the influence of past work experiences on career choice in general, studies from the career counseling literature (Lent et al., 2002; Williams & Subich, 2006) also provided support for this type of learning experience. Lent et al.'s (2002) qualitative study (N = 19) found that direct exposure to work-relevant activities was the most frequently cited category of support for undergraduate career choices. However, the lack of quotes in the study limited the ability to understand how the categories were derived. In one of the few quantitative studies found on this topic among undergraduate college students, Williams and Subich (2006) (N = 350) explored the influence of past learning experiences on career choice at one university. While they found that performance accomplishments most strongly and consistently predicted self-efficacy ($p<.01$), this study focused on RIASEC types across Holland's typologies and was not specific to nursing or teaching.

In summary, this review revealed that the majority of studies on career choice (interest and intent) for a faculty role are qualitative (Bibb & Lefever, 2002; Haj-Ali et al., 2007; Hammond, 2002; Rupp et al., 2006; Seldomridge, 2004). Additionally, there was only one qualitative study (Seldomridge) in nursing that investigated pre-licensure baccalaureate interest and intent for a future faculty position. Seldomridge found that senior pre-licensure baccalaureate nursing students may be more likely to consider a future faculty role after they have been enrolled in a shadowing experience with an experienced faculty member. This finding was supported in other qualitative studies among students in dentistry (Bibb & Lefever, 2002; Rupp et al., 2006) and education (Hammond, 2002; Schutz et al., 2001). Although Hammond proposed a theoretical construct based on his study with education students, most studies outside of career counseling did not use a theoretical basis. Two studies (Lent et al., 2002; Williams & Subich, 2006) in the career counseling literature found a link between self-efficacy, past learning

experiences and career choice; however, the studies were limited to the effects on generalized career choice rather than interest or intent in a nursing faculty role. This study proposed to apply the constructs of SCCT to the career choice of pre-licensure baccalaureate nursing students for a future faculty role.

Learning experience variables: Observing a faculty role model. SCCT posits that vicarious learning is one type of learning experience important for career choice (Lent, 2005). In this study, vicarious learning through observation was defined as the experience of observing a nursing faculty role model. This type of observation may be an important influence on pre-licensure baccalaureate nursing students' consideration and eventual pursuit of a faculty role.

MacKinnon and Leighton (2002) conducted a nationwide survey (N = 1037) to determine variables that influenced physical therapy student' interest in future full-time faculty positions and found that 59% of the respondents expressed an interest in later pursuing a faculty position. The chi-square analysis revealed that learning about a faculty career from a physical therapy faculty member significantly influenced intent for a faculty career. Yet, only 26% of the participants had a faculty member discuss a faculty role as a career option with them. No theoretical base was identified for the study and the reliability or validity of the researcher created instrument was not reported. Other studies (Manuel & Hughes, 2006; Schutz et al., 2001) in education also found that faculty role models were influential for undergraduates choosing teaching as a career. However, these studies were small and descriptive in nature.

Furthermore, one of the most important characteristics for role modeling to be effective is the exposure to role models most similar to oneself (Bandura, 1986; Lent, 2005). Karunanayake and Nauta (2004) (N = 220) learned there was a significant relationship between a college students' race and the race of their identified career role models, even when removing family

members from the analysis. To the contrary, quantitative studies in the career counseling discipline found only small (Quimby & DeSantis, 2006) or insignificant (Williams & Subich, 2006) effects of role models for generalized career choice. Additionally, neither of these studies (Quimby & DeSantis, 2006; Williams & Subich, 2006) was specifically related to nursing or teaching.

In summary, the evidence from these studies regarding the influence of role models on career choice was inconclusive. Several studies indicated the importance of having faculty specifically as role models (MacKinnon & Leighton, 2002; Manual & Hughes, 2006; Schutz et al., 2001). However, none of these studies were in nursing and only one study was related to students in a health field (MacKinnon & Leighton, 2002). Additionally, the study by MacKinnon and Leighton used a researcher created instrument and failed to report its reliability and validity. The other investigations on the influence of role models were qualitative studies (Manuel & Hughes, 2002; Schutz et al., 2001). One study (Karunanayake & Nauta, 2004) described the importance of same-race role models, a difficult proposal in the field of nursing where most nursing faculty are Caucasian. Other rigorously conducted quantitative studies (Quimby & DeSantis, 2006; Williams & Subich, 2006) did not find that role modeling was influential for generalized career choice. However, both of these studies (Quimby & DeSantis, 2006; Williams & Subich, 2006) were related to career choice in general and not specifically for nursing or teaching. While it seems reasonable to believe that faculty role models are highly influential among pre-licensure baccalaureate nursing students towards an eventual faculty role, the evidence is limited. However, this study proposed to include this variable, observation of faculty role models, to determine whether it is influential on pre-licensure baccalaureate nursing students' interest and intent for a future faculty role.

Learning experience variables: Receiving nursing faculty encouragement. This study defined social persuasion as encouragement by a nursing faculty member to consider a future faculty role. The receipt of faculty member encouragement may be an important influence for pre-licensure baccalaureate nursing students' consideration of a future faculty role.

In the previously described study in the section on past teaching experience, Seldomridge (2004) qualitatively (N = 54) examined pre-licensure baccalaureate nursing students' interest and intent for a future faculty role. They only provided anecdotal evidence in their discussion section that some of the students were flattered that faculty thought they would make good teachers and without this experience, they would not have considered teaching. Seldomridge also stated (L. Seldomridge, personal communication, July 13, 2009) that students who later pursued a faculty role indicated how important it was for someone to suggest that they would be a "good teacher".

In MacKinnon and Leighton's (2002) (N = 1037) study, 59% of student physical therapists expressed an interest in pursuing a future full-time faculty position after discussing this as a career option with a physical therapy faculty member. Furthermore, the students identified a physical therapy faculty member as the most influential individual on making a decision to later teach. Yet, only 7.5% of the respondents stated they had been encouraged to teach. This descriptive study was not based on a theory and reliability or validity of the researcher created instrument was not reported. Other qualitative studies (Bieber & Worley, 2006; Schutz et al., 2001) found similar results to support the notion that faculty encouragement is important among students deciding to pursue an eventual faculty role. Furthermore, in Bieber and Worley's (2006) study (N = 34), participants described the most influential encouragement occurring during the undergraduate years with such phrases as [the student] "having what it takes" (p. 1,021).

In summary, several studies suggested that encouragement from a faculty member was important for undergraduates to consider a faculty role (Bieber & Worley, 2006; MacKinnon & Leighton, 2002; Schutz et al., 2001; Seldomridge, 2004). Most of the studies were qualitative (Bieber & Worley, 2006; Schutz et al., 2001; Seldomridge, 2004) or small atheoretical quantitative studies (MacKinnon & Leighton, 2002), that failed to report reliability or validity of their measures.

Outcome Expectations

Outcome expectations are one of the core constructs in SCCT (Lent, 2005). Outcome expectations are the beliefs one has about what will happen if he/she pursues a particular action (Lent, 2005). In this study, outcome expectations were defined as the pre-licensure baccalaureate nursing students' beliefs about the advantages and disadvantages of a nursing faculty role.

Seldomridge's (2004) qualitative study (N = 54), described previously, was the only nursing study found that reported outcome expectations of pre-licensure baccalaureate nursing students for a future faculty role. According to the qualitative analysis, senior pre-licensure baccalaureate nursing students stated that if they chose a faculty role, they would make a huge contribution to the profession and be able to share their love of learning. They stated the disadvantages of assuming a faculty role were: complexity of the role, responsibility and liability, required patience, [low] salary, faculty workload, and the need to obtain clinical experience prior to beginning graduate study.

In contrast, several studies (Manuel & Hughes, 2006; Watt et al., 2007a; Watt et al., 2007b; Williams et al., 2009) examined outcome expectations of undergraduate students enrolled in education. Using an open-ended response questionnaire to ask what influenced participants to teach, Manual and Hughes (2006) (N = 79) found the most common answers were: personal

fulfillment (71%), enjoyment of subject (70%), working with young people (66%), lifestyle (34%) and working conditions (19%). In answer to the study question about their expectations of teaching as a career, 81% of the participants stated they expected the career to be challenging and rewarding and 54% stated the role would be fulfilling. In this study, only descriptive statistics and percentages were reported. Williams et al.'s (2009) grounded theory study (N = 33) found similar categories: "opportunity to serve" and "to be a life-changing individual in someone's' life." Trained researchers led the focus groups and the analysis of the data was thoroughly explained.

Watt et al. (2007a) examined prospective STEM (Science, Technology, Engineering, Math) teachers' (N = 245) motivations for undertaking a teaching career and their perceptions of the teaching profession in one of three Australia universities. In addition to their perception of their teaching abilities (previously discussed in the self-efficacy section), other motivations for teaching were making a contribution, shaping the future of students, enjoying the intrinsic value of teaching, and personal factors (job security, time for family, job transferability). Their negative perceptions were low salary and social status and a heavy workload. While this study also only reported percentages, a subsequent study by Watt et al. (2007b) used the data to develop a tool, the FIT-choice (Factors that Influence Teaching Choice). They piloted FIT-choice with undergraduate teacher education candidates (N = 678) at a university in Australia. Following this study, they replicated their findings at another university (N = 652). Watt et al., (2007b) derived a five-factor solution that explained 64% of the variance for the factors that influenced a teaching choice. The highest means (greater than 5 on a 7- point scale) for influences on choice of teaching career were: perceived teaching ability (previously discussed in the section on self-efficacy), intrinsic career value (interest in and desire to teach), shaping the

future of children/adolescents, making a social contribution, working with children/adolescents and prior teaching and learning experiences (previously discussed in the section on learning experiences). The investigators based their study on Expectancy theory and provided detail about the theory and the factor analysis.

Researchers (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Schaub & Tokar, 2005; Williams & Subich, 2006) in the career counseling area have specifically examined the role of outcome expectations on career choice using SCCT. Lent et al. (2003) tested SCCT in undergraduate engineering students (N = 328) and found that outcome expectations were predicted by self-efficacy. In this study, outcome expectations were measured by statements rated by the study participants as follows: "*I will earn an attractive salary", "I will get respect from other people"*, and "*I will do work that I find satisfying"*. This study was previously discussed in the section on self-efficacy. In another study, Lent et al. (2005) examined the applicability of SCCT among undergraduate students majoring in engineering at two historically black colleges and universities (HBCUs) (N = 221) and one predominantly white university (PWI) (N = 266). Students at both HBCUs reported significantly higher outcome expectations than students at the PWI. Additionally outcome expectations and self-efficacy accounted for 37% of the variation in interests in the activities of the career. The amount of unique variance contributed by outcome expectations was unreported. In contrast to these studies, Lent, Lopez, Lopez and Sheu (2008) tested the applicability of SCCT across gender, college year and type of university for undergraduates majoring in a computing discipline at one of 21 HBCUs or 21 PWIs (N = 1,208). They reported that outcome expectations did not yield significant paths to interests in the activities of the career or career choice goals.

Two other studies (Schaub & Tokar, 2005; Williams & Subich, 2006) examined the associations between outcome expectations and learning experiences. Schaub and Tokar's (2005) study (N = 327) was also guided by SCCT. They found that outcome expectations were significantly affected by learning experiences through self-efficacy. In another study, Williams and Subich (2006) (N = 350) also confirmed that outcome expectations were significantly predicted by learning experiences among undergraduate students and accounted for 10% of the variance in outcome expectations among males and 35% of the variance among females.

In summary, only one study was found about pre-licensure baccalaureate nursing students' outcome expectations for a nursing faculty role (Seldomridge, 2004). In this study, students described advantages of the nursing faculty role as sharing their love of learning and making a significant contribution to nursing. The nursing students perceived the disadvantages of the faculty role as a heavy workload and a low salary. Undergraduate students majoring in teaching expressed similar views of teaching; they chose teaching because it was a good fit for their abilities, for personal fulfillment, to shape the future, to make a contribution, and for personal reasons, such as job security and time for family (Manuel & Hughes, 2006; Watt et al., 2007a; Watt et al., 2007b; Williams et al., 2009). They also perceived the same disadvantages as the nursing students (Watt et al., 2007a).

Additionally, there was some evidence that outcome expectations are affected by self-efficacy (Lent et al. 2003; Lent et al., 2005). One study showed that outcome expectations, in addition to self-efficacy, were related to interests in the activities of the career (Lent et al., 2005). In contrast, another study found that outcome expectations did not create a significant pathway to interests in the activities of the career and career choice goals (Lent, Lopez, Lopez, & Sheu,

2008). Additionally, several studies demonstrated that outcome expectations are affected by prior learning experiences (Schaub & Tokar, 2005; Watt et al., 2007b; Williams & Subich, 2006).

Interests in the Activities Related to a Nursing Faculty Role

Interests in the activities related to a career are defined as the patterns of like, dislike or indifference regarding career-relevant activities (Lent et al., 1994). This study defined interests as the like, dislike or indifference regarding the activities and tasks performed by a nursing faculty member and included developing courses and learning activities, teaching and guiding learners, evaluating learning, advising students, attending a variety of departmental and institutional meetings, serving on various academic and institutional committees, conducting nursing research alone or in collaborative settings, writing and publishing nursing research findings in academic/clinical journals, and attending regional and national professional meetings.

One longitudinal mixed methods study (Park, Chapple, Wharrad, & Bradley, 2007) (N = 130) was found in the nursing literature related to interests for various nursing careers, which included a choice for "teaching/lecturing". They found that interest in "teaching/lecturing" was more attractive at five-six years after graduation, moving up from eighth to fifth in popularity. The study was limited to graduates at one university in the United Kingdom and to open ended responses on a survey. While there was a total of 130 in the study (9-20 responses/year), responses were unable to be obtained for each participant at each time frame. The study also reported only frequencies.

Several studies (Lent et al., 2001; Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Lent, Sheu, & et al., 2008) were found in the career counseling field on interests in the activities of a career among various types of college students and were previously

reviewed. The studies concluded that interests were predictive of a career choice goal and were significant in the structural equation modeling of SCCT.

Conclusion

This chapter summarized the literature relevant to the career choice goal (interest and intent) for a future nursing faculty role among pre-licensure baccalaureate nursing students. In this review, a brief summary of relevant career development theories was discussed, including SCCT. A critique of the literature that focused on the derived constructs and variables from SCCT was included. These constructs and their associated variables included person inputs (age, gender, race/ethnicity), distal background variables (parents' education and occupation), proximal background variables (type of nursing program, educational level and background, support/barriers to pursuing a future faculty role), self-efficacy variables, learning experience variables (teaching experience, observing a faculty role model, receiving faculty encouragement to pursue a faculty role), outcome expectations and interests in the activities related to a nursing faculty role.

It is unknown if the derived constructs and the associated variables from SCCT influence pre-licensure baccalaureate nursing students' choice goal for a future nursing faculty role. Studies (Lent et al., 2005, Lent, Lopez, Lopez, & Sheu, 2008; Schaub & Tokar, 2005; Williams & Subich, 2006) found that SCCT is applicable across genders. Women may be more socialized to choose occupations that are tied to stereotypes about an occupation. This may be true of nursing. While there was scant evidence (Muldoon & Reilly, 2003) to support the supposition that nursing faculty roles are more attractive to women than men, based on the numbers of women in the profession, it can be generalized that nursing and nursing faculty roles are a female dominated profession. Career interests expressed during the teenage and young adult years may

be indicative of later career interests (Hansen, 2005; Mello, 2008). Additionally, students of diverse racial and ethnic backgrounds have similar interests in the activities of a career as Caucasian students (Fouad & Byars-Winston, 2005; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). Some studies (Fouad & Byars-Winston, 2005; Lent et al., 2005) found that students from diverse racial/ethnic backgrounds had more supports and barriers for realizing their career aspirations than Caucasian students; whereas one large multi-site study found no differences (Lent, Lopez, Lopez, & Sheu, 2008).

There was insufficient information to determine the influence of parent education or occupation on choice of teaching as a career (Lease, 2003; Mau & Bikos, 2000; Metz et al. 2009; Williams et al., 2009). It seems clear that nurses who begin their career with a baccalaureate degree are more likely to earn the requisite graduate degree necessary for a future faculty role (Bevill et al., 2007; DHHS, 2010), but it is unknown if career choice for a nursing faculty role is influenced by type of nursing program. Nursing students become more certain about their choice of clinical specialization as they progress through their curriculum (McCann et al., 2010), but nothing is known about their consideration of a future faculty role. Yet, impressions of a future faculty role may be most influential during the undergraduate years (Bieber & Worley, 2006).

Supports and barriers are significant for career choice, primarily through self-efficacy (Lent et al., 2001; Lent et al., 2002; Lent et al., 2003; Lent et al., 2005), but there was little information about self-efficacy for a future faculty role among pre-licensure baccalaureate nursing students. Yet, self-efficacy was shown to be significantly related to interests in the activities associated with a field and career choice goals (Lent et al., 2001; Lent et al., 2002; Lent et al., 2003; Lent et al., 2005; Quimby & DeSantis, 2006) and may be predicted by learning experiences (Schaub & Tokar, 2005; Williams & Subich, 2006). Some evidence suggested that

the provision of teaching opportunities as a learning experience was important for undergraduate students to consider a teaching role (Bibb & Lefever, 2002; Rupp et al., 2006; Schutz et al., 2001; Seldomridge, 2004; Watt et al., 2007b). Additionally, encouragement from a faculty member may also be important to enhance undergraduates' consideration of a future faculty role (MacKinnon & Leighton, 2002; Schutz et al., 2001; Seldomridge, 2004). Role models during the college years were critical in aiding individuals' career choices (Karunanayake & Nauta, 2004; Lent et al., 2002; Quimby & DeSantis, 2006; Williams & Subich, 2006), especially in their career choice goals for a faculty role (MacKinnon & Leighton, 2002; Manuel & Hughes, 2006; Schutz et al., 2001); however, there is little evidence about the influence of a role model for a future faculty role among pre-licensure baccalaureate nursing students. Findings indicated that outcome expectations were also affected by self-efficacy (Lent et al. 2003; Lent et al., 2005), career interests (Lent et al. 2005), and prior learning experiences (Schaub & Tokar, 2005; Watt et al., 2007b; Williams & Subich, 2006). Yet, only one qualitative study was found that investigated the perceptions of pre-licensure baccalaureate nursing students about a future faculty role (Seldomridge, 2004). The career counseling field had numerous studies (Lent et al., 2001; Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Lent, Sheu, & et al., 2008) that found evidence supporting the model of SCCT.

In conclusion, studies on career choice among undergraduate college students were often limited to their respective field of study. Other than studies in the career counseling literature, most of the studies from nursing, the health sciences and education were qualitative or descriptive studies, and the researchers often created their own instruments, did not report reliability or validity, or describe their theoretical framework. This study proposed to change that pattern through the use of theory derivation to determine the applicability of SCCT to pre-

licensure baccalaureate nursing students' considerations for a future faculty role and graduate education.

CHAPTER THREE: METHODS

The purpose of this study was to use the Social Cognitive Career Theory (SCCT) to (1) determine the degree of interest and intent of pre-licensure baccalaureate nursing students for a future nursing faculty role and graduate education; (2) develop and adapt measures for the SCCT constructs that are applicable to the prediction of a nursing faculty career choice goal (interest and intent) in pre-licensure baccalaureate nursing students; (3) assess the psychometric properties and correlations among the measures derived from SCCT; (4) examine whether students indicating a high intention for a faculty role differ from students indicating a low or unsure intention on any of the SCCT constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role); and (5) investigate how well the derived SCCT constructs predict the probability of a survey respondent indicating a career choice goal in pursuing a nursing faculty role and graduate nursing education. The study was unique because of its use of theory derivation of SCCT from the career counseling field to the field of nursing for examining pre-licensure baccalaureate nursing students' career choice goal for a future nursing faculty role and graduate education, an area of growing need. This chapter describes the research design and rationale, sample, operational definitions, measurement, data collection plan, human subjects protection, data analysis plan, and delimitations and limitations of the study.

Research Design

This study used a prospective correlational research design, a nonexperimental methodology. Nonexperimental research is used when little is known about a phenomenon and prior to planning experimental studies (Polit & Beck, 2008). Therefore, this methodology seemed appropriate as a way of providing a beginning understanding of the variables that may

predict nursing students' considerations for a future nursing faculty role and graduate education. Additionally, this study used theory derivation as described by Walker and Avant (2010) to apply derived variables from the SCCT constructs (Lent et al., 1994). Derived SCCT constructs for this study are person inputs, distal and proximal background variables, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role. Lent and Brown (2006) stated that researchers often have to create new measures in order to test the dynamic and situation specific circumstances of individuals. This study used the constructs and associated variables derived from SCCT and added definitions and measures that addressed a career choice goal for a future faculty role and graduate education as follows:

- age as an additional measure of person inputs;
- parent education and occupation as definitions and measures of distal background factors;
- type of baccalaureate nursing program, educational level and background, and additional measures of supports and barriers for proximal background factors;
- researcher created self-efficacy measures for performance in a future faculty role and graduate education;
- learning experience definitions and measures specific to a faculty career choice: having had a teaching experience, observing a nursing faculty role model, and receiving nursing faculty encouragement;
- advantages and disadvantages adapted and added to for a future faculty role as measures of outcome expectations; and
- researcher created measures for interests in the activities of a nursing faculty role.

The first dependent construct conceptually linked with the independent constructs and variables in this study was career choice goal, composed of interest and intent, for a future faculty role. The second dependent variable was the career choice goal for graduate education.

Sample

Participants for this study were a convenience sample of pre-licensure baccalaureate nursing students who were members of the National Student Nurses Association (NSNA) and who had completed a minimum of one semester/quarter of clinical nursing in their nursing program. Staff from the NSNA sent an e-mail to their membership with a link to this study's on-line survey. The NSNA is the professional association for all nursing students nationwide and in selected territories of the United States (NSNA, n.d.). The NSNA has a national membership of 53,000 members and is composed of nursing students who are enrolled in diploma, associate degree, baccalaureate, generic masters, generic doctoral, RN to baccalaureate and pre-nursing students (NSNA). While nursing students from all membership categories may respond to the survey, for the purposes of this study, only the data from students enrolled in pre-licensure baccalaureate programs was analyzed. NSNA offers numerous resources, supports, leadership and information about various career options. The students who chose to respond to this study's survey may be more career and leadership oriented than nursing students in the general population and thus, may not be representative of nursing students in the broader population, a typical problem with convenience sampling.

The criteria for inclusion were enrollment in a pre-licensure baccalaureate or accelerated nursing program and having successfully completed at least one semester/quarter of clinical nursing. The criteria for exclusion included nursing students from all other membership categories: Diploma, associate degree, pre-licensure masters, pre-licensure doctoral, RN to

baccalaureate and pre-nursing students. Analysis of data to test the research questions included four areas: (1) descriptive measures of central tendency; (2) Cronbach alpha reliability coefficients for the measures; (3) bivariate analysis (Chi-square tests for independence, independent-samples t-tests) to address research question four; and (4) logistic regression analysis to answer research questions five and six. Since multivariate procedures are sensitive to small sample sizes and lead to Type II errors (Polit & Beck, 2008), calculation of the minimum sample size required for this study was indicated. There was little to no literature informing this study regarding the potential number of undergraduate nursing students who may be interested in a future nursing faculty role. A similar study (MacKimmon & Leighton, 2002) (N = 1,037) was found in the health sciences literature that inquired about interest in a future faculty role among physical therapy students. These researchers found that 59% (N = 569) of the physical therapy students in the study indicated an interest in a future faculty role. The measure for interest in a faculty role was assessed through a categorical question (Y/N) and was asked as "would you consider pursuing a full time faculty position as some point in the future?" In the nursing literature, Seldomridge's (2004) qualitative study of undergraduate nursing students (N = 54), found that 32% of participants indicated an interest in pursuit of a future faculty role. Additionally, 23 of 116 (20%) of undergraduate nursing students in one university nursing class volunteered to assist with the author's pilot for this online survey once the study's purpose was explained. Using 20% as a proxy, and a more conservative measure than the results of the aforementioned studies (MacKimmon & Leighton, 2002; Seldomridge, 2004) and the need to have at least 50 in the group (Rodeghier, 1997), a goal of 250 respondents from the population of interest was estimated to be required. For a logistic regression, recommendations are that the researcher must have 5 to 20 times as many cases as there are independent variables (Polit &

Beck, 2008). Using this reasoning, a minimum of 90-360 cases are necessary for a regression analysis. For a power analysis of 22 independent variables, a moderate effect size (R^2 = .15), a minimum power of .80, and alpha of .05, a minimum sample size of N = 163 is calculated (Soper, 2010). The goal was to attain at least 300 respondents.

Operational Definitions

Pre-licensure baccalaureate nursing students – Pre-licensure baccalaureate nursing students were defined as students enrolled in baccalaureate and accelerated pre-licensure nursing programs who had completed at least one semester/quarter of nursing school. Completion of at least one semester/quarter provided students with the opportunity for exposure and interaction with nursing faculty.

Person Inputs – The person inputs were defined as: (1) gender (Kaufman, 2010b; Muldoon & Reilly, 2003; NLN, 2007); (2) age (Buerhaus, Staiger, & Auerbach, 2009; NLN, 2009a); and (3) race/ethnicity (AACN, 2010b; Kaufman, 2010b, NLN, 2009a) (see Appendix B).

Distal background variables - The distal background variables were defined as: (1) parent education –highest level of education attained by either parent, and (2) having either parent as an educator, a registered nurse or a health care professional (Lease, 2003; Mau & Bikos, 2000; Metz et al., 2009; Watt et al., 2007a; Williams et al., 2009) (see Appendix C).

Proximal background variables - The proximal background variables were defined as: (1) type of nursing program (Bevill et al., 2007; DHHS, 2010; NLN, 2008); (2) educational level and background (Bieber & Worley, 2006; McCann et al., 2010); and (3) supports/barriers to pursuing a nursing faculty role (Seldomridge, 2004). Supports and barriers questions were measured using an adaptation of Lent et al.'s (2005) questions (see Appendix M). Based on the literature review, two other barrier questions were added with permission (see Appendix N) from

Warren related to family, responsibilities and financing graduate education (Warren & Mills, 2009). Students were also provided with an open-ended response option, "What other situations might arise if you chose to pursue a nursing faculty position?" (see Appendices D and E for the proximal background measures).

Self-efficacy variables - Self-efficacy variables were defined as the beliefs one has about one's capabilities to succeed in a nursing faculty role (Muldoon & Reilly, 2003; Nugent et al., 1999; Yang et al., 2006) (see Appendix F).

Learning experience variables - Learning experience variables were defined as experiences occurring during nursing school as follows: (1) teaching experience such as peer teaching a formal assignment in which you taught a group of classmates), serving as a teaching assistant, peer tutoring (one-on-one study sessions), or other experiences (Seldomridge, 2004); (2) having experiences with a nursing faculty member who serves as a role model for the student in teaching (MacKinnon & Leighton, 2002); and (3) receiving faculty member encouragement to pursue a future nursing faculty role (MacKinnon & Leighton, 2002; Seldomridge, 2004). Observing a nursing faculty role model is measured using adapted questions from the inspiration/Modeling subscale of the Influence of Others on Academic and Career Decision Scale (Nauta & Kokaly, 2001) (see Appendix G).

Outcome expectation variables - Outcome expectations were defined as the student's perceptions about the advantages and disadvantages of a nursing faculty role (Seldomridge, 2004). Outcome expectations were measured using an adaptation of Lent et al.'s (2005) questions, with permission. Based on the literature review, other advantages and disadvantages were added (Manuel & Hughes, 2006; Plunkett et al., 2010; Seldomridge, 2004). Students were

also provided with an open-ended response option, “Please explain any other advantages or disadvantages for you if you became a nursing faculty member” (see Appendix H).

Interest in the activities of a future nursing faculty role - This study defined this variable as the like, dislike or indifference regarding the activities and tasks performed by a faculty member (see Appendix I).

Career choice goal for a future faculty role and graduate education - Career choice goal was defined as interest and intent to pursue a future nursing faculty role and graduate education. Specifically, interest was defined as the feeling of curiosity in a future nursing faculty role and graduate education. Intent was defined as the stated action towards pursuing a future nursing faculty role and graduate education (see Appendix J).

Nursing faculty role - A full-time nursing faculty position was defined as teaching in any type of nursing program that prepares registered nurses (NLN, n.d.) and that requires at least a master’s degree in nursing.

Measurement

This study examined the relationship of the following constructs derived from SCCT in the career counseling field to the field of nursing: person inputs, distal background, proximal background, self-efficacy, learning experiences, outcome expectations, interest in the activities/tasks of a nursing faculty member and career choice goal (interest and intent) for a future nursing faculty role and for graduate education. The measurement of each of these constructs for this study is described next.

Introductory: The introductory questions were two categorical questions asked to determine enrollment in a nursing program and the location (state or territory) of the nursing

program. If the nursing program is an on-line nursing program, the student was also asked to provide their state of residence.

Person inputs: Person inputs were gender, age and race/ethnicity and were composed of four questions. The student was asked to provide gender, age and year of birth, and the racial or ethnic group with whom they most closely identified.

Distal background variables: Distal background variables were parent education and occupation and consisted of the following categorical variables:

1. To determine parent education, the student was asked to identify the highest level of education of each parent. The response options were grammar school through doctorate degree.
2. For parent's occupation, the student was asked to identify each parent's current or previous background as a teacher/faculty or administrator in grammar, high school or college.
3. The student was also asked to identify each parent's current or previous background as a registered nurse or other health care professional. If "other health care professional" was chosen, the student was asked to specify the health care profession. Refer to Appendix C.

Proximal background variables: Proximal background variables were type of nursing program, educational level and background, and supports and barriers for a future nursing faculty role. The variables were measured as follows:

1. The student was asked to select the type of nursing program they attended, for example, associate degree or accelerated pre-licensure baccalaureate. Only data from

students who responded they were in baccalaureate pre-licensure or accelerated pre-licensure baccalaureate programs was analyzed.

2. Because there is considerable variability in length of nursing programs, to determine educational level, the student was asked how many semesters/quarters of clinical nursing he/she had completed and the month and year he/she is eligible to take the licensing examination for registered nurses.
3. To determine educational background, the student was asked to identify the highest academic degree he/she had earned prior to attending nursing school from associate degree to doctorate degree. There was also an "other" option and if the student selected other, he/she was asked to specify the degree.

4-5. Supports and barriers were measured using a 16-item instrument adapted with permission from Lent et al.'s (2005) study. There were nine social and financial supports and seven barrier statements that were measured on a 5-point Likert scale from 1-5 ("not at all likely" to "extremely likely"). The support items were summed and divided by nine to derive an overall support score (range of 1-5) with higher scores indicating more support. The barrier items were also summed and divided by seven to derive an overall barriers score (range of 1-5) with higher scores indicating more barriers. The supports and barriers instrument was used in numerous studies and demonstrated reliability with co-efficient alphas ranging from .82 to .90 for supports and .77 to .84 for barriers (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). Validity was supported through structural equation modeling of SCCT (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). An example of a support option was *to get helpful assistance from your advisor* and an example of

a barrier item was *to receive negative comments or discouragement about the choice from family members.* The adaptations from the original Lent instrument consisted of making the directions clearer for nursing students and wording the questions for career choice instead of college major; for example, *get encouragement from your friends for pursuing this **field*** instead of this ***major***. For clarity, the response items were changed to "not at all likely" and "extremely likely" from the original "strongly disagree" and "strongly agree". Additionally, to better reflect the preponderance of females in nursing and to cover areas not included in Lent et al.'s (2005) study, two additional barrier questions were adapted and added with permission (Warren, 2004). The barrier questions were used in a study of nurses returning to graduate school. In Warren's factor analysis, the highest ranked item in factor one was family responsibilities and the highest ranked item in factor two was financing education with reported reliabilities of .72 to .76, respectively. The items added from Warren's study were *to get encouragement from your friends for pursuing this field* and *to feel that financing graduate education would be difficult*. The open-ended response options were reviewed to determine if the survey included an exhaustive list of all supports and barriers for pursuit of a future nursing faculty role.

Self-efficacy – Self-efficacy is the confidence in the individual's ability to learn to successfully perform in a faculty role and complete graduate education. Self-efficacy was measured using eight researcher-created statements about the role of a nursing faculty member. The student rated his/her ability to learn each of the roles on a 10-point Likert scale from 0-9 ("no confidence" to "complete confidence") with higher scores indicating higher levels of self-efficacy. The items were summed and divided by eight to derive an overall measure of self-

efficacy with higher scores reflecting stronger levels of self-efficacy (range of 0 to 9). Example items are to *rate the level of confidence in your ability to learn to successfully teach in a clinical setting* and *complete a graduate nursing degree at the master's level.* According to Bandura's (2006) *Guide for Constructing Self-Efficacy Scales*, there is no standard measure of self-efficacy and each scale must be tailored to the specific concept of interest. Thus the questions were developed according to the recommendations of Bandura (2006) and Lent and Brown (2006).

Learning experiences – Learning experience variables were the experiences occurring during nursing school as follows: (1) teaching experience such as peer teaching (a formal assignment in which you taught a group of classmates), serving as a teaching assistant, peer tutoring (one-on-one study sessions), or other experiences; (2) observing a nursing faculty role model for the student in teaching; and (3) receiving faculty member encouragement to pursue a future nursing faculty role.

1. Teaching experience -

    a. As a categorical variable, the student was asked if he/she has had any of the following teaching experiences while in nursing school: *peer teaching, serving as a teaching assistant, peer tutoring,* or *other.* If *other* was selected, the student was asked to describe the experience in as much detail as possible.

    b. Depending on the experiences the student has had, the student was asked to rate each of the teaching experiences he/she had while in nursing school (*peer teaching, serving as a teaching assistant, peer tutoring*, or *other*) on a 5-point Likert scale from 1 ("not applicable") or 2-6 ("very negative" to "very positive"). One open ended question was asked: Describe what was positive or negative about the experience in as much detail as possible.

2. Faculty role modeling – Faculty role modeling was measured using the 7-item Inspiration/Modeling subscale of the IOACDS (Influence of Others on Academic and Career Decisions Scale) (Nauta & Kokaly, 2001). The student rated his/her level of agreement with each of the statements from 1-5 ("strongly disagree" to "strongly agree"). Three items were reverse worded and thus were reverse scored during analysis. The scores are summed and divided by seven to derive an overall role model mean score with higher scores indicating stronger perception of role modeling. Reliability for the subscale was established with alpha coefficients ranging from .85 to .91 in separate studies and test-retest reliability confirmed over a 10-week period (Nauta & Kokaly, 2001). Validity for the subscale of the IOACDS was established through positive associations with measures of general support and occupational information and negative association with measures of career indecision (Nauta & Kokaly, 2001). This subscale by Nauta and Kokaly was adapted to make the scale specific to nursing faculty members. For example, the statement, *there is someone I am trying to be like in my academic or career pursuits* was adapted to *there is someone I am trying to be like who is a nursing faculty member.*
3. To measure faculty encouragement, the researcher created two items rated on a 5-point Likert from 1-5 ("strongly disagree" to "strongly agree") with higher scores indicating more faculty encouragement. The items were *I have received encouragement from nursing faculty to pursue a future nursing faculty role* and *I have received encouragement from nursing faculty to pursue graduate education*.

Outcome expectations – Outcome expectations are the student's perceptions about the advantages and disadvantages of a nursing faculty role and were measured using a 20-item

instrument adapted with permission from Lent et al.'s (2005) study. There were 15 advantage items and five disadvantage items and the items were measured on a 5-point Likert scale from 1-5 ("not at all likely" to "extremely likely"). The advantage items were summed and divided by 15 to derive an overall mean advantage score (range of 1-5) with higher scores indicating more advantages. The disadvantage items were summed and divided by five to derive an overall disadvantage score (range of 1-5) with higher scores indicating more disadvantages. The coefficient alpha was reported as .91 to .92 in engineering and computing college students, respectively (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008) and structural equation modeling demonstrated a significant relationship between the measure of outcome expectations and coping efficacy, interests and career choice goals (Lent et al., 2003).

Ten of the outcome expectation advantage questions were from Lent et al. (2005) and examples of the items were *to receive a good job offer* and *do work that I would find satisfying*. The directions for the stems were slightly changed for improved clarity based on the students' suggestions in the pilot, such as *becoming a nursing faculty member would allow me to . . .* Seldomridge's (2004) qualitative study found that undergraduate nursing students reported advantages and disadvantages of a nursing faculty role that were not included in Lent et al.'s work and these six items were added to the scale and similarly measured. An example of an advantage items was, *make a contribution to nursing* and an example of a disadvantage item was *have a heavy workload*. A qualitative study by Manuel and Hughes (2006) on why college students were attracted to a teaching role also revealed items not in the original scale of outcome expectations and three additional items were added. An example of one of the items was *have a lifestyle conducive to having/caring for a family*. Additionally, one item was added, *have to earn a graduate degree*, based on a study of baccalaureate nursing students' intent to pursue graduate

studies (Plunkett et al., 2010). The open-ended response options were reviewed to determine if the survey included an exhaustive list of all outcome expectations for pursuit of a future nursing faculty role.

Interests in activities of a nursing faculty role – Interests in activities of a nursing faculty role is the like, dislike or indifference of the activities performed in a nursing faculty role. This variable was measured using nine statements created by the researcher of activities performed in a nursing faculty role that the student rates on a 5-point Likert scale from 1-5 ("very low interest" to "very high interest"). The responses were summed and divided by nine (range of 1-5) to derive an overall interest in career activities score, with higher scores indicating more interest in the activities performed in a nursing faculty role. Examples of the statements were *developing courses and learning activities* and *advising students*.

Career choice goal for a future nursing faculty role and graduate education - Career Choice Goal is the interest and intent for a future nursing faculty role and graduate education and was measured through eight questions developed by the researcher as follows:

1. Interest – The student was asked to rate his/her level of current interest in a future nursing faculty role and graduate education on a 5-point Likert scale from 1-5 ("very low interest" to "very high interest") with higher scores indicating more interest.
2. Intent – The student was asked to rate his/her level of agreement on intent to pursue a future nursing faculty role and graduate education on a 5-point Likert scale from 1-5 ("strongly disagree" to "strongly agree") with higher scores indicating stronger intent.
3. For those students who express intent for a future faculty role, the student was asked the number of years he/she would need to work as a clinical nurse prior to becoming faculty, the anticipated number of years prior to pursuit of graduate education and the

highest academic degree he/she expected to receive in the future. The student was also asked if taking the survey had increased his/her interest in a future nursing faculty role and if he/she could be contacted yearly by email to learn about career and graduate education plans. Refer to the variables and measures summary in Table 2.

Pilot Study

The online survey was developed using the recommendations of Dillman, Smyth, and Christian (2009). Since the survey was a combination of researcher created questions and instruments from other studies that had been administered in paper and pencil format with non-nursing participants, a pilot was necessary to determine the survey's clarity (Dillman et al., 2009). It was also necessary to determine the approximate amount of time for participants to complete the survey. Additionally, since the survey was to be administered electronically, the functionality of the software must be assessed (Dillman et al., 2009). After Institutional Review Board approval, students from a senior nursing class from a traditional baccalaureate nursing program at a southeastern university were recruited to take the online survey at the end of a class period. All students returned a recruitment form, checking whether they were or were not interested in piloting the survey. Of the 116 recruitment forms returned, 23 (20%) of the nursing students volunteered to pilot the online survey. Five of the 23 students who volunteered were randomly chosen and arrangements were made to meet with them in groups of one to two students to observe their interaction with the online survey. Observing participants while they completed this online survey is one way to determine how the online tool functions (Dillman et al., 2009). Students were asked to inform the researcher if they had any questions or were unclear about any information or if they had any recommendations/suggestions to improve the

Table 2

Variables and Measurement

Independent Variables	Instrument	How Measured
Person inputs:		
Gender	Question	Female=1; Male=2
Age	Question	Data entry
Race/ethnicity	Question	Caucasian=0; not Caucasian=1
Distal Background:		
Each parent's education	Categorical	Each parents' education, 0-10 for each parent
Each parent's teaching occupation	Categorical	Not teaching=0; teaching=1
Each parent's health occupation	Categorical	Not health care=0; health care=1
Proximal Background:		
Type of nursing program	Categorical	Baccalaureate=0; Accelerated=1
Number of clinical semesters/quarters completed	Question	0 to 5 or more
Other academic degrees	Categorical	AS=0; BS=1; MS/PhD=2
Supports	Lent (9 items) & open-ended response option	1=low to 5=high (scores are summed & divided by 5)
Barriers	Lent/Warren (7 items) & open-ended response option	1=low to 9=high (scores summed & divided by 7)
Self-efficacy:	9 items (Bandura/Lent)	0=low to 9=high (scores summed & divided by 9)
Learning experiences:		
Teaching experience types	Categorical	Peer teaching=0; teaching assistant=1; peer tutoring=2; other=3
Negative/positive experience	3 items	1=NA; 2=low to 6=high
Faculty role model	Inspiration/Modeling subscale IOACDS (7 items)	1=low to; 5=high (scores are summed & divided by 7)
Faculty and graduate education encouragement	2 questions	1=low; 5=high

Table 2 (*continued*)

Outcome expectations:		
Advantages	Lent; Seldomridge; Manual & Hughes (15 items) & open-ended response option	0=low to 5=high (scores summed & divided by 15)
Disadvantages	Seldomridge; Manual & Hughes; Plunkett, Iwasiw, & Kerr (5 items) & open-ended response option	0=low to 5 =high (scores summed & divided by 5)
Interests in Activities/Tasks:		
Interest faculty role	9 items	1= low to 5=high
Interest graduate school	Question	1= low to 5=high
Intent faculty role	Question	1=low to 5=high
Intent graduate school	Question	1= low to 5=high
Years to work	Question	NA, 1-20
Years until graduate school	Question	NA, 1-20
Highest academic degree	Question	BSN=1; BS=2; MSN=3; MS=4; PhDNurs=5; PhD=6; Other=7
Survey increased consideration	Question	1= low to 5=high

survey. When students seemed confused or asked the intent of a question, the researcher asked such questions as “What does it seem to say to you?” and “What do you think would make it clearer?” The researcher took notes on the student responses and recorded the amount of time each student took to complete the survey. Once the evaluation session ended, students were given a $10 gift card in appreciation of their time and feedback. Students were also asked about the type of incentive that would appeal to students in the larger study. Suggestions ranged from making personal appeals to the potential participants to prize drawings and gift cards. Given the difficulties of prize drawings and gift cards in an anonymous online survey, Henning (2009) suggests investigating the motivations for the specific target audience. The researcher asked the students in the pilot if making a charitable donation for each student who completed the survey to a maximum of $500 would serve as motivation. All students in the pilot agreed this would be motivating and one student suggested that the researcher allow the respondents a choice among several charities and then allocate the appropriate percentage of $500 for those choosing each charity. This suggestion was accepted by the researcher.

The nursing students in the pilot were all female, mean age 21.6, and four of the five students were Caucasian and one was Latino/Hispanic. The majority of their fathers had a high school education, were not a teacher/faculty member or administrator and not a health care professional. The mothers had some post high school education, were not a teacher/faculty member or administrator and only two of the participants had mothers who were in the health care profession, but not registered nurses. Because the purpose of this small pilot study ($N = 5$) was to inform the researcher about the acceptability of the instrument, analysis of the data was not attempted. Results of the survey analysis showed that all of the students found the online interface easy to use. The mean amount of time to take the survey was 17 minutes (range 10-32

minutes), which included discussion time of the students' feedback. Three students asked questions and made suggestions about the questions on parent's education, the definition of peer teaching and the meaning of "assume" in "assume you want to become a faculty member" from a question stem. Two students also offered suggestions to improve the survey's functionality, such as adding spacing between the directions and the questions and a progress bar that shows the percentage of the questionnaire that has been completed.

Data Collection

Data was collected using an online survey. College students are usually comfortable with technology (Amar, 2008) and this method provides access to large numbers of nursing students nationwide. The software for developing the online survey was *Qualtrics*™. *Qualtrics*™ is a research based online survey software package available to East Carolina University students and faculty (ECU, n.d.) and allowed the user to develop, send and analyze the results of the data or import the data into the *Statistical Package for Social Sciences (SPSS*®) (*Qualtrics*™, n.d.).

Having a source familiar with the target audience distribute or endorse the online survey is thought to increase the potential participants' response rates (Amar, 2008). Thus, the National Student Nurses Association was contacted and agreed to send out the survey link to their membership for a fee. According to the recommendations of Dillman et al. (2009), the email also included an appeal for assistance, why nursing students were selected, the survey link and how to access it, the confidentiality and voluntary nature of the survey, the researcher's contact information, an advance thank you and the significance and importance of the survey to nursing education and the nursing profession. Additionally, the email notification contained the deadline date for the survey's completion, the incentive for participation and how the study contributes to the science of nursing. While the optimum time for online survey responses has not been

determined, results seem to arrive within 14 days of implementation (Dillman et al., 2009). In one study (Deutskens, Ruyter, Wetzels, & Oosterveld, 2004), 20% of the results arrived within 6.6 days and in another study (Bosnjak & Tuten, 2003), the response rate varied between 4.34 and 6.53 days, depending upon the incentive offered. Thus, this survey was available for a two-week period of time.

While the use of incentives to increase response rates in mail surveys has been clearly recognized, the format for giving incentives for web-based surveys has not been established (Dillman et al., 2009). One of the major difficulties in providing incentives for web-based surveys is the practical nature of maintaining anonymity of the study participants because providing the incentive necessitates having the study participants' contact information. In a recent review of the literature by Edwards, Roberts, Clarke, DiGuiseppi, Wentz, and et al. (2009), there was no evidence to support the use of monetary incentives over non-monetary incentives. Henning (2009) recommended that offering a large number of small and relevant incentives increased the participants' response rates. With this in mind, those who complete this researcher's survey were able to select a charity among three choices to receive a donation. The researcher divided a total of $500 among three charities in proportion to the nursing students' responses. For example, if 50% of the students designated charity #1, then that percentage of $500 was provided to that charity (see Appendix K for the email invitation).

Protection of Human Subjects

This research study was approved by the Institutional Review Board of East Carolina University prior to its implementation. The email notification informed potential student participants that completion of the survey was voluntary and anonymous and that there was no risk associated with participation in the study. Once the student clicked on the link to enter the

survey, the first screen provided more specific information about the survey. Clicking the link served as consent for the individual's participation in the study (see Appendix L for the initial survey screen information).

Data Analysis Plan

The data was exported from *Qualtrics*™ to the *Statistical Package for Statistical Analysis (SPSS®),* version 18, for analysis. First, all the study variables were analyzed for missing data. For categorical variables, frequency distributions were generated and analyzed. For continuous variables, summary statistics such as mean, median, and standard deviation were generated and analyzed. In addition, histograms were generated and analyzed for departures from normality and potential outliers. Next, the sample was compared with national data, where available, to determine how representative the study sample was of the U. S. population of nursing students with regard to gender, age and ethnicity. The next step involved manipulating the raw data by creating scale scores, creating categorical variables, and reducing categories of any categorical variables where there were low or zero counts. Descriptive analysis techniques were used to answer the research questions related to the percent of pre-licensure baccalaureate nursing students having an interest and intent for a future nursing faculty role and graduate education. Chi-square statistical tests were used to compare the differences between pre-licensure nursing students with high and low/unsure intention to pursue a future nursing faculty role and graduate education on the categorical variables in the SCCT constructs as follows: person inputs (gender, race/ethnicity, distal background (parent education and occupation), proximal background (type of nursing program, level of education, educational background), learning experience (types of teaching experience). Independent-samples t-tests were used to compare the differences between the students with high and low/unsure intention to pursue a future nursing faculty role and

graduate education on the continuous variables in the SCCT constructs as follows: nursing faculty role and graduate education: person inputs (age), proximal background (supports and barriers), self-efficacy (faculty role, completion of a master's degree, completion of a doctoral degree), learning experience (positivity of teaching experiences, observing a faculty role model, receiving encouragement to pursue a faculty role), outcome expectations (advantages and disadvantages), and interest in the activities/tasks of a faculty role. All summative scales were analyzed for internal consistency using Cronbach's alpha for the derived SCCT construct measures: proximal background (supports and barriers), self-efficacy (faculty role), outcome expectations (advantages and disadvantages), and interests in the activities of a nursing faculty role. The open-ended response options for supports and barriers and outcome expectations were reviewed to determine if all potential response options were included in the survey. A binary logistic regression model was computed and analyzed to determine the contribution of the independent variables to interest and intent for pursuit of a future faculty role and graduate education. All independent variables with a significance of $\leq .25$ were included in the multivariate logistic regression to determine the contribution of the independent variables to interest and intent for a future nursing faculty role and graduate education. Statistical significance was assessed with a p-value $\leq .05$.

Methodological Delimitations and Limitations

This study was delimited to the convenience sample of nursing students who belong to the National Student Nurses Association (NSNA) and who chose to respond to this survey within a two-week time frame. The study design limited analysis of the data to students who were enrolled in baccalaureate and accelerated baccalaureate nursing programs. Additionally, because

the survey was web-based, only students who had technological access to the survey were able to respond.

A few limitations existed in the design of the survey questionnaire itself using *Qualtrics™;* however, when the instrument was tested in a pilot study, the students reported the items were clear. Many of the questions were adapted with permission from Lent who conducted a study of career choice in engineering undergraduates (Lent et al., 2005). Other questions were adapted from Nauta (permission not required) who developed the Inspiration/Modeling subscale of the IOACDS (Influence of Others on Academic and Career Decisions Scale) (Nauta & Kokaly, 2001). But some of the questions were created for this survey by the researcher, in particular the self-efficacy questions, and thus had not been tested for reliability or validity. Second, previously used scales and subscales were in paper and pencil versions rather than electronically and, according to Dillman et al. (2009) care must be taken to make sure the translation to a web format is consistent with the original survey design. To address this translation, a pilot study was conducted to determine if the change to the electronic format was understandable by nursing students. And finally, Dillman et al. (2009) recommended at least three contacts with study participants to increase survey response. However, NSNA limited notification of the survey to one time. Despite these limitations and delimitations, this survey was seemingly the first of its kind for the population of pre-licensure baccalaureate nursing students. The researcher tested the survey in a pilot study with pre-licensure nursing students to determine their ease in completing the online survey, its readability, and the amount of time for completion (an average of 17 minutes). The researcher used the pilot groups' suggestions for further refinement to the survey and the best method for providing an incentive to potential

respondents. And finally, a national sample of pre-licensure baccalaureate nursing students provided responses to the survey and a rigorous statistical analysis was conducted.

Summary

SCCT provided the theoretical basis for derivation of the constructs and the associated variables to examine pre-licensure baccalaureate nursing students' pursuit of a future nursing faculty and graduate education. This chapter described the application of the derived SCCT constructs and variables to the study research design. The study used a prospective correlational design, a non-experimental approach, with a convenience sample of undergraduate nursing students who belonged to the National Student Nurses Association. The operational definitions and the measures were described and the questions for the web-based survey were included in the Appendices. The plan for collection of data and the analysis of the data was described, which included descriptive, Chi-square analysis, independent-samples t-tests, correlational and binomial logistic regression analysis. Lastly the limitations and delimitations of the study design were incorporated. The next chapter, Chapter Four, reports the findings of the study of pre-licensure baccalaureate nursing students' career choice goal for a future faculty role and graduate education according to the derived constructs and associated variables of Social Cognitive Career Theory (SCCT).

CHAPTER FOUR: RESULTS

The purpose of this chapter is to report the findings of the study of pre-licensure baccalaureate nursing students' career choice goal for a future faculty role and graduate education according to the derived constructs and the associated variables of Social Cognitive Career Theory (SCCT). The first section is an evaluation of the study sample representativeness made by comparing characteristics of the sample by SCCT person inputs (demographics) of nursing students against the national population data of nursing students. The first section also describes the characteristics of the study sample according to the other constructs of SCCT (distal and proximal background variables, self-efficacy, learning experiences, outcome expectations and interests in the activities of a nursing faculty role). Next, the research questions are addressed. The second section discusses the findings of research question one, what is the degree of interest and intent of pre-licensure baccalaureate nursing students in pursuing a future nursing faculty role? The third section addresses research question two, what is the degree of interest and intent of pre-licensure baccalaureate nursing students in pursuing graduate education? The fourth section, research question three, describes the findings of the psychometric properties of the multiple item measures of SCCT constructs (supports and barriers to pursuing a faculty role; self-efficacy; outcome expectations advantages and disadvantages; faculty role model; and interests in the activities/tasks of a faculty role) for those intending and not intending to pursue a future faculty role. This section also describes the nursing students' open-ended responses to support and barriers and outcome expectations to determine if a complete list of items in these scales was included in the survey. The fifth section, research question four, tests the associations of the SCCT constructs (person inputs, distal and proximal background variables, self-efficacy, learning experiences, outcome expectations, and interests in

the activities of a nursing faculty role) and the associated variables and the principal outcome variable, students with a high or very high intent for a future nursing faculty role compared to students with a very low, low and low/unsure intention for a future nursing faculty role. The sixth section, research question five, presents the logistic regression of the SCCT constructs (person inputs, distal and proximal background variables, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role) and the associated variables for predicting the likelihood of a student respondent reporting an intention to pursue a future nursing faculty role. Research question six also uses SCCT constructs (person inputs, distal and proximal background variables, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role) in a logistic regression for predicting another dependent variable, the likelihood of a student respondent reporting an intention to pursue graduate education.

The following section compares the characteristics of the study sample demographics with national data. In keeping with SCCT, the study sample characteristics are named person inputs. Additionally, this section describes the other characteristics of the study sample by the SCCT constructs (distal and proximal background variables, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role).

Sample

The target population for this study was all pre-licensure students in a baccalaureate or accelerated nursing program in the United States and its territories. The accessible population was 36,000 student nurse members who were sent a link to the online questionnaire by a representative of the National Student Nurses' Association (NSNA). Consent was implied when the student clicked on the survey link. A total of 2,320 eligible student nurses responded with

1,119 in the intended sample. Of the 1,119 respondents, 41 students were not eligible for the study, which included students who were not eligible to take the licensing examination to become a registered nurse (n = 9); students who were not currently enrolled in a nursing program (n = 13); and students who did not complete all of the survey items (n = 19). This left a total of 1,078 students in the final sample. The final sample included students who lived in 46 states and included students from the District of Columbia, Guam and Puerto Rico. The states with the highest percentage of students were from Pennsylvania (7.2%, n = 78), California (7%, n = 76) and Michigan (6.5%, n = 70). The states with the lowest percentage of students were from Guam (0.2%, n = 2), New Mexico (0.2%, n = 2), West Virginia (0.2%, n = 2), Maine (0.1%, n = 1) and Puerto Rico (0.1%, n = 1). There were no students from Alaska, Delaware, Rhode Island, or Wyoming.

Person Inputs

The person inputs in this study were defined as gender, age and race/ethnicity. Overall, the students were more likely to be more female, Caucasian and older than the national population of nursing students (Fang et al., 2011; NLN, 2009c, 2009d, 2009e). The mean age of the students was 26.85 (SD = 8.38, range: 18-63). Males who responded to the survey were older (M = 30.26, SD = 9.19, range: 18-54) than the females (M = 26.53, SD = 8.23, range: 18-63). As a group, males were more likely to be from a non Caucasian racial/ethnic background than females (83.2% vs. 72.5%). Students, less than 25 years of age, were more likely to be female and Caucasian. Refer to Table 3 for the demographic characteristics of the study sample compared to the national data on undergraduate nursing students.

Table 3

Descriptive Summary of Person Inputs in SCCT: Comparison of the Characteristics of the Sample with National Data

Characteristic	Sample (*n)* (in order of frequency)	Sample (%)	AACN (%)	NLN (%)
Gender				
Female	987	91.6	87.7	88.0
Male	91	8.4	12.3	12.0
Total	1,078	100.0	100.0	100.0
Age				
≤ 25	660	61.2	-	70.0
26-30	157	14.6	-	16.0
31-40	162	15.0	-	10.0
≥ 41	99	9.2	-	4.0
Total	1,078	100.0	-	100.0
Race/ethnicity				
Caucasian	887	82.3	73.2	71.3
Asian/ Native Hawaiian/ Pacific Islander	67	6.2	8.4	7.4
African American	55	5.1	10.9	14.0
Hispanic/Latino	37	3.4	6.8	6.5
American Indian/ Alaska Native	4	0.4	0.6	0.8
Mixed Race	28	2.6	0	0
Missing	0	0	0.1	0
Total	1,078	100.0	100.0	100.0

Note. Missing data is indicated with a dash.

Distal Background

The distal background variables in this study were defined as parent education and occupation. Overall, the students' parents were more likely to have a baccalaureate degree and to not be a teacher/faculty or administrator or a health care professional. The students who had parents with a baccalaureate degree comprised the largest percentage of respondents (fathers: *n* = 273, 25.3%; mothers: *n* = 283, 26.4%), followed by students whose parents were high school graduates (fathers: *n* = 237, 22.0%; mothers: *n* = 204, 19.0%). Most of the students' parents were not teachers (fathers: *n* = 974, 90.4%; mothers: *n* = 860, 79.8%). Additionally, the majority of the students' parents were not health care professionals; however, the mothers were somewhat more likely to be a health care professional than the fathers (fathers: *n* = 997, 92.5%; mothers: *n* = 802, 74.4%). If the mother was a health care professional, she was more likely to be an "other health care professional" (*n* = 160, 14.8%) than a registered nurse (*n* = 116, 10.8%).

Proximal Background

In this study, the proximal background variables were: (1) type of nursing program (baccalaureate, accelerated baccalaureate); (2) educational level (number of semesters completed) and background (previous academic degrees); and (3) supports and barriers to pursuing a future faculty role. There were 1,078 students in the analysis.

Type of nursing program. The majority of the students were enrolled in a baccalaureate program (*n* = 949, 88%) and the remainder were in an accelerated baccalaureate program (n = 129, 12%). Of the 129 students in an accelerated program, 76% had a prior baccalaureate or master's degree. Students were predominantly in nursing programs that delivered the curriculum face-to-face (*n* = 1,014, 94.1%).

Educational level. Students had completed an average of 3.6 semesters (*SD* = 1.65) of their nursing program. The highest percentage of semesters they had completed was two (*n* = 221, 20.5%).

Educational background. Thirty-nine percent (*n* = 419) of the students had completed a degree prior to entering the nursing program. Of those who had completed a degree, the majority had completed a baccalaureate degree (*n* = 268, 63.9%).

Supports and barriers. Supports and barriers were defined as the supportive or barrier influences for pursuit of a future nursing faculty role. All students (*N* = 1,078) answered the supports and barriers items. The total mean for supports was 3.96 (*SD* = 0.64, range: 1-5). For supports, students rated "to feel support for this decision from important people in your life (e.g., faculty)" (*M* = 4.25, *SD* = 0.87) the highest and "to feel that there are people 'like you' in this field" (*M* = 3.63, *SD* = 1.04) the lowest. For barriers, the overall mean was 2.11 (*SD* = 0.61, range: 1-5). Among the barriers, students rated "to feel that financing graduate education would be difficult" (*M* = 3.52, *SD* = 1.33) the highest and "to receive negative comments/discouragement about your choice from your friends" (*M* = 1.36, *SD* = 0.80) the lowest.

Self-Efficacy

This study defined self-efficacy as the set of beliefs that pre-licensure baccalaureate nursing students have about their capabilities of performing in a future nursing faculty role. Students were asked to rate their level of confidence in their ability to learn to become a nursing faculty member. All students (*N* = 1,078) responded to the self-efficacy items. Overall, students were confident in their ability to learn to become a nursing faculty member and in their ability to be successful in graduate education. The overall mean for self-efficacy for a future nursing

faculty role was 6.28 (*SD* = 1.62, range: 0-9). The overall mean for self-efficacy for confidence in their ability to complete a graduate nursing degree at the master's level was 7.63 (*SD* = 1.82, range: 0-9) and to complete a graduate nursing degree at the doctoral level was 6.12 (*SD* = 2.51, range: 0-9). Students rated "serve as an advisor to students" (*M* = 6.97, *SD* = 2.00) the highest and to "conduct research" (*M* = 5.17, *SD* = 2.61) the lowest.

Learning Experiences

Learning experiences were defined as experiences occurring during nursing school related to the faculty role: (1) teaching experience such as peer teaching, serving as a teaching assistant, peer tutoring, or other teaching experiences; (2) observing a nursing faculty member who serves as a role model for the student in teaching; and (3) receiving encouragement from a nursing faculty member to consider a future nursing faculty role. Each of these is discussed.

Teaching experience. Overall, the most common teaching experience was peer teaching, "a formal assignment in which you taught a group of classmates" (*n* = 662, 61.4%) followed by peer tutoring, "one-on-one study sessions" (*n* = 564, 52.3%). Less common experiences were "serving as a teaching assistant" (*n* = 168, 15.6%) and "other teaching experiences" (*n* = 81, 7.5%).

Students were asked to rate the positivity of each of the teaching experiences they had had (peer teaching, peer tutoring, serving as a teaching assistant and other teaching experiences) as 1 (not applicable) or from 2 (very negative) to 6 (very positive). Overall, all students rated each of the teaching experiences as very positive. "Other teaching experiences" were rated the highest (*n* = 78, *M* = 5.37, *SD* = 0.80), followed in order by "peer tutoring" (*n* = 549, *M* = 5.31, *SD* = 0.63), "serving as a teaching assistant" (*n* = 164, *M* = 5.29, *SD* = 0.75) and "peer teaching" (*n* = 661, *M* = 5.19, *SD* = 0.64).

Faculty role model. In this study, having a faculty role model was defined as having experiences with a nursing faculty member who serves as a role model for the student in teaching. All students (*N* = 1,078) responded to the role model items. Overall, students were positive about the role model influence of nursing faculty. To calculate the total role model mean, the negative items were reverse coded, which resulted in an overall mean of 3.76 (*SD* = 0.76, range: 1-5). The students' most positive response was to the statement, "There is someone I admire among the nursing faculty" (*M* = 4.26, *SD* = 0.82). Students disagreed with the negative comments about nursing faculty and were most strongly in disagreement with the statement, "Among the nursing faculty, there is no one who inspires me" (*M* = 1.78, *SD* = 0.95).

Faculty encouragement. Faculty encouragement was defined as receiving encouragement from a nursing faculty member to consider a future nursing faculty role and graduate education. All students (*N* = 1,078) responded to these items.

Encouragement to pursue a future nursing faculty role. Largely, students responded that they had been encouraged to pursue a future faculty role (*M* = 3.24, *SD* = 1.17, range: 1-5). The highest percentage of students (*n* = 475, 44.1%) strongly agreed or agreed with the statement, "I have received encouragement from nursing faculty to pursue a future nursing faculty role," followed by students (*n* = 307, 28.4%) who strongly disagreed or disagreed with the statement. The lowest percentage of students neither agreed nor disagreed with the statement (*n* = 296, 27.5%).

Encouragement to pursue graduate education. As a total, students responded that they had been encouraged to pursue graduate education (*M* = 3.97, *SD* = 1.06, range: 1-5). The highest percentage of students (*n* = 797, 73.9%) strongly agreed or agreed with the statement, "I have received encouragement from nursing faculty to pursue graduate education," followed by

students (*n* = 165, 15.3%) who neither agreed nor disagreed with the statement. The lowest percentage of students (*n* = 116, 10.7%) strongly disagreed or disagreed with the statement.

Outcome Expectations

In this study, outcome expectations were defined as the pre-licensure baccalaureate nursing students' beliefs about the advantages and disadvantages of a nursing faculty role, should they become a faculty member. The overall mean for all advantages was 3.71 (*n* = 930, *SD* = 0.74, range: 0-5). Students rated the following advantages the highest: "make a contribution to nursing" (*n* = 1,075, *M* = 4.12, *SD* = 0.98) and "do work that can make a difference in people's lives" (*n* = 1,074, *M* = 4.10, *SD* = 1.02). Additionally, students rated "to earn an attractive salary" (*n* = 1,063, *M* = 2.69, *SD* = 1.39) the lowest.

Students rated "have to earn a graduate degree" (*n* = 1,074, *M* = 4.31, *SD* = 1.04) the highest disadvantage, yet most students indicated an intention to pursue graduate education (to be discussed later in this chapter). Because of the high intention to pursue graduate education, "have to earn a graduate degree" was removed from the analysis. Subsequently, the overall disadvantages had a mean of 2.66 (*n* = 826, *SD* = 0.73, range: 0-5). Also after removal of "have to earn a graduate degree," "have a workload that is too heavy" (*n* = 1,058, *M* = 2.32, *SD* = 1.30) was the next highest rated individual item. Students did not indicate that a faculty role would be too much responsibility, too much liability or that the role would be too difficult. The students rated "find that the job is too complex" (*n* = 1,068, *M* = 1.82, *SD* = 1.15) the lowest of the disadvantage items.

Interests in Activities/Tasks of a Faculty Role

This study defined interests as the like, dislike or indifference regarding the activities and tasks performed by a nursing faculty member. Students were asked the amount of interest they

had in nine different activities/tasks of a faculty member with very low interest = 1 and very high interest = 5. The overall mean for interests in the activities/tasks of a faculty role was 3.16 (n = 813, SD = 0.92). Students rated "advising students" (n = 1,065, M = 3.53, SD = 1.36) and "teaching and guiding learners" (n = 1,063, M = 3.38, SD = 1.36) the highest. Students were least interested in "conducting research alone or in collaborative settings" (n = 1,058, M = 2.42, SD = 1.57) and in "writing and publishing nursing research findings in academic/clinical journals" (n = 1,048, M = 2.17, SD = 1.54).

To summarize, the descriptive data of each of the SCCT constructs and the associated variables show that, for person inputs, there was a higher percentage of student nurses in the sample that were female, older and Caucasian than the normative data on baccalaureate nursing students from the American Association of Colleges of Nursing [AACN] (Fang et al., 2011) and the National League of Nursing [NLN] (2009c, 2009d, 2009e) indicates. For the distal background variables, the students' parents were more likely to have a baccalaureate degree and to not be a teacher/faculty/administrator or a health care professional. According to the proximal background variables, most respondents were from a baccalaureate nursing program and had completed an average of 3.6 semesters of the nursing program. Additionally, the students rated supports high and barriers low for pursuit of a faculty role. For the self-efficacy variables, students had high self-efficacy for their ability to learn to be a faculty member and for pursuit of graduate education. According to the past learning experience variables, a majority of the students had some type of previous teaching experience, rated the receipt of role modeling highly and had been encouraged to pursue a faculty role and graduate education. For the outcome expectation variables, students in the sample rated the advantages high and the disadvantages low for becoming a future faculty member. According to the interests in the activities/tasks of a

faculty role variable, interest was rated moderately high. The next section describes the findings of research question one, what is the degree of interest and intent of pre-licensure baccalaureate nursing students in pursuing a future nursing faculty role.

Research Question One: Interest and Intent (Career Choice Goal) of Pre-licensure Baccalaureate Nursing Students in Pursuing a Future Nursing Faculty Role

In this study, interest was defined as the feeling of curiosity in a future nursing faculty role and intent was defined as the stated action towards pursuing a future nursing faculty role. Interest is a theoretically derived concept and is the underlying element in goal formation for a career (Lent et al., 1994). One may have an interest in a career, but choose not to pursue it for a variety of reasons, such as the perceptions of obstacles that may be encountered during that pursuit or the perceptions of future advantages or disadvantages (outcome expectations). Intention is the expression of one's particular actions that lead to goal attainment (Lent et al., 1994) and is linked to the career that an individual eventually pursues. Thus, intent is considered a stronger expression of career attainment than the expression of interest.

In this study, pursuit of a faculty role was measured on a 1-5 scale with 1 = very low interest, 2 = low interest, 3 = medium interest, 4 = high interest and 5 = very high interest. Of the 1,078 students in the sample, some students (n = 261, 24.2%) reported a high or very high interest in a faculty role; other students (n = 363, 33.7%) reported a medium interest; and a number of students (n = 454, 42.1%) reported a low or very low interest in a future nursing faculty role. Because this is the first study to look at interest in a future faculty role in pre-licensure baccalaureate nursing students, there is no data related to distinctions between very low and low interest or between high and very high interest. Therefore, the five point interest scale

was transformed into a 1-3 scale with 1 = very low/low interest (labeled low interest), 2 = medium interest and 3 = high or very high interest (labeled high interest).

Of the 1,078 students in the sample, some students (*n* = 265, 24.6%) strongly agreed or agreed with the statement "In the future, I intend to pursue a nursing faculty role", a number of students (*n* = 488, 45.3%) indicated they were unsure of their faculty role intention and other students (*n* = 325, 20.1%) strongly disagreed or disagreed with the statement. Since a main focus of this dissertation was to identify SCCT constructs that were predictive of intention to pursue a future faculty role and since there is no data on whether distinctions between students reporting agreement versus strong agreement to the intention measure, the five point intention scale was transformed into a 0 – 1 binary scale, with 0 = strongly disagree, disagree, or unsure (labeled low/unsure intent) and 1 = agree or strongly agree (labeled high intent). Therefore, students who strongly agreed or agreed with the statement were subsequently classified as high intent students for a faculty role (*n* = 265) and the students who were unsure, disagreed or strongly disagreed with the statement were classified as low/unsure intent students for a faculty role (*n* = 813). Refer to Table 4 for the frequency distribution of interest and intent for pursuit of a faculty role.

There was a strong association between high interest in a faculty role and high intent to pursue a future faculty role. Of the 261 students who reported high interest in a faculty role, 210 (79%) of them were also in the high intent group. Of the 454 students who reported low interest in a faculty role, only four reported high intent to pursue a faculty role. Interestingly, 51 (14%) of the students reporting medium interest also reported high intent for a future faculty role. Refer to Table 5 for the percent distributions of students in the low, medium and high interest compared to the high and low/unsure intent groups.

Table 4

Frequency Distribution of Interest and Intent for Pursuit of a Faculty Role

Interest Measure	*n*	%	Intent Measure	*N*	%
1 Very Low	207	19.2	1 Strongly Disagree	163	15.1
2 Low	247	22.9	2 Disagree	162	15.0
3 Medium	363	33.7	3 Unsure	488	45.3
4 High	154	14.3	4 Agree	168	15.6
5 Very High	107	9.9	5 Strongly Agree	97	9.0
Total	1,078	100.0	Total	1,078	100.0

Table 5

Comparison of Interest in Pursuing a Faculty Role and Intention for a Faculty Role

		Intention to Pursue a Faculty Role		
Interest in a Faculty Role		High Intent	Low/unsure Intent	Total
High Interest	Count	210	51	261
	Row %	80.5	19.5	24.2
Medium Interest	Count	51	312	363
	Row %	14.0	86.0	33.7
Low Interest	Count	4	450	454
	Row %	0.9	99.1	42.1
Column Total		265	813	1,078
Column %		24.6	75.4	100.0

In summary, 24.6% of the study sample reported high intention to pursue a future nursing faculty role. On the other hand, almost 45% of the students reported they were unsure of whether they would pursue a faculty role in the future. For the remainder of this chapter, when discussing faculty role intention, the results of the two student groups are compared, high intent students for a faculty role and low/unsure intent students for a faculty role. High intent students for a future faculty role are those who strongly agreed or agreed with the statement, "In the future, I intend to pursue a nursing faculty role" (n = 265) and low/unsure intent students for a faculty role are those who strongly disagreed, disagreed or were unsure of their future faculty intentions (n = 813). The next section describes the interest and intention for graduate education.

Research Question Two: Interest and Intent (Career Choice Goal) of Pre-licensure Baccalaureate Nursing Students in Pursuing Graduate Nursing Education

To answer this research question, interest was similarly defined as in the section above, the feeling of curiosity about graduate education. Once again, one may have an interest in graduate education, but choose not to pursue it for a variety of reasons, such as finances or personal reasons. Similar to the definition of intent for answering the previous research question, intent was defined as the stated action towards pursuing graduate education. As discussed in the previous section, intent is considered a stronger expression of goal attainment than the expression of interest.

In this study, interest in pursuing graduate education was measured on a 1-5 scale with 1 = very low interest, 2 = low interest, 3 = medium interest, 4 = high interest and 5 = very high interest. Of the 1,078 students in the sample, most students (n = 768, 71.2%) reported a high or very high interest in graduate education, other students (n = 205, 19%) reported a medium interest and fewer students (n = 105, 9.7%) reported a low or very low interest in pursuing

graduate education. Because this is the first study to examine interest in graduate education among pre-licensure baccalaureate nursing students in this manner, there is no data related to distinctions between very low and low interest or between high and very high interest. Therefore, the five point interest scale was transformed into a 1-3 scale with 1 = very low/low interest (labeled low interest), 2 = medium interest and 3 = high or very high interest (labeled high interest).

Most students (*n* = 822, 76.2%) strongly agreed or agreed with the statement "In the future, I intend to pursue graduate education." A number of students (*n* = 197, 18.3%) were unsure of their intention; and finally, fewer students (*n* = 59, 5.5%) strongly disagreed or disagreed with the statement. Since a main focus of this dissertation was to identify SCCT constructs that were predictive of intent to pursue graduate education and since there is no data on whether distinctions between students reporting agreement versus strong agreement to the intention measure, the five point intention scale was transformed into a 0 – 1 binary scale, with 0 = strongly disagree, disagree, or unsure (labeled low/unsure intent) and 1 = agree or strongly agree (labeled high intent). Therefore, students who strongly agreed or agreed with the statement were subsequently classified as high intent students for graduate education (*n* = 822) and the students who were unsure, disagreed or strongly disagreed with the statement were classified as low/unsure intent students for graduate education (*n* = 197). Refer to Table 6 for the frequency distribution of interest and intent for pursuit of graduate education.

There was a strong association between high interest in graduate education and high intent to pursue graduate education. Of the 768 students who reported high interest in graduate education, 746 (97.1%) of them also reported high intent to pursue graduate education. Of the 105 students who reported low interest in graduate education, only three reported high intent to

Table 6

Frequency Distribution of Interest and Intent for Pursuit of Graduate Education

Interest Measure	*n*	%	Intent Measure	*N*	%
1 Very Low	39	3.6	1 Strongly Disagree	25	2.3
2 Low	66	6.1	2 Disagree	34	3.2
3 Medium	205	19.0	3 Unsure	197	18.3
4 High	260	24.1	4 Agree	286	26.5
5 Very High	508	47.1	5 Strongly Agree	536	49.7
Total	1,078	100.0	Total	1,078	100.0

pursue graduate education. Most interesting, 73 (35.6%) of the students reporting medium interest also reported high intent to pursue graduate education. Refer to Table 7 for the percent distributions of students in the low, medium and high interest groups for graduate education compared to the high and low/unsure intent groups.

Of the 265 students reporting high intent to pursue a faculty role, 249 (94.0%) also reported high intent to pursue graduate education. However, of the 813 students who reported low/unsure intent of pursuing a faculty role, 573 (70.5%) reported high intent for pursuing graduate education. For the 822 students who reported high intent to pursue graduate education, only 249 (30.3%) reported high intent to pursue a future faculty role.

Students who intend to pursue graduate education in the future were asked, "In how many years do you plan to enroll?" Overall, the students responded that they planned to enroll in an average of 3.3 years (n = 1040, SD = 1.91, range: 1-17). As a group, high intent students for a faculty role also planned to pursue graduate education in an average of 3.3 years (SD = 1.92, range: 1-15).

Students were also asked the highest academic degree to which they aspire. The highest percentage of high intent students for a faculty role answered that they aspire to earn a doctorate degree in nursing (n = 141, 53.2%) followed by earning a master's degree in nursing (n = 112, 42.3%). The remainder of the high intent students for a faculty role (n = 12, 4.5%) aspired to earn a bachelor's degree in nursing (n = 5, 1.9%), a master's degree in another field (n = 3, 1.1%), a doctorate degree in another field (n -= 3, 1.1%) or other (n = 1, 0.4%). The students were also asked the number of years they believe they needed to work as a nurse before becoming a nursing faculty member. Students with high intent students for a faculty role (n = 264) answered that they need to work as nurses for a mean of 5.8 years (SD = 3.94, range: 1-20).

Table 7

Comparison of Interest in Pursuing Graduate Education and Intention for Graduate Education

		Intention to Pursue Graduate Education		
Interest in Graduate Education		High Intent	Low/unsure Intent	Total
High Interest	Count	746	22	768
	Row %	97.1	2.9	71.2
Medium Interest	Count	73	132	205
	Row %	35.6	64.4	19.0
Low Interest	Count	3	102	105
	Row %	2.9	97.1	9.7
Column Total		822	256	1078
Column %		76.3	23.7	100.0

Low/unsure intent students for a faculty role (n = 775) planned to pursue graduate education in an average of 3.4 years (SD = 1.91, range: 1-17). Low/unsure intent students for a faculty role indicated they aspire to earn a master's degree in nursing as their highest degree (n = 428, 52.5%). This was followed by earning a doctorate degree in nursing (n = 233, 28.7%). The remaining low/unsure intent students for a faculty role (n = 152, 18.2%) aspired to earn a bachelor's degree in nursing as their highest degree (n = 104, 12.8%), master's degree in another field (n = 22, 2.7%), doctorate degree in another field (n = 17, 2.1%), did not answer (n = 6, 0.7%), bachelor's degree in another field (n = 2, 0.2%) or other (n = 1, 0.1%).

Because little is in the literature about interest and intent for graduate education among racial/ethnic minority students and because there is such a great need for graduate prepared racial/ethnic minority nurses, including faculty, descriptive analysis of the frequency of intention for graduate education among racial/ethnic minority students was performed. Of all of the racial/ethnic minority students who responded to the survey (n = 191), nearly 80% (n = 152) had a high intent for graduate education and intend to enroll in graduate education in 3.2 years. The highest number of minority students (African American, Asian, and Hispanic/Latino) who responded to the study was further analyzed. Of the African American students (n = 55), an equal percentage aspired to a master's degree in nursing (n = 24, 44%) and a doctoral degree in nursing (n = 24, 44%). Of the Asian students (n = 60), the highest percentage aspired to earn a master's degree in nursing (n = 24, 40%) followed by a doctoral degree in nursing (n = 20, 33%). Of the Hispanic/Latino students (n = 37), the highest percentage aspired to earn a master's degree in nursing (n = 21, 57%) followed by a doctoral degree in nursing (n = 11, 50%).

In summary, a large percentage of the study sample (n = 822, 76.3%) expressed high intent for graduate education, including students from racial/ethnic minority groups. High intent

students for a future nursing faculty role also had a high intent for graduate education (*n* = 249, 94.0%). Students with high intent for a faculty role intend to work as a nurse for an average of 5.8 years and to pursue graduate education in an average of 3.3 years. High intent students for a faculty role aspired to earn a doctorate degree as their highest degree (53.2%).

The next section discusses the psychometric properties of the SCCT multiple item measures. This section also includes an analysis of the open-ended responses for select SCCT measures, (1) supports and barriers and (2) outcome expectations. The scales for measuring supports and barriers and outcome expectations were previously used to measure career intent among college students. However, these scales have not been used in the population of pre-licensure baccalaureate nursing students for examining career choice for a future nursing faculty role. Therefore, students were provided with an open-ended response option for support and barriers and outcome expectations to determine if a complete list of items in these scales was included in the survey.

Research Question Three: Psychometric Properties of the SCCT Measures

The psychometric properties of the multiple item measures of the SCCT (supports and barriers, self-efficacy for a faculty role, learning experiences-role model, outcome expectations advantages and disadvantages and finally interests in the activities/tasks of a faculty role) for high intent students for pursuit of a future faculty role were calculated and compared with low/unsure intent students. Each of the multiple item measures is discussed.

Supports

The supports section of the scale had nine items and had been reported as having good internal reliability with Cronbach alpha coefficients ranging from .82 to .90 (Lent et al., 2003;

Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). In the current study, the Cronbach alpha was .82 for high intent students and .81 for low/unsure intent students.

Barriers

The barriers section of the scale had seven items of which five of the items had been used in previous studies and had internal reliability reported as Cronbach alpha coefficients ranging from .77 to .84 (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). In the current study, the Cronbach alpha was .61 for high intent students and .62 for low/unsure intent students. Deleting any of the items did not demonstrate improvement of the Cronbach alpha scale score.

Self-Efficacy

The self-efficacy scale was created for this study and had nine items. Seven of the items related to a faculty role and two items related to graduate education. The Cronbach alpha was calculated for the faculty role items and was .80 for high intent students and .86 for low/unsure intent students.

Learning Experiences - Role Model

The role model scale had seven items and had been reported as having good internal reliability with Cronbach alpha coefficients ranging from .85 to .91 (Nauta & Kokaly, 2001). In this study, the Cronbach alpha was .85 for high intent students and .83 for low/unsure intent students.

Outcome Expectations – Advantages

The outcome expectations advantages had 15 items that had been reported as having Cronbach alpha coefficients ranging between .91 to .92 (Lent et al., 2003; Lent et al., 2005; Lent,

Lopez, Lopez, & Sheu, 2008). In this study, the Cronbach alpha was .89 for high intent students and .91 for low/unsure intent students.

Outcome Expectations – Disadvantages

The original scale had five items with an alpha coefficient of .72. One item, having to earn a graduate degree, had a very small correlation with the scale and was dropped. The revised scale, with four items, had an alpha coefficient of .78 for high intent students and .81 for low/unsure intent students.

Interests in the Activities/Tasks of a Faculty Role

The scale for interests in the activities/tasks of a faculty role was created for this study and had nine items. The Cronbach alpha was .86 for high intent students and .89 for low/unsure intent students.

In summary, the scales for supports, self-efficacy, role model, outcome expectations (advantages) and interests in the activities/tasks of a faculty member demonstrated high internal reliability. Once the outcome expectations disadvantages items that stated "have to earn a graduate degree" was removed, the disadvantages scale demonstrated adequate internal reliability. The barriers scale did not demonstrate high reliability. Refer to Table 8 for the numbers included in the calculation of the scale scores, means, standard deviations, Cronbach alpha, potential and actual range of responses and skew.

Student Responses to Open-Ended Questions

As mentioned before, the proposed SCCT measures, (1) supports and barriers and (2) outcome expectations have been used in studies of career choice in college students, but have not been used in the population of pre-licensure baccalaureate nursing students for career choice for a future nursing faculty role. Therefore, the proposed measures of supports and barriers and

Table 8

Psychometric Properties of the SCCT Construct Measures

					Range		
Variable	*n*	*M*	*SD*	α	Potential	Actual	Skew
Supports							
High	265	4.22	0.57	.82	1-5	2-5	-0.92
Low/unsure	813	3.87	0.63	.81	1-5	2-5	-0.68
Barriers							
High	265	1.95	0.58	.61	1-5	1-3	0.44
Low/unsure	813	2.17	0.61	.62	1-5	1-5	0.59
Self-efficacy							
High	265	7.07	1.28	.80	0-9	2-9	-0.92
Low/unsure	813	6.03	1.64	.86	0-9	1-9	-0.53
Learning Experiences-Role Model Positive							
High	265	28.02	5.31	.85	7-35	7-35	-0.92
Low/unsure	813	25.77	5.20	.83	7-35	7-35	-0.59
Outcome Expectations-Advantages							
High	257	4.12	0.60	.89	0-5	2-5	-0.61
Low/unsure	785	3.44	0.80	.91	0-5	0-5	-0.46
Outcome Expectations-Disadvantages							
High	254	1.76	0.96	.78	0-5	0-4	0.34
Low/unsure	778	2.04	0.99	.81	0-5	0-5	0.21
Interests in Activities							
High	260	3.66	0.85	.86	0-5	1-5	-0.69
Low/unsure	768	2.56	1.04	.89	0-5	0-5	-0.13

outcome expectations used in this study may not have adequately sampled the content domains for those constructs. This issue was addressed by asking the students to list any additional supports and barriers or outcome expectations that were not part of the measures for those constructs. The following discussion of the students' open-ended responses is organized by supports, barriers, outcome expectations-advantages and finally, outcome expectations-disadvantages.

Open-ended responses–supports and barriers. Students were provided with an open-ended option to discuss other supports and barriers in the pursuit of a future faculty role. Specifically, students were asked, "What other situations might arise if you chose to pursue a nursing faculty position?" There were a total of 284 responses. Many of the open-ended responses (n = 144) were already included in either the supports/barriers section or the outcome expectations section. The students' open-ended responses that were not included in the survey are discussed below.

Open-ended responses-supports. A few comments (n = 10) identified supportive influences (supports) that were not included in the survey, the most frequent being *to make a positive difference.* Examples of statements made by the students were, "I would be able to help shape and mold future nurses into the best nurse I can" and "To utilize my own negative experiences with nursing faculty to bridge the gap between professors and students. To empower students with support, encouragement, and guidance - rather than scorn, disrespect, and distain". Refer to Table 9 for the students' open-ended responses to "What other situations might arise if you chose to pursue a nursing faculty position?" (supports for pursuing a future faculty role).

Table 9

Student Responses to "What Other Situations Might Arise if you Chose to Pursue a Nursing Faculty Position?" (Supports for Pursuing a Future Faculty Role)

Open-ended response	# of responses
To make a positive difference	3
If current employer supported	1
If job available	1
People interaction	1
Positively influencing nsg ed.	1
Shaping future of nursing	1
To work in an interdisciplinary setting	1
Variety	1
Total	10

Open-ended responses-barriers. In contrast to the few open-ended responses for supports, students provided numerous open-ended responses not included in the survey (n = 130) that were barriers for pursuit of a future nursing faculty role. Only the most frequently mentioned barriers from the students' open-ended responses are discussed here.

The most often cited barriers from the students' open-ended responses was *the lack of job availability for a nursing faculty position* (n = 23). Examples of student comments were, "there would, again, be no available jobs once schooling is complete (like my current nursing predicament)" and "The possibility of being unable to find [sic] adequate location to teach may be difficult from the area in which I live because I do not want to uproot my family." Another barrier students commented on was *the loss of clinical contact with patients* (n = 23), which is discussed in the outcome expectations-disadvantages section that follows. An additional barrier that students mentioned was *anticipated difficulty in balancing work and sometimes family responsibilities, along with graduate education* (n = 22). Examples of their comments were, "I think that working as an RN and going to school for this degree simultaneously would be a little difficult. Other than that, I think many of the situations above covered what may arise" and "it would be difficult to maintain a balance between family obligations, working as a bedside or practitioner nurse, and being a nurse faculty member". Finally, another barrier that students mentioned was *lack of experience or knowledge of the faculty role* (n = 13). Examples of comments were, "I feel that I would need a lot of guidance in how to be a successful professor because I have had no exposure to teaching undergraduate or graduate students' and "Where to be an educator? What type of cost cut would I be taking?" Refer to Table 10 for student responses to "What other situations might arise if you chose to pursue a nursing faculty position?" (barriers for pursuing a future faculty role).

Table 10

Student Responses to "What Other Situations Might Arise if you Chose to Pursue a Nursing Faculty Position?" (Barriers for Pursuing a Future Faculty Role)

Open-ended response	# of responses
lack of job availability	23
loss of clinical contact (discussed in outcome expectations)	23
balancing work & school,& often family	22
lack of knowledge/experience of faculty role	13
age	8
not suited for a faculty role	7
finding an appropriate grad program	5
political climate among faculty/in positions	3
location of graduate programs	3
frequent relocation	2
may not be accepted into grad ed.	2
negative role models among faculty	2
research requirements	2
working with negative students	2
belonging to professional associations	1
demanding students	1
discrimination	1
having to get a master's in nursing when already have a master's	1
health	1
lack of good role models	1
lack of grad program availability	1
lack of respect	1
lack/poor faculty role modeling	1
PhD vs. DNP	1
poor faculty role models	1
too time consuming	1
undervalued faculty role	1
unfavorable academic route	1
Total	130

Open-ended responses-advantages and disadvantages. In the outcome expectations section, students were also provided with an open-ended response option and were asked, "Please explain any other advantages or disadvantages for you if you became a nursing faculty member." There were a total of 157 open-ended responses to the outcome expectations. Some of the responses (n = 83) were already included in the survey. The responses that were not included in the survey are discussed below.

Open-ended responses-advantages. Of the open-ended responses, several were advantages (n = 23) for pursuing a faculty role as follows: (1) *faculty schedule* (n = 18); (2) *a way to stay up to date* (n = 4); and (3) *research* (n = 1). Examples of the student comments for the faculty schedule were "Advantages - teaching faculty hours that are more conducive to a "normal" lifestyle, unlike night hours, and working holidays in a clinical setting" and "The hours would be better than shift nursing for having a family".

Open-ended responses-disadvantages. Of the remaining open-ended responses, there were 51 comments that were not included in the survey items and were related to the disadvantages for pursuing a nursing faculty role The most frequently mentioned disadvantage was about the *loss of clinical contact with patients in a faculty role* (n = 19). Examples of the students' comments were ". . . I would lose the connection with patients and my love for caring for people. I would miss being in the clinical setting" and "like I said before, definitely less patient contact which is a bad thing in my opinion". The open ended response option in the section on supports and barriers also reflected comments about *loss of clinical contact with patients in a faculty role* (n = 23).

The next highest number of disadvantage comments made by the students was *dealing with demanding students* (n = 10). Example statements from the students were, "The

disadvantage of being a nurse faculty is the stress from student approach [sic]. I've seen some students' behavior almost appear abusive and highly disrespectful" and "frustration at the motivation and commitment of the students." Refer to Table 11 for the student responses to "Please explain any other advantages or disadvantages for you if you became a nursing faculty member") (disadvantages for pursuing a future faculty role.

In summarization of the open-ended responses, of the support and barrier comments, only one other support item for pursuit of a future nursing faculty role was mentioned, *to make a positive difference.* Students mentioned several barriers to pursuit of a future faculty role: (1) *lack of job availability*; (2) *balancing work and school and sometimes family*; and (3) *lack of knowledge/experience of the faculty role*. Of the students' outcome expectation responses, the most frequently mentioned advantage was the *faculty schedule.* Lastly, students commented on two other outcome expectations-disadvantages: (1) *loss of clinical contact with patients in a faculty role* (also mentioned in the barriers section) and (2) *dealing with demanding students*. The next section compares characteristics of students with high intent for a faculty role (called high intent students) with students with low/unsure intent for a faculty role (called low/unsure intent students) by the SCCT constructs.

Research Question Four: Comparison of High Intent Students for a Faculty Role and Low/Unsure Intent Students

To answer this question, the bivariate analysis of intent to pursue a future faculty role (high intent vs. low/unsure intent) is reported by the SCCT theoretical constructs: person inputs; distal and proximal background variables; self-efficacy; learning experiences; outcome expectations; and, interests in the activities of a nursing faculty role. Chi-square statistical tests were used to compare the differences between pre-licensure nursing students with high and

Table 11

Student Responses to "Please Explain Any Other Advantages or Disadvantages for you if you Became a Nursing Faculty Member" (Disadvantages for Pursuing a Future Faculty Role)

Open-ended response	# of responses
Loss of clinical contact	19
Demanding students	10
College issues, bureaucracy, lack of support	6
Faculty schedule	4
Lack of job availability	4
Balancing work, school & sometimes family	2
Public speaking	2
Lack of a mentor	1
Lack of knowledge/experience about the role	1
Discouraged by a faculty member	1
Conducting research	1
Total	51

low/unsure intention to pursue a future nursing faculty role and graduate education on the categorical variables in the SCCT constructs as follows: person inputs (gender, race/ethnicity, distal background (parent education and occupation), proximal background (type of nursing program, level of education, educational background), learning experience (types of teaching experience), with phi or Cramer's V used as the measure of effect size for the Chi-square test. Phi and Cramer's V effect sizes are categorized as small (phi = .10), moderate (phi = .30) and large (phi = .50) (Pallant, 2010). Independent-samples t-tests were used to compare the differences between the students with high and low/unsure intention to pursue a future nursing faculty role and graduate education on the continuous variables in the SCCT constructs as follows: nursing faculty role and graduate education: person inputs (age), proximal background (supports and barriers), self-efficacy (faculty role, completion of a master's degree, completion of a doctoral degree), learning experience (positivity of teaching experiences, observing a faculty role model, encouragement), outcome expectations (advantages and disadvantages), and interest in the activities/tasks of a faculty role, with eta squared used as the effect size for the t-test. Eta squared effect sizes are categorized as small (eta squared = .01), moderate (eta squared = .06) and large (eta squared = .14) (Pallant). As recommended by Ruxton (2006), independent-samples t-test p-values associated with equal variances not assumed were used for all mean comparisons between groups.

Person Inputs

The person inputs are gender, age and race/ethnicity. A Chi-square for independence was conducted to compare the differences in the characteristics of each of the person inputs between high intent students for pursuit of a future nursing faculty role and low/unsure intent students. In the first analysis, the continuous variable of age was grouped according to the reported national

data of student nurses as follows: (1) less than or equal to 25 years of age; (2) 26 to 30 years of age; (3) 31 to 40 years of age; and (4) greater than or equal to 41 years of age. Because the race/ethnicity was small for each racial/ethnic minority group, the students were grouped to form the Not Caucasian group. Because there is such a great need for racial/ethnic minority nursing faculty, descriptive analysis of the frequency of intention for a future faculty role among racial/ethnic minority students was performed. Of all of the racial/ethnic minority students who responded to the survey (n = 191), 30% (n = 58) had a high intent for a future nursing faculty role. The highest percentage of racial/ethnic minority students with a high intent for a future nursing faculty role were African-American students (n = 20, 36%), followed by Hispanic/Latino students (n = 11, 30%) and Asian students (n = 15, 25%).

The Chi-square test for independence indicated no significant association between gender and high intent students compared to low/unsure intent students for a faculty role [χ^2 (1, N = 1,078) = 0.29, p = .59, phi=.02]. However, the Chi-square test for independence indicated a significant association between age and intention for a faculty role [χ^2 (3, N = 1,078) = 8.95, p = .03, Cramer's V=.09]. Students aged 31 to 40 had higher than expected intention to pursue a faculty role and students aged less than or equal to 25 had lower than expected intention to pursue a faculty role. The Chi-square test for independence also indicated no significant association between race/ethnicity (Caucasian/Not Caucasian) and intention for a faculty role [χ^2 (1, N = 1,078) = 3.82, p = .05, phi=.06]. A Chi-square test for independence, conducted to investigate the association of students by race/ethnicity (African-American, Hispanic-Latino and Asian) to high intent or low/unsure intent for a future faculty role, was not statistically significant. A few more African-American, Hispanic/Latino and Mixed race students than expected had a high intent for a faculty role; however there was no statistically significant

difference. Refer to Table 12 for the results of the Chi-square analysis of the person input variables.

Distal Background

The distal background variables in this study were defined as parent education and occupation. To analyze the distal background variables, categorical variables were created as follows. For each parent, education was originally a 10 point scale (1 = grammar school of less, 2 = some high school, 3 = high school graduate, 4 = post secondary school other than college, 5 = some college, 6 = associate degree, 7 = baccalaureate degree, 8 = master's degree, 9 = doctoral degree and 10 = unknown) and was collapsed into a binary categorical variable as 1 = grammar through associates degree or 2 = bachelors through doctoral degree. Parent teaching was originally a 5 point scale (1 = not a teacher/faculty or administrator, 2 = elementary teacher/faculty or administrator, 3 = middle or high school teacher/faculty or administrator, 4 = college teacher/faculty or administrator, or 5 = unknown) and it was also collapsed into a binary categorical variable (0 = not a teacher/faculty or administrator or 1 = teacher/faculty or administrator. Parent health care profession was originally a 3 point scale (1 = not a health care professional, 2 = registered nurse, 3 = other health care professional) and it too was collapsed into a binary categorical variable (0 = not a health care professional, 1 = health care professional). Chi-square tests for independence were conducted to compare the binary categorical variables (high intent students for a faculty role vs. low/unsure intent) for a future faculty role by the distal background variables. None of the distal background variables were statistically significant. Refer to Table 13 for the distal background variables and intent to pursue a faculty role.

Table 12

Person Inputs and Intention to Pursue a Faculty Role

	Intention to Pursue a Faculty Role				
Person Input Variables	High		Low/unsure		p-value
	n	%	*n*	%	
Gender					
Female	240	24.3	747	75.7	
Male	25	27.5	66	72.5	.588
Age					
≤ 25	145	22.0[a]	515	78.0	
26-30	39	24.8	118	75.2	
31-40	53	32.7[b]	109	67.3	.030
≥ 41	28	28.3	71	71.7	
Race/ethnicity					
Caucasian	207	23.3	680	76.7	
Not Caucasian	58	30.4	133	69.6	.051
African-American	20	7.5[b]	35	4.3	
Asian	15	5.7	45	5.5	
Hispanic/Latino	11	4.2[b]	26	3.2	
Mixed	10	3.8[b]	18	2.2	
Native Hawaiian/ Pacific Islander	2	0.8	5	0.6	
American Indian	0	0.0	4	0.5	

Note. [a]Fewer cases than expected. [b]More cases than expected.

Table 13

Distal Background Variables and Intention to Pursue a Faculty Role

Distal Background Variables	Intention to Pursue a Faculty Role				p-value
	High		Low/unsure		
	n	%	*n*	%	
Father Education (*N* = 1,063)					
Grammar-Associates	159	26.4	444	73.6	
Bachelors-Doctoral	102	22.2	358	77.8	.133
Mother Education (*N* = 1,077)					
Grammar-Associates	161	25.8	463	74.2	
Bachelors-Doctoral	104	23.0	349	77.0	.318
Father (*N* = 1,078)					
Not a Teacher	236	24.0	746	76.0	
Teacher	29	30.2	67	69.8	.224
Mother (*N* = 1,078)					
Not a Teacher	211	24.4	652	75.6	
Teacher	54	25.1	161	74.9	.909
Father (*N* = 1,075)					
Not a Health Care Professional	246	24.7	751	75.3	
Health Care Professional	18	23.1	60	76.9	.858
Mother (*N* = 1,078)					
Not a Health Care Professional	203	25.3	599	74.7	
Health Care Professional	62	22.5	214	77.5	.386

Proximal Background

In this study, the proximal background variables were: (1) type of nursing program (baccalaureate, accelerated baccalaureate); (2) educational level and background; and (3) supports and barriers to pursuing a future faculty role. Type of nursing program (accelerated/baccalaureate) and having had another degree prior to attending nursing school (no/yes) were categorical variables. A categorical variable was also created for number of semesters completed by combining those who had completed zero to one semester into one group and those completing two or more semesters into a second group. Chi-square tests for independence were performed to compare high intent students for a faculty role and low/unsure intent student by type of nursing program (accelerated/baccalaureate), the number of clinical nursing semesters completed (zero to one vs. two or more) and having an academic degree prior to entering the nursing program. There was a statistically significant association between intent to pursue a faculty role and type of nursing program, [□ (1, n = 1,078) = 10.39, p = .001, phi = .10], a small effect. High intent students were more likely to be from an accelerated nursing program (n = 47, 36.4%) than from a baccalaureate nursing program (n = 218, 23%). There was no statistically significant difference between high intent students and low/unsure intent students by number of clinical nursing semesters completed [χ^2 (1, n = 1,078) = 1.85, p = .17, phi = .05] or having attained a previous degree prior to entry into the nursing program [χ^2 (1, n = 1,078) = .64, p = .43, phi = .03]. Refer to Table 14 for the proximal background variables results by intention.

Table 14

Proximal Background Variables and Intention to Pursue a Faculty Role

Proximal Background Variables (N = 1,078)	Intention to Pursue a Faculty Role: High *n*	High %	Low/unsure *n*	Low/unsure %	p-value
Type Nursing Program					
Baccalaureate	218	23.0[a]	731	77.0[b]	
Accelerated	47	36.4[b]	82	63.6[a]	.001
Semesters Completed					
0 to 1 semester	27	19.6	111	80.4	
2 or more semesters	238	25.3	702	74.7	.174
Completed other degrees					
No	156	23.7	503	76.3	
Yes	109	26.0	310	74.0	.425

Note. [a]Fewer cases than expected. [b]More cases than expected.

Supports and barriers are related to the supportive or barrier perceptions for pursuit of a future nursing faculty role. Using independent-samples t-tests, means and standard deviations for each support and barrier item, the differences for high intent students for a faculty role were compared to low/unsure intent students. Each of the items in the support scale reached statistical significance when comparing the two groups, with high intent students rating the support items higher than low/unsure intent students. For high intent students, the highest means were for items related to family support, "to feel support for this decision from important people in your life (e.g. faculty)", "to feel that close friends or relatives would be proud of you for making this decision" and "to feel that family members support this decision." Low/unsure intent students also rated these items highly; however, the scores were not as high as the scores of the high intent students. Overall, high intent students rated the barrier items lower than low/unsure intent students, with statistical significance reached in five of the seven items. For the barrier items, the highest rated item was related to financial "to feel that financing graduate education would be difficult" and was statistically significant ($p < .05$). Refer to Table 15 for the means, standard deviations and p-values for high intent students and low/unsure intent students for each support and barrier item.

Also, using the independent-samples t-test, the total mean score for all support items was calculated and compared by intention for a future faculty role. High intent students had a higher overall mean for the support items than low/unsure intent students as demonstrated by a statistically significant difference between the total support score for high intent students (M = 4.22, SD = 0.57) than low/unsure intent students [M = 3.87, SD = 0.63; t (488) = -8.44, $p <$ .001]. The magnitude of the differences in the means (-0.35, 95% CI: -0.43 to -0.27) was moderate (eta squared = .06). Using the independent samples t-test, the total mean score for all

Table 15

Supports and Barriers and Intention to Pursue a Faculty Role

Proximal Background Variables (Potential range: 1-5)	Intention to Pursue a Faculty Role: High (*n* = 265) *M*	*SD*	Low-Unsure (*n* = 813) *M*	*SD*
Supports				
Access to a role model***	4.24	0.95	3.84	1.10
Support from important people in your life***	4.52	0.74	4.16	0.89
Feel there are people "like me" in this field**	3.81	1.02	3.57	1.04
Assistance from a colleague***	4.18	0.83	3.85	0.90
Friends would encourage me***	4.32	0.80	3.93	0.99
Assistance from an advisor***	4.05	1.05	3.76	1.10
Support from family***	4.40	0.88	4.07	1.01
Friends and family would be proud***	4.45	0.76	4.03	0.98
Access to a mentor***	4.05	1.00	3.64	1.01
Total Support Score***	4.22	0.57	3.87	0.63
Barriers				
Family would discourage me*	1.33	0.78	1.45	0.92
Too much time or schooling***	2.20	1.22	2.67	1.27
Not a fit socially**	1.66	0.99	1.90	1.06
Friends would discourage me	1.30	0.75	1.37	0.81
Feel pressure to change fields**	1.25	0.69	1.41	0.87
Difficulty financing graduate education*	3.34	1.34	3.58	1.31
Family responsibilities would interfere	2.61	1.33	2.78	1.30
Total Barrier Score***	1.96	0.58	2.17	0.61

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

barrier items was also calculated and compared by intention. High intent students had a lower overall mean for the barrier items than low/unsure intent students as demonstrated by a statistically significant difference between the total barrier score for high intent students (M = 1.96, SD = 0.58) than for low/unsure intent students [M = 2.17, SD = 0.61; t (471) = 5.09, p < .001]. The magnitude of the differences in the means (0.21, 95% CI: 0.13 to 0.29) was very small (eta squared = .02). Refer to Table 16 for the total means, standard deviations and p-values of the supports and barriers.

Self-Efficacy

This study defined self-efficacy as the set of beliefs that pre-licensure baccalaureate nursing students have about their capabilities of performing in a future nursing faculty role. Using independent-samples t-tests, means and standard deviations for each self-efficacy item, the differences for high intent students for a faculty role were compared to low/unsure intent students. High intent students rated each self-efficacy item higher than low/unsure intent students, with statistical significance reached for each item (p < .001). For high intent and low intent students, the highest rated item was "serve as an advisor to students" and the lowest rated item was "conduct research." Refer to Table 17 for the means, standard deviations and p-values for high intent students and low/unsure intent students for each self-efficacy item.

Also, using the independent-samples t-test, the total mean score for all self-efficacy items was calculated and compared by intention for a future faculty role. For this analysis, the two items for self-efficacy for achieving (1) a master's degree and (2) a doctoral degree were removed. High intent students had a higher overall mean for self-efficacy than the low/unsure intent students as demonstrated by a statistically significant difference between the scores for high intent students (M = 7.07, SD = 1.28) than for low/unsure intent students [M = 6.03, SD =

Table 16

Self-Efficacy and Intention to Pursue a Faculty Role

	Intention to Pursue a Faculty Role					
	High (n = 265)			Low/unsure (n = 813)		
Self-efficacy (Potential range: 0-9)	*M*	*SD*	Actual Range	*M*	*SD*	Actual Range
Teach in a classroom setting***	7.40	1.73	0-9	6.08	2.16	0-9
Teach in an online setting***	6.08	2.40	0-9	5.38	2.38	0-9
Teach in a nursing laboratory***	7.29	1.68	1-9	6.22	2.15	0-9
Teach in a clinical setting***	7.26	1.76	1-9	6.36	2.18	0-9
Serve as an advisor to students***	7.81	1.55	1-9	6.70	2.15	0-9
Conduct research***	5.95	2.42	0-9	4.92	2.62	0-9
Participate in an academic setting***	7.68	1.57	1-9	6.55	2.01	1-9
Mean Total – Self-efficacy for a Faculty Role***	7.07	1.28	2-9	6.03	1.64	1-9
Complete a graduate nursing degree						
at the master's level***	8.27	1.23	3-9	7.42	1.93	0-9
at the doctoral level***	6.93	2.24	0-9	5.85	2.54	0-9

Note. ***$p < .001$.

1.64; t (569) = -10.71, p < .001]. The magnitude of the differences in the means (-1.04, 95% CI: -1.23 to -.85) was moderate (eta squared = .11). High intent students also scored themselves higher on self-efficacy for pursuit of a master's degree and a doctoral degree. Refer to Table 16 for the overall self-efficacy mean and the means for self-efficacy for achieving a master's degree and a doctoral degree.

Learning Experiences

In this study, learning experiences were defined as experiences occurring during nursing school related to the faculty role such as (1) teaching experience, (2) observing a nursing faculty member who serves as a role model for the student in teaching; and (3) receiving encouragement from a nursing faculty member to consider a future nursing faculty role. Each of these is discussed.

Teaching experience (peer teaching, serving as a teaching assistant, peer tutoring and other teaching experiences). Students were asked "which of the following experiences have you had?" and provided with the following yes/no choices to: peer teaching (a formal assignment in which you taught a group of classmates), serving as a teaching assistant, peer tutoring (one-on-one study sessions) and other. Chi-square tests were used to compare the differences between high intent students for a faculty role and low/unsure intent students by each of the types of teaching experiences (peer teaching, serving as a teaching assistant, peer tutoring and other teaching experiences). Students with a peer teaching experience were significantly more likely to have high intent for a future nursing faculty role [χ^2 (1, N = 1,078) = 18.70, p < .001, phi = .13] as well as students who had had a peer tutoring experience [χ^2 (1, N = 1,078) = 15.56, p < .001, phi = .12]. Serving as a teaching assistant [χ^2 (1, N = 1,078) = 1.03, p = .31, phi

= .03] and other teaching experiences [χ^2 (1, N = 1,078) = 0.93, p = .34, phi = .03] were not significant. Refer to Table 17 for the Chi-square analysis results for teaching experiences.

All students who had peer tutoring experiences, serving as a teaching assistant or peer tutoring were grouped into an "overall teaching experience" category (yes/no) and analyzed using Chi-square analysis. Students having any type of teaching experience was statistically significant [χ^2 (1, N = 1,078) = 20.16, p < .001, phi=.14]. Refer to Table 17 for the Chi-square analysis results.

Positivity of experience in teaching. Students were asked to rate the positivity of each of the teaching experiences they had had (peer teaching, peer tutoring, serving as a teaching assistant and other teaching) as 1 (not applicable) or from 2 (very negative) to 6 (very positive). All students, regardless of intention for a future nursing faculty role, rated the experiences as being very positive. High intent students rated serving as a teaching assistant higher (5.62 out of a possible 6 points) than the other teaching experiences. Low/unsure intent students rated peer teaching the lowest (5.09 out of a possible 6 points).

Overall, high intent students for a faculty role rated each of the teaching experiences more positively than low/unsure intent students, reaching statistical significance in peer teaching, peer tutoring and serving as a teaching assistant. There was no difference between the two student groups for other teaching experiences. Specifically, high intent students rated peer teaching higher (M = 5.42, SD = 0.58) than low/unsure intent students (M = 5.09, SD = 0.64; t (391.9) = -6.35, p < .001). The magnitude of the differences in the means (-0.33, 95% CI: -0.43 to -0.23) was moderate (eta squared = .06). Second, for peer tutoring, there was also a statistically significant difference between the scores for high intent students (M = 5.46, SD = 0.57) than low/unsure intent students (M = 5.24, SD = 0.64; t (329) = -3.93, p < .001). The

Table 17

Teaching Experience and Intention to Pursue a Faculty Role

Teaching Experience	Intention to Pursue a Faculty Role				p-value
	High		Low/unsure		
	n	%	*n*	%	
Overall Teaching Experience***					
No	28	12.7	192	87.3	
Yes	237	27.6	621	72.4	<.001
Peer Teaching***					
No	72	17.3	344	82.7	
Yes	193	29.2	469	70.8	<.001
Serving as Teaching Assist					
No	218	24.0	692	76.0	
Yes	47	28.0	121	72.0	.310
Peer Tutoring***					
No	98	19.1	416	80.9	
Yes	167	29.6	397	70.4	<.001
Other Teaching Experience					
No	241	24.2	756	75.8	
Yes	24	29.6	57	70.4	.336

Note. *** $p < .001$.

magnitude of the differences in the means (-0.22, 95% CI: -0.33 to -0.10) was small (eta squared = .03). Third, for serving as a teaching assistant, there was a significant difference between the scores for high intent students (M = 5.62, SD = 0.49) and low/unsure intent students (M = 5.16, SD = 0.79; t (127) = -4.49, p < .001). The magnitude of the differences in the means (0-.46, 95% CI: -0.66 to -0.26) was moderate (eta squared = .11). Lastly, for other teaching experiences, there was no statistically significant difference between the scores for high intent students (M = 5.61, SD = 0.72) and low/unsure intent students (M = 5.27, SD = 0.80; t (46) = -1.81, p = .08. The magnitude of the differences in the means (-0.34, 95% CI: -0.71 to 0.04) was very small (eta squared = .04). Refer to Table 18 for the means and standard deviations of the positivity of the teaching experiences.

Faculty role model. In this study, having a faculty role model was defined as observing a nursing faculty member who serves as a role model for the student in teaching. Using independent-samples t-tests, means and standard deviations, the differences between high intent students for a faculty role and with low/unsure intent students for each role model item was compared. For both groups of students, the highest rated item was, "There is someone I admire among the nursing faculty." and the lowest rated item was, "Among the nursing faculty, there is no one who inspires me." Each of the role model items was statistically significant when comparing the two groups with high intent students rating the positive items higher than low/unsure intent students. High intent students also rated the negative statements lower than low/unsure intent students with the exception of "There is no one particularly inspirational to me among my nursing faculty."

The negative role model items were reversed scored and a total role model mean was calculated. Using independent-samples t-tests, the total mean score for all of the role model items

Table 18

Positivity of Teaching Experience and Intention to Pursue a Faculty Role (Potential range: 2-6)

Positivity of Teaching Experience		Intention to Pursue a Faculty Role					
		High			Low/unsure		
	Actual Range	*n*	*M*	*SD*	*N*	*M*	*SD*
Peer Teaching***	2-6	193	5.42	0.58	468	5.09	0.64
Peer Tutoring***	2-6	160	5.46	0.57	389	5.24	0.64
Teaching Assistant***	2-6	45	5.62	0.49	119	5.16	0.79
Other Teaching	3-6	23	5.61	0.72	55	5.27	0.80

Note. ***$p < .001$.

was calculated and compared by intention (high vs. low/unsure) for a faculty role. High intent students had a higher overall mean for role model than low/unsure intent students as demonstrated by a statistically significant difference between the scores for high intent students (M = 4.00, SD = 0.76) when compared with low/unsure intent students (M = 3.68, SD = 0.74; t (440) = -6.03, $p < .001$). The magnitude of the differences in the means (-2.25, 95% CI: -2.99 to -1.52) was small (eta squared = .03). Refer to Table 19 for the means, standard deviations and p-values for the role model items.

Faculty encouragement. In this study, faculty encouragement was defined as receiving encouragement from a nursing faculty member to consider a future nursing faculty role and graduate education. The highest mean was for the pursuit of graduate education by high intent students (M = 4.17, SD = 1.00). The lowest mean was for encouragement for a future nursing faculty role by low/unsure intent students (M = 3.08, SD = 1.14). Using independent-samples t-tests, high intent students were compared with low/unsure intent students for encouragement for a faculty role. High intent students rated encouragement to pursue a future faculty role higher than low/unsure intent students as demonstrated by a statistically significant difference between the scores for high intent students (M = 3.74, SD = 1.10) when compared with low/unsure intent students [M = 3.08, SD = 1.14; t (463) = -8.43, $p < .001$]. The magnitude of the differences in the means (-0.66, 95% CI: -0.82 to -0.51) was moderate (eta squared = .06). Using independent-samples t-test, high intent students for a faculty role were compared with low/unsure intent students to determine if there was a difference in the rating for encouragement to pursue graduate education. High intent students for a faculty role rated encouragement for graduate education higher than low/unsure intent students as demonstrated by a statistically significant difference between the scores for high intent students (M = 4.17, SD = 1.00) than low/unsure intent students

Table 19

Role Modeling and Encouragement for a Future Faculty Role

Role Modeling & Encouragement Range: 1-5	Intention to Pursue a Faculty Role: High (*n* = 265) *M*	*SD*	Low-Unsure (*n* = 813) *M*	*SD*
Positive Comments:				
There is someone I am trying to be like who is a nursing faculty member.***	3.83	1.13	3.35	1.09
There is someone I admire among the nursing faculty.**	4.40	0.80	4.21	0.82
I have a mentor among the nursing faculty.***	3.55	1.12	3.21	1.10
I know of a nursing faculty member who has a career I would like to pursue.***	3.91	1.04	3.42	1.04
Negative Comments:				
There is no one particularly inspirational to me among my nursing faculty.	2.00	1.17	2.16	1.16
There is no one I am trying to be like among the nursing faculty.***	2.02	1.11	2.44	1.16
Among the nursing faculty, there is no one who inspires me.**	1.64	0.92	1.83	0.96
Total Role Model***	4.00	0.76	3.68	0.74
Faculty Encouragement:				
To pursue a future nursing faculty role***	3.74	1.10	3.08	1.14
To pursue graduate education**	4.17	1.00	3.91	1.07

*Note. **p<.01; ***p<.001.*

(M = 3.91, SD = 1.07; t (477) = -3.57, p < .01). The magnitude of the differences in the means (-0.26, 95% CI: -0.40 to -0.12) was small (eta squared=.01). Refer to Table 19 for the means and standard deviations for encouragement for a faculty role and graduate education for the two groups.

Outcome Expectations

In this study, outcome expectations were defined as the pre-licensure baccalaureate nursing students' beliefs about the advantages and disadvantages of a nursing faculty role. Using independent-samples t-tests, means and standard deviations of each advantage and disadvantage item, high intent students for a faculty role were compared with low/unsure intent students. Also using independent-samples t-test, the two students groups were compared by the total mean for advantages and for disadvantages. Results of advantages survey items are presented first, followed by the results of the disadvantage survey items.

Advantages. The highest rated item among high intent students was "Share my love of learning" and the highest rated item among low/unsure intent students was "Make a contribution to nursing". The lowest rated item among both groups of students was, "Earn an attractive salary" although high intent students did not rate it as low as low/unsure intent students. Each of the items in the advantages scale reached statistical significance when comparing the two groups with high intent students for a faculty role rating the advantage items higher than low/unsure intent students ($p < .001$). Refer to Table 20 for the number of responses to each item, means and standard deviations for outcomes expectations-advantages for the two groups.

Also, using the independent-samples t-test, the total mean score for all advantage items was calculated and compared by intention for a future faculty role. Because all students did not respond to all options, missing scores were replaced by the mean and then analyzed using an

Table 20

Outcome expectations: Advantages and Intent for a Faculty Role

Outcome Expectations: Advantages Potential range: 0-5	Intention to Pursue a Faculty Role					
	High			Low/unsure		
	n	*M*	*SD*	*N*	*M*	*SD*
Receive a good job offer***	265	3.82	0.94	810	3.17	1.14
Get respect from other people***	265	4.01	0.99	812	3.59	1.07
Do work that I would find satisfying***	265	4.44	0.72	811	3.36	1.24
Increase my sense of self-worth***	263	4.17	0.95	807	3.32	1.22
Make a difference in people's lives***	265	4.58	0.67	809	3.94	1.07
Go into a field with high employment demand ***	264	3.99	1.12	810	3.51	1.26
Do exciting work***	264	4.10	0.95	805	3.03	1.27
Have the right type & amount of contact with other people***	264	3.94	1.01	808	3.06	1.24
Make a contribution to nursing***	264	4.53	0.72	811	3.99	1.02
Share my love of learning***	265	4.61	0.68	813	3.79	1.20
Have good working conditions***	265	4.07	0.97	812	3.57	1.12
Earn an attractive salary***	263	3.19	1.33	800	2.53	1.38
Have a career that is valued by my family***	264	4.23	0.94	810	3.63	1.21
Do work that is challenging***	265	4.18	0.83	810	3.61	1.14
Have a lifestyle conducive to having/caring for a family***	265	3.99	1.12	809	3.46	1.22
Overall Mean***	265	4.12	0.60	813	3.44	0.80

Note. ***$p < .001$.

independent-samples t-test. High intent students had a higher overall mean for the advantage items than low/unsure intent students as demonstrated by a statistically significant difference between the scores for high intent students (M = 4.12, SD = 0.60) when compared with low/unsure intent students [M = 3.44, SD = 0.80; t (597) = -14.88, p < .001]. The magnitude of the differences in the means (-0.69, 95% CI: -0.78 to -0.60) was large (eta squared = .17). Refer to Table 20 for the overall means, standard deviations and p-values of the outcome expectations-advantages.

Disadvantages. The highest rated item among both groups of students was "have to earn a graduate degree" followed by "have a heavy workload". High intent students rated each of the items lower than low/unsure intent students, reaching statistical significance between the two groups on each items.

Also, using the independent-samples t-test, the total mean score for all disadvantage items was calculated and compared by intention for a future faculty role. Having to pursue graduate education was removed from the analysis because, although the item was scored highly, most of the students in the study sample intend to earn a graduate degree. High intent students had a higher overall mean for the disadvantage items than low/unsure intent students as demonstrated by a statistically significant difference between the scores for high intent students (M = 1.76, SD = 0.96) when compared with low/unsure intent students [M = 2.04, SD = 0.99; t (316) = 2.15, p < .001]. The magnitude of the differences in the means (0.13, 95% CI: 0.01 to 0.24) was very small (eta squared = .004). Refer to Table 21 for the number of responses to each item, means, standard deviations and p-values for outcomes expectations-disadvantages.

Table 21

Outcome Expectations: Disadvantages and Intent for a Faculty Role

Outcome Expectations: Disadvantages Potential range: 0-5	Intention to Pursue a Faculty Role					
	High			Low/unsure		
	n	*M*	*SD*	*N*	*M*	*SD*
Find that the job is too complex**	263	1.63	1.12	805	1.88	1.16
Find that the job has too much responsibility***	260	1.73	1.25	797	2.06	1.26
Find that the job has too much liability**	258	1.64	1.25	798	1.89	1.19
Have a workload that is too heavy**	258	2.12	1.30	800	2.39	1.30
Have to earn a graduate degree***	263	4.52	0.82	811	4.24	1.09
Overall mean***	265	1.76	0.96	813	2.04	0.99

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

Interests in Activities/Tasks of a Faculty Role

This study defined interests as the like, dislike or indifference regarding the activities and tasks performed by a nursing faculty member. Using independent-samples t-tests, means and standard deviations of each item in the construct, high intent students for a faculty role were compared with low/unsure intent students. Students in both groups had the highest means in "advising students" and "teaching and guiding learners" and the lowest means for "writing and publishing nursing research" and "conducting research". Each of the items in the interests in activities/tasks of a faculty reached statistical significance when comparing the two groups with the high intent students rating the items higher than low/unsure intent students.

Also, using the independent-samples t-test, the total mean score for all interests in the activities/tasks of a faculty role items was calculated and compared by intention for a future faculty role. High intent students had a higher overall mean than low/unsure intent students as demonstrated by a statistically significant difference between the scores for high intent students (M = 3.66, SD = 0.85) when compared with low/unsure intent students (M = 2.56, SD = 1.04; t (545) = -17.23, $p < .001$ (two-tailed, equal variances not assumed). The magnitude of the differences in the means (-1.09, 95% CI: -1.22 to -0.97) was large (eta squared = .22). Refer to Table 22 for the overall means, standard deviations and p-values of the items in the interests in the activities/tasks of a faculty role.

Summary

In summary, research question four compared the differences between pre-licensure nursing students with high and low/unsure intent for a future nursing faculty role on each of the derived SCCT constructs (person inputs, distal and proximal background, self-efficacy, learning experiences, outcome expectation and interest in the activities/tasks for a faculty role). Chi-

Table 22

Interests in Activities/tasks of a Faculty Role and Intent to Pursue a Faculty Role

Interests in activities/tasks of a faculty role (Potential range: 0-5)	Intention to Pursue a Faculty Role					
	High			Low/unsure		
	n	*M*	*SD*	*N*	*M*	*SD*
Developing courses & learning activities***	265	3.74	1.15	801	2.39	1.37
Teaching and guiding learners***	264	4.30	0.96	799	3.07	1.34
Evaluating learning***	264	3.89	1.11	798	2.55	1.36
Advising students***	263	4.28	0.99	802	3.28	1.38
Attending a variety of departmental & institutional meetings***	264	3.41	1.25	793	2.24	1.43
Serving on various academic & institutional committees***	263	3.59	1.24	791	2.49	1.44
Conducting research alone or in collaborative settings***	265	2.98	1.55	793	2.24	1.54
Writing & publishing nursing research findings in academic/clinical journals***	262	2.82	1.57	786	1.95	1.47
Attending regional & national professional meetings***	265	3.93	1.26	804	2.94	1.48
Overall mean***	265	3.66	0.85	813	2.56	1.04

Note. ** $p < .001$.

square statistical tests were used to compare the differences between pre-licensure nursing students with high and low/unsure intention to pursue a future nursing faculty role and graduate education on the categorical variables in the SCCT constructs as follows: person inputs (gender, race/ethnicity, distal background (parent education and occupation), proximal background (type of nursing program, level of education, educational background), learning experience (types of teaching experience). Independent-samples t-tests were used to compare the differences between the students with high and low/unsure intention to pursue a future nursing faculty role and graduate education on the continuous variables in the SCCT constructs as follows: nursing faculty role and graduate education: person inputs (age), proximal background (supports and barriers), self-efficacy (faculty role, completion of a master's degree, completion of a doctoral degree), learning experience (positivity of teaching experiences, observing a faculty role model, encouragement), outcome expectations (advantages and disadvantages), and interest in the activities/tasks of a faculty role.

A number of the SCCT variables were statistically significant. First, high intent students were more likely than low/unsure intent students to be between the ages of 31 to 40 and enrolled in an accelerated baccalaureate nursing program. Second, high intent students were more likely to rate supports higher and barriers lower for pursuit of a future faculty role than low/unsure intent students. Third, high intent students rated the items for self-efficacy for a faculty role and self-efficacy for completion of a master's and a doctoral degree higher than low/unsure intent students. Fourth, high intent students were more likely to have had previous teaching experiences, especially peer teaching and peer tutoring than low/unsure intent students. High intent students also rated the positivity of previous teaching experiences higher than low/unsure intent students. Fifth, high intent students rated faculty role modeling, encouragement to pursue a

future faculty role and encouragement to pursue graduate education higher than low/unsure intent students. Finally, high intent students rated the outcomes expectations advantages higher, outcome disadvantages lower and interests in the activities/tasks of a faculty role higher than low/unsure intent students.

Some of the variables were not statistically significant between the two groups of students for pursuit of a future nursing faculty role as follows. High intent students' responses were not statistically different than low/unsure intent students for gender, race/ethnicity, parent education and occupation, semesters of clinical nursing completed and education background (previous college degree prior to entering the nursing program). Also, high intent students did not differ from low/unsure intent students for serving as a teaching assistant or "other" teaching experience. The next section discusses the analysis of the statistically significant variables in the logistic regression model for students with high intent for a future nursing faculty role.

Research Question Five: SCCT Constructs and Variables and Prediction of Intent to Pursue a Future Nursing Faculty Role

Direct logistic regression was performed to assess the relationship of the theoretically derived SCCT constructs and the associated variables that were statistically significant for pursuit of a future nursing faculty role on the likelihood that students would report that they had a high intent to pursue a future nursing faculty role. Preliminary analyses were conducted to ensure there was no multicollinearity among the predictor variables and that all levels of the binary categorical predictor variables had sufficient counts. The model contained 11 predictor variables (age, type of nursing program, supports, barriers, self-efficacy for a faculty role, teaching experience, faculty role modeling, encouragement for pursuit of a faculty role, outcome expectations-advantages, outcome expectations-disadvantages and interests in the activities/tasks

of a faculty member) where each of the variables had a statistically significant association with the binary outcome variable (high intent versus low/unsure intent for a future nursing faculty role). The statistically significant categorical variables and continuous variables were entered at one time into the logistic regression model using *Statistical Package for the Social Sciences (SPSS™.) version 18.* The categorical variables were type of nursing program (accelerated/baccalaureate) and teaching experience (yes/no). The continuous variables were the total mean scores for supports, barriers, self-efficacy for a faculty role, faculty role modeling, outcome expectations-advantages, outcome expectations-disadvantages, interests in the activities/tasks of a faculty member, in addition to the mean score for encouragement for pursuit of a faculty role and finally, age.

The full statistical model containing all 11 predictors was statistically significant, [χ^2 (11, N = 1,078) = 300.94, $p < .001$], indicating that the model was able to distinguish between high intent students for a faculty role and low/unsure intent students. The Hosmer and Lemeshow Goodness of Fit Test was non-significant, χ^2 (8) = 6.76, p = .56, indicating good fit of the model. The model as a whole explained between 24.4% (Cox and Snell R square) and 36.2% (Nagelkerke R square) of the variance in the students' intention status for pursuit of a future nursing faculty role.

The following six predictor variables made a positive and unique statistically significant contribution to the model as indicated by the odds ratio: type of nursing program, teaching experience, encouragement to pursue a faculty role, outcome expectations-advantages, outcome expectations-disadvantages and interests in activities/tasks of a faculty role. The odds ratio is obtained by dividing the number of times an outcome of interest occurs by the number of times it does not occur (Pallant, 2010). If the odds ratio is equal to one, then the chances of occurrence

versus non occurrence of an event are equal. If the odds ratio is greater than one, then the chances of an event occurring are greater than for the event not occurring. If the odds ratio is less than one, then the odds are greater that an event does not occur. Interest in the activities/tasks of a faculty role (*OR* = 2.4), type of nursing program currently enrolled in (*OR* = 2.1), and outcome expectations-advantages (*OR* = 1.9) were the strongest predictors of intent to pursue a future nursing faculty role. High intent students for a future nursing faculty role were 2.4 times more likely to rate interest in the activities/tasks of a faculty role higher, 2.1 times more likely to be enrolled in an accelerated nursing program and 1.9 times more likely to rate the outcome expectations-advantages higher than low/unsure intent students. Previous teaching experience (*OR* = 1.7) and encouragement from a faculty member to pursue a future faculty role (*OR* = 1.5) were also important predictors. High intent students for a future nursing faculty role were 1.7 times more likely to have had previous teaching experience and 1.5 times more likely to have received encouragement from a nursing faculty member to pursue a future nursing faculty role than low/unsure intent students. Outcome expectation-disadvantages (*OR* = 0.8) was the weakest predictor, indicating that students with high intent for future pursuit of a faculty role were 0.8 times less likely to have higher outcome expectation-disadvantage scores than those with low/unsure intent. Refer to Table 23 for the logistic regression results.

In summary, the full model was able to distinguish between high intent students for a faculty role and low/unsure intent students, explaining 24.4% and 36.2% of the variance in the students' intention for a future nursing faculty role. The variables that made a statistically significant contribution to the model were: (1) interest in the activities/tasks of a faculty role, (2) proximal background-type of nursing program currently enrolled, (3) outcome expectations-advantages, (4) learning experiences-previous teaching experiences and encouragement from a

Table 23

Summary of Logistic Regression for the Main Effect of SCCT Variables on Intent to Pursue a Future Nursing Faculty Role

Variable	*b*	S.E.	Wald	*df*	*p*	*OR*	95% C.I. Lower	Upper
Age	.01	.01	0.22	1	.64	1.00	0.98	1.02
Type Pre-licensure Nursing Program	.73	.24	9.35	1	<.001	2.08	1.30	3.32
Support Mean	.31	.18	3.05	1	.08	1.36	0.96	1.91
Barrier Mean	-.13	.16	0.67	1	.41	0.88	0.64	1.20
Self-efficacy Faculty Role	.04	.07	0.29	1	.59	1.04	0.90	1.20
Teaching Experience	.51	.25	4.15	1	.04	1.67	1.02	2.74
Role Model Mean	-.04	.13	0.09	1	.77	0.96	0.75	1.24
Encouragement to Pursue Faculty Role	.40	.17	5.03	1	.03	1.48	1.05	2.08
Outcome Expectations: Advantages	.66	.16	17.27	1	<.001	1.93	1.42	2.64
Outcome Expectations: Disadvantages	-.18	.09	4.33	1	.04	0.83	0.70	0.99
Interests in Activities of Faculty Role	.84	.12	53.22	1	<.001	2.33	1.85	2.92

Note. Underlined *p*-values are the significant variables in the logistic regression.

faculty member to pursue a future faculty role and finally, (5) outcome expectations-disadvantages. Constructs that were not supported were person inputs-age; proximal background-supports and barriers; self-efficacy-for a faculty role; and learning experiences-role model. Refer to Figure 3 for the conceptual framework and the results of the analysis for intent for a nursing faculty role based on the derived constructs of Social Cognitive Career Theory (SCCT).

The next section discusses the analysis of the statistically significant variables in the logistic regression model for students with high intent for graduate education.

Research Question Six: SCCT Constructs and Variables and Prediction of Intent to Pursue Graduate Education

Direct logistic regression was performed to assess the relationship of the theoretically derived SCCT variables that were statistically significant to pursuit of graduate education on the likelihood that students would report that they had a high intent to pursue graduate education. Preliminary analyses were conducted to ensure there was no multicollinearity among the predictor variables and that all levels of the binary categorical predictor variables had sufficient counts. The model contained 12 predictor variables (age, supports, barriers, self-efficacy for a faculty role, self-efficacy for completion of a master's degree, self-efficacy for completion of a doctoral degree, teaching experience, faculty role modeling, encouragement for pursuit of graduate education, outcome expectations–advantages, outcome expectations–disadvantages and interests in the activities/tasks of a faculty member) where each one had a statistically significant association with the binary outcome variable (high intent versus low/unsure intent for graduate education). The statistically significant categorical variable and continuous variables were

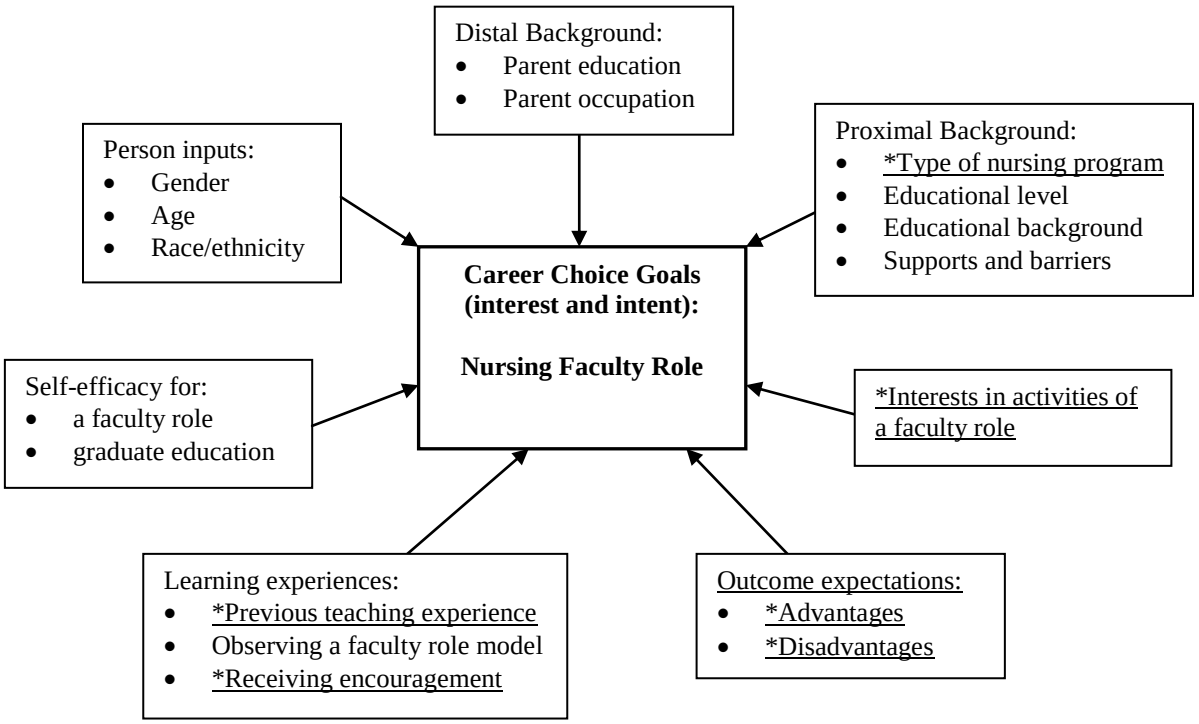

Figure 3. Results of faculty role intent.

Note. *and underlined variables indicate significant findings.

entered at one time into the logistic regression model using *Statistical Package for the Social Sciences (SPSS™.) version 18.* The categorical variable was teaching experience (yes/no). The Conceptual framework for intent for a nursing faculty role and derived constructs and variables from Social Cognitive Career Theory (SCCT).

The continuous variables were the total mean scores for supports, barriers, self-efficacy for a faculty role, faculty role modeling, outcome expectations – advantages, outcome expectations – disadvantages and interests in the activities/tasks of a faculty member in addition to the mean score for self-efficacy for completion of a master's degree, self-efficacy for completion of a doctoral degree, encouragement for pursuit of graduate education and finally, age.

Although the Hosmer and Lemeshow Goodness of Fit Test was statistically significant (indicating poor model fit to the data), the reduction in overall error as measured by the reduction in the -2Log likelihood statistic when all 12 predictor variables were included in the model was statistically significant (χ^2 (12, N = 1,078) = 328.02, $p < .001$). This test indicates that at least one of the regression coefficients is not equal to zero. The model as a whole explained between 26.2% (Cox and Snell R square) and 39.4% (Nagelkerke R square) of the variance in the students' intention status for graduate education.

Six of the predictor variables made a positive and unique statistically significant contribution to the model: age, barriers, self-efficacy completion of a master's degree, self-efficacy for completion of a doctoral degree, encouragement to pursue graduate education and interests in activities/tasks of a faculty role. As before, the odds ratio was used to examine the strength of the predictor variables. The strongest predictor of intent to pursue graduate education was encouragement to pursue graduate education (*OR* = 2.7). High intent students for graduate

education were 2.7 times more likely to have been encouraged to pursue graduate education than low/unsure intent students. Interest in the activities/tasks of a faculty role (*OR* = 1.8) and self-efficacy for completing a master's degree (*OR* = 1.6) were also strong predictors. High intent students for graduate education were 1.8 times more likely to be interested in the activities/tasks for a faculty role and 1.6 times more likely to have high self-efficacy for completing a master's degree than low/unsure intent students. The weakest predictors were barriers (*OR* = 0.7), self-efficacy for completion of a doctoral degree (*OR* = 1.1) and age (*OR* = .95). Students with high intent for graduate education were 0.7 times less likely to rate barriers higher than low/unsure intent students. The high intent students for graduate education were also only slightly more likely to have report high self-efficacy for completion of a doctoral degree and only slightly more likely to be younger. Refer to Table 24 for the logistic regression results.

In summary, the full model was able to distinguish between high intent students for graduate education and low/unsure intent students, explaining between 26.2% and 39.4% of the variance in the students' intention to pursue graduate education. The variables that made a statistically significant contribution to the model were: (1) learning experiences-encouragement to pursue graduate education, (2) interest in the activities/tasks of a faculty role, (3) self-efficacy-completion of a master's degree, and (4) proximal background-barriers to pursuit of a faculty role. Constructs that were weakly supported by the analysis were person inputs-age and self-efficacy- completion of a doctoral degree. Constructs that were not supported were proximal background- supports, self-efficacy-faculty role, learning experiences-teaching experience and role model mean; and outcome expectations-advantages and disadvantages. Refer to Figure 4 for the conceptual framework and the results of the analysis for intent for graduate education based on the derived constructs of Social Cognitive Career Theory (SCCT).

Table 24

Summary of Logistic Regression for the Main Effect of SCCT Variables on Intent to Pursue Graduate Education

Variable	*b*	S.E.	Wald	*df*	*p*	*OR*	95% C.I. Lower	95% C.I. Upper
Age	-.05	.01	21.25	1	<.001	0.95	0.93	0.97
Support Mean	.03	.17	0.03	1	.87	0.97	0.70	1.35
Barrier Mean	-.38	.16	5.96	1	.02	0.68	0.50	0.93
Self-efficacy Faculty Role	.18	.07	2.55	1	.11	0.89	0.77	1.03
Self-efficacy Master's Degree	.47	.07	46.01	1	<.001	1.60	1.40	1.84
Self-efficacy Doctoral Degree	.10	.05	4.54	1	.03	1.11	1.01	1.22
Teaching Experience	-.23	.22	1.08	1	.30	0.80	0.52	1.22
Role Model Mean	.02	.13	0.03	1	.86	1.02	0.80	1.31
Encouragement to Pursue Graduate Education	.98	.18	28.28	1	<.001	2.66	1.86	3.82
Outcome Expectations: Advantages	-.11	.15	0.57	1	.45	0.90	0.67	1.19
Outcome Expectations: Disadvantages	.06	.09	0.35	1	.55	1.06	0.88	1.27
Interests in Activities of Faculty Role	.57	.11	27.76	1	<.001	1.77	1.43	2.18

Note. Underlined *p*-values are the significant variables in the logistic regression.

Conceptual framework for intent for graduate education and derived constructs and variables from Social Cognitive Career Theory (SCCT). Note. *and underlined variables indicates significant findings.

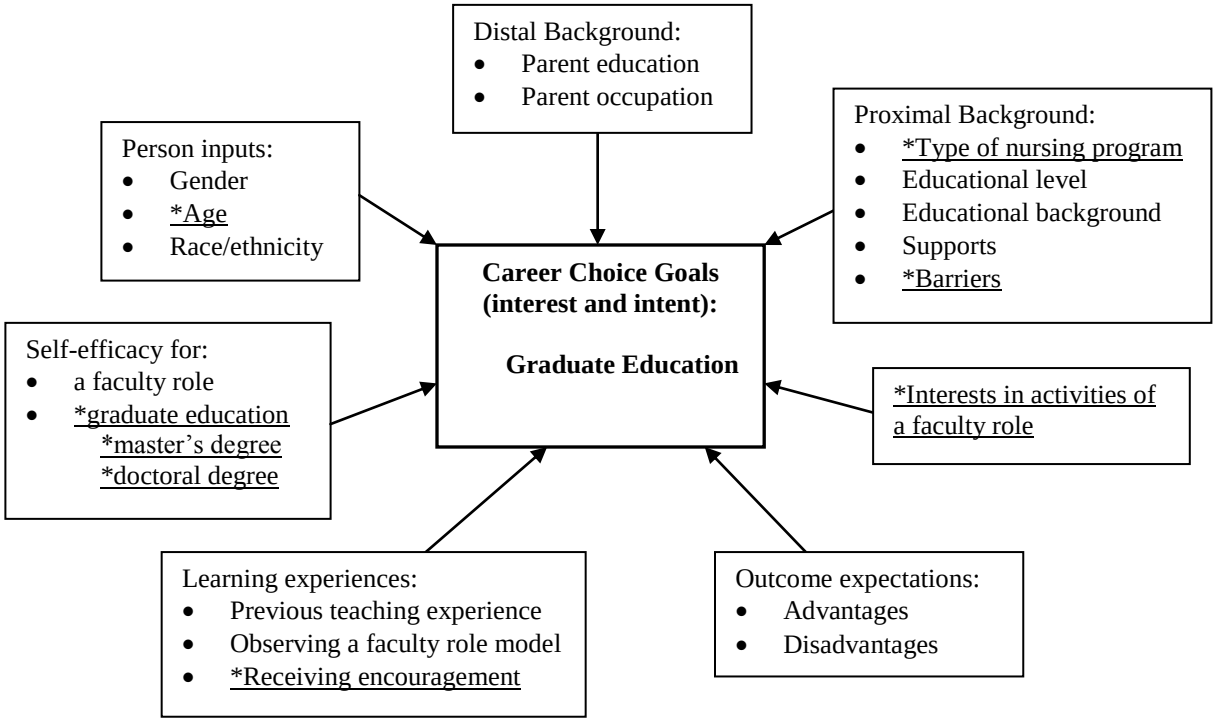

Figure 4. Results of graduate education intent.

Summary

The purpose of this chapter was to report the findings of the study of pre-licensure baccalaureate nursing students' career choice goal for a future faculty role and graduate education according to the derived constructs and the associated variables of Social Cognitive Career Theory (SCCT). First, research question one examined the degree of interest and intent of pre-licensure baccalaureate nursing students in pursuing a future nursing faculty role. Almost 25% of the study sample reported high intention to pursue a future nursing faculty role. However, almost 45% of the students reported they were unsure of whether they would pursue a faculty role in the future.

Second, research question two explored the degree of interest and intent of pre-licensure baccalaureate nursing students in pursuing graduate education. A large percentage of the study sample (n = 822, 76.3%) expressed high intent for graduate education. High intent students for a future nursing faculty role also had a high intent for graduate education (n = 249, 94.0%). Students with high intent for a faculty role intend to work as a nurse for an average of 5.8 years and to pursue graduate education in an average of 3.3 years. High intent students for a faculty role aspired to earn a doctorate degree as their highest degree (53.2%).

Third, research question three described the findings of the psychometric properties of the multiple item measures of SCCT constructs (supports and barriers to pursuing a faculty role; self-efficacy; outcome expectations advantages and disadvantages; faculty role model; and interests in the activities/tasks of a faculty role) for those intending and not intending to pursue a future faculty role. The scales for supports, self-efficacy, role model, outcome expectations (advantages) and interests in the activities/tasks of a faculty member demonstrated high internal reliability. Once the outcome expectations disadvantages items that stated "have to earn a

graduate degree" was removed, the disadvantages scale demonstrated adequate internal reliability. The barriers scale did not demonstrate high reliability. This section also described the nursing students' open-ended responses to support and barriers and outcome expectations to determine if a complete list of items in these scales was included in the survey. Of the support and barrier comments, only one other support item for pursuit of a future nursing faculty role was mentioned, *to make a positive difference.* Students mentioned several barriers to pursuit of a future faculty role: (1) *lack of job availability*; (2) *balancing work and school and sometimes family*; and (3) *lack of knowledge/experience of the faculty role*. Of the students' outcome expectation responses, the most frequently mentioned advantage was the *faculty schedule.* Lastly, students commented on two other outcome expectations-disadvantages: (1) *loss of clinical contact with patients in a faculty role* (also mentioned in the barriers section) and (2) *dealing with demanding students*.

Fourth, research question four compared the differences between pre-licensure nursing students with high and low/unsure intention to pursue a future faculty role on the SCCT constructs (person inputs, distal and proximal background variables, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role). Chi-square tests were used for comparing the high intent students for a faculty role with low/unsure intent students on the categorical variables. Independent-samples t-tests were used for comparing the high intent students for a faculty role with low/unsure intent students on the continuous variables. A number of the SCCT variables were statistically significant. First, high intent students for a faculty role were more likely than low/unsure intent students to be between the ages of 31 to 40 and enrolled in an accelerated baccalaureate nursing program. Second, high intent students for a faculty role were more likely to rate supports higher and barriers lower for

pursuit of a future faculty role than low/unsure intent students. Third, high intent students for a faculty role rated the items for self-efficacy for a faculty role and self-efficacy for completion of a master's and a doctoral degree higher than low/unsure intent students. Fourth, high intent students for a faculty role were more likely to have had previous teaching experiences, especially peer teaching and peer tutoring, than low/unsure intent students. High intent students for a faculty role also rated the positivity of previous teaching experiences higher than low/unsure intent students. Fifth, high intent students rated faculty role modeling, encouragement to pursue a future faculty role and encouragement to pursue graduate education higher than low/unsure intent students. Finally, high intent students rated the outcomes expectations advantages higher, outcome disadvantages lower and interests in the activities/tasks of a faculty role higher than low/unsure intent students.

Some of the variables were not statistically significant between the two groups of students for pursuit of a future nursing faculty role as follows. High intent students' responses were not statistically different than those of low/unsure intent students by gender, race/ethnicity, parent education and occupation, semesters of clinical nursing completed and education background (previous college degree prior to entering the nursing program). Also, high intent students did not differ from low/unsure intent students for serving as a teaching assistant or "other" teaching experience.

Fifth, research question five, presented the logistic regression of the SCCT constructs for intention to pursue a future nursing faculty role: person inputs-age; proximal background-type nursing program and supports and barriers; self-efficacy-faculty role; learning experiences-previous teaching experience, observing a faculty role model and encouragement to pursue a faculty role; outcome expectations-advantages and disadvantages and interests in the activities of

a nursing faculty role). The full model was able to distinguish between high intent for a faculty role and low/unsure intent students, explaining between 24.4% and 36.2% of the variance in the students' intention for a future nursing faculty role. Six of the independent variables made a unique statistically significant contribution to the model: (1) interest in the activities/tasks of a faculty role; (2) proximal background (type of nursing program currently enrolled); (3) outcome expectations (advantages); (4) learning experiences (previous teaching experiences and encouragement from a faculty member to pursue a future faculty role); and finally, (5) outcome expectations (disadvantages). Some of the SCCT constructs and variables were not significant in the logistic regression analysis: (1) person inputs-age; (2) proximal background-supports and barriers; (3) self-efficacy-faculty role; and (4) learning experiences-observing a faculty role model).

Finally, research question six presented the logistic regression of the SCCT constructs for intention to pursue graduate education: person inputs-age; proximal background-supports and barriers; self-efficacy-faculty role, completion of master's degree, completion of a doctoral degree; learning experiences-previous teaching experience, observing a faculty role model and encouragement to pursue graduate education; outcome expectations-advantages and disadvantages and interests in the activities of a nursing faculty role. The full model was able to distinguish between students with a high intent for graduate education and low/unsure intent, explaining between 26.2% and 39.4% of the variance. The strongest predictors of intent to pursue graduate education were: (1) learning experiences-encouragement to pursue graduate education; (2) interest in the activities/tasks of a faculty role; (3) self-efficacy-completing a master's degree; and (4) proximal background-(barriers to pursuit of a faculty role; (5) self-efficacy-completing a doctoral degree; and (6) person inputs-age. Some of the SCCT constructs

and variables were not supported in the logistic regression: (1) person inputs-age; (2) proximal background-supports; (3) self-efficacy-faculty role; (4) learning experiences-previous teaching experience and observing a faculty role model; and (5) outcome expectations-advantages and disadvantages. The final chapter, Chapter Five, presents a discussion of the findings of Chapter Four according to the research questions, followed by conclusions, a description of the strengths and limitations of the study, implications for nursing theory, practice, education, policy and research.

CHAPTER FIVE: DISCUSSION

The purpose of this study was to use the Social Cognitive Career Theory (SCCT) to (1) determine the degree of interest and intent of pre-licensure baccalaureate nursing students for a future nursing faculty role and graduate education; (2) develop and adapt measures for the SCCT constructs that are applicable to the prediction of a nursing faculty career choice goal (interest and intent) in pre-licensure baccalaureate nursing students; (3) assess the psychometric properties and correlations among the measures derived from SCCT; (4) examine whether students indicating a high intention for a faculty role differ from students indicating a low or unsure intention on any of the SCCT constructs (person inputs, distal and proximal backgrounds, self-efficacy, learning experiences, outcome expectations, and interests in the activities of a nursing faculty role); and (5) investigate how well the derived SCCT constructs predict the probability of a survey respondent indicating a career choice goal in pursuing a nursing faculty role and graduate nursing education. A discussion of the findings of Chapter Four is presented according to the research questions, followed by conclusions, a description of the strengths and limitations of the study, implications for nursing theory (including a discussion of the performance of the theory derivation process), education, policy and research.

Derived variables of SCCT constructs (person inputs, distal and proximal background variables, self-efficacy, learning experiences, outcome expectations and interests in the activities of a nursing faculty role) and the associated variables were used to investigate interest and intent (career choice goal) of pre-licensure baccalaureate nursing students for a future faculty role and graduate education. The selected variables of SCCT were analyzed by comparing the students with high or very high intention (categorized as high intent students) for a future nursing faculty role to students with a very low, low or unsure intent (categorized as low/unsure intent students).

The psychometric properties of the measures of the SCCT constructs were also analyzed for reliability. High intent students for a faculty role were compared with low/unsure intent students by SCCT constructs (person inputs, distal and proximal background, self-efficacy, learning experiences, outcome expectations and interest in the activities/tasks of a faculty role. The SCCT variables were examined to determine the predictability for intent to pursue a future nursing faculty role and graduate education. The following discussion is by research question.

Research Question One: Interest and Intent (Career Choice Goal) of Pre-licensure Baccalaureate Nursing Students in Pursuing a Future Nursing Faculty Role

Research question one examined interest and intent for a future nursing faculty role among pre-licensure baccalaureate nursing students. There was a strong association between student interest and intent for a future faculty role. Therefore intent, rather than interest, was chosen as the outcome variable because intentions serve as excellent predictors of what persons will actually act upon (Bandura, 1986). Students were subsequently placed into one of two categories: students with a high or very high intention for a faculty role (high intent students, n = 265) and those who indicated a low, very low or unsure intention about a future faculty role (low/unsure intent students, n = 813). The remaining analysis was conducted comparing the high and low/unsure intent student groups.

This study found that nearly 25% of the sample had a high or very high intent for a future faculty role. The percent of students in this study who expressed intent to become a faculty member in the future is higher than the percent of nurses (17.8%) who actually graduated with master's degrees in nursing education in 2010 (Fang et al., 2011). The percent of students who expressed intent in this study were lower than the percent of student nurses (32%) in Seldomridge's (2004) study, which asked students about their interest, but not their intent, for a

future faculty role after they had received an intervention that included clinical teaching experiences. It is encouraging that so many of the undergraduate nursing students in this study intend to pursue a future faculty role, which is similar to the findings of Bieber and Worley (2006) who found that the undergraduate years may be the most influential time for making decisions about future faculty roles.

Hansen (2005) and Mello (2008) reported the effects of interest and career choice in young adults, but not intent. They found that expressed interest in career choice during adolescence and young adulthood remained stable over time. Specifically, Hansen found that career interests at age 20 corresponded to career interests at age 30 with test-retest reliability coefficients of .80 to .90. Therefore, if interests for a future faculty role remain stable over time, intent for a future nursing faculty role may also be stable over time and some of the high intent students may actually become future nursing faculty. Unexpectedly, 45% of the students were unsure of their intentions for a faculty role and thus, it is unknown if they might consider a future nursing faculty role with or without specific targeted interventions.

Research Question Two: Interest and Intent (Career Choice Goal) of Pre-licensure Baccalaureate Nursing Students in Pursuing Graduate Nursing Education

Research question two investigated the interest and intent for graduate education among pre-licensure baccalaureate nursing students. There was a strong association between interest and intent for graduate education and intent was chosen as the outcome variable. Overall, 76.2% of the students agreed or strongly agreed with the statement, "In the future, I intend to pursue graduate education." High intent students for a future faculty role were more likely to aspire to obtaining a graduate degree in nursing than low/unsure intent students. This promising finding may indicate a reversal of past trends. For example, past data indicates that only 16.7% of nurses

who graduated with a baccalaureate degree earned a master's degree in nursing (includes pre-licensure master's degrees) (DHHS, 2010). It is encouraging that 94% of the high intent students for a faculty role intend to obtain a graduate degree with the majority (53%) aspiring to obtain a doctorate degree in nursing. Of the low/unsure intent students, 81% intend to obtain a graduate education with the majority (54%) aspiring to earn a master's degree in nursing. Clearly, in this study, high intent students for a faculty role had an accurate perception of the academic requirements for a future nursing faculty role.

In this study, high intent students for a faculty role indicated that they planned to pursue graduate education in an average of 3.3 years and to work for an average of 5.8 years as a nurse prior to pursuing a faculty role. Nurses tend to work for several years prior to returning to school for a master's degree (IOM, 2011) and the students in this study have similar intentions. Yet, there is no evidence indicating the amount of clinical experience nurses need before seeking graduate education (Donley & Flaherty, 2009). Furthermore, some (Plunkett et al., 2010) have suggested that the ideal time to recruit nurses into graduate programs is immediately upon baccalaureate degree completion. It is interesting to note that in fields other than nursing, undergraduate students are encouraged to pursue graduate education immediately after graduation (Stevenson, 2003). While 94% of high intent students for a faculty role aspire to graduate education, it is concerning that they do not plan to enter graduate education immediately. If the students in this study pursue graduate education on a part-time basis like most nurses do (Reinhard et al., 2007) and take an average of 8.2 years to earn a master's degree, (DHHS, 2010), it may continue to be difficult to fill future vacant faculty positions.

A diverse nursing faculty workforce is needed to serve as role models for nursing students and to address the health care needs of a diverse population (AACN, 2010b; Joynt &

Kimball, 2007; Stanley et al., 2007) and 80% of the racial/ethnic minority students intend to pursue graduate education. As reported previously, almost half of the African American students aspired equally to a master's degree in nursing and a doctoral degree in nursing. Of the Asian students, the highest percentage aspired to earn a master's degree in nursing (40%) followed by a doctoral degree in nursing (33%). Of the Hispanic/Latino students, the highest percentage aspired to earn a master's degree in nursing (57%) followed by a doctoral degree in nursing (50%). These results were unexpected. Fang et al. (2011) reported the percentage of students enrolled in master's programs in 2010-2011 as 13% African American, 7% Asian and 5% Hispanic/Latino. They also reported the percentage of students enrolled in research focused doctoral programs during this same time as 12% African American, 5% Asian and 5% Hispanic/Latino. This study reported the academic degree to which the students aspire, not those enrolled. Perhaps, as reported in Fouad and Byars-Winston's (2005) meta-analysis, the findings in this study may indicate that racially and ethnically diverse nursing students have similar aspirations as non-minority students, but may have greater barriers to pursuing their career choices. A further investigation of the barriers that aspiring racial/ethnic minority students face for pursuing graduate education is critical.

Research Question Three: Psychometric Properties of the SCCT Measures

Research question three examined the psychometric properties of the multiple-item measures of the SCCT constructs and whether the sampling of the items within the SCCT measures for (1) supports and barriers and (2) outcome expectations–advantages and disadvantages was comprehensive. The multiple-item measures were: (1) supports and barriers; (2) self-efficacy for a faculty role; (3) learning experiences-role model; (4) outcome expectations advantages and disadvantages, and (5) interests in the activities/tasks of a faculty role and each

are discussed. The discussion of the results from the open-ended options for supports and barriers and outcome expectations–advantages and disadvantages is included within the respective sections.

Supports and Barriers

The support measures demonstrated good internal reliability (>0.8) according to Pallant (2010) and were comparable to that found in Lent's other studies (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). Only the barrier scale did not provide as good internal reliability (<0.8) (Pallant) as in Lent's other studies (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). Two items added to the barrier scale from Warren (2004), "to feel that financing graduate education would be difficult" and "to worry that family responsibilities would interfere with graduate education" did not affect the internal reliability by either increasing or decreasing the alpha coefficient. The barrier scale was composed of seven items and according to Pallant (2010), the Cronbach alpha is sensitive to the number of items in the scale, with scales of fewer than ten items often not achieving an alpha coefficient above the standard of 0.8. While the item "difficulty financing graduate education" was the highest rated barrier item among both groups of students, high intent students rated this item significantly lower than low/unsure intent students. Difficulty financing education is problematic for replenishing the supply of future faculty, especially for high intent students for a faculty role who intend to return to graduate school in a few years. The item "to worry that family responsibilities would interfere with graduate education" was the second highest rated item among high intent students for a faculty role and low/unsure intent students, but there was no significant difference between the two groups. It may be that high intent and low/unsure intent students have similar perceptions of family responsibilities competing with work or school role. In this study, the

sample was nearly 92% female, higher than the 88% reported in national data sources (Fang et al., 2011; NLN, 2009e). Thus, the highly female sample in this study may be more concerned about the effects of family responsibilities on graduate education. Gender differences in career aspirations and attainment are viewed as more complex for females than males, primarily due to concerns from females about balancing career and family responsibilities and the desire for or presence of children (Rojewski, 2005). In the open-ended responses, students indicated the following barriers that were not included in the individual items of the survey: (1) *lack of job availability for a nursing faculty position*; (2) *anticipated difficulty in balancing work and sometimes family responsibilities, along with graduate education*; and (3) *lack of knowledge of the faculty role*. While the supports measures demonstrated good reliability for use in future studies, the barriers measures did not demonstrate as good reliability. The addition of the open-ended response options to the barriers measures might increase the reliability.

Self-Efficacy for a Faculty Role

The self-efficacy for a faculty role measure demonstrated good internal reliability (>0.8) (Pallant, 2010). This was an unexpected and positive result since the scale was created for this survey and had not been used in other studies. The self-efficacy measures were created following the recommendations of Bandura (2006) and Lent and Brown (2006). Lent and Brown (2006) state that researchers often have to create new measures in order to test the dynamic and situation specific circumstances of individuals. As stated in Bandura's (2006) *Guide for Constructing Self-Efficacy Scales,* there is no standard measure of self-efficacy and each scale must be tailored to the specific concept of interest. Thus, these questions should be used in other studies to further investigate the reliability of the self-efficacy measures.

Learning Experiences-Role Model

The role model scale demonstrated good internal reliability (>0.8) (Pallant, 2010) and the results were similar to those found in another study (Nauta & Kokaly, 2001). There was only one item that was not statistically significant between the two groups of students: "there is no one particularly inspirational to me among my nursing faculty." Apparently, students, regardless of their intent for a faculty role, found their nursing faculty inspiring. The inter-item correlation matrix did not indicate that the alpha coefficients would be higher if this item was removed and thus, future studies should maintain this item and continue to evaluated the results.

Outcome Expectations-Advantages and Disadvantages

The outcome expectations-advantages measures demonstrated good internal reliability (>0.8) (Pallant, 2010) and were analogous to the reliability of measures in Lent's other studies (Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008). The outcome expectations-disadvantages scale was created for this study using the findings from other research, Seldomridge (2004) and Plunkett et al. (2010). One item, "have to earn a graduate degree", had a very small correlation with the other measures and was dropped. The outcome expectations-disadvantages scale then demonstrated adequate, but not good, internal reliability (>0.7) (Pallant, 2010). In the open-ended responses, students indicated other advantages and disadvantages not included in the survey. Their comments on advantages were *the faculty schedule* and as *a way to stay up to date*. Additionally, they commented on disadvantages of the faculty role as *loss of clinical contact with patients*, which was also listed as a barrier by students in their open-ended responses about other supports and barriers. A final disadvantage students mentioned was *dealing with demanding students*. Future studies of undergraduate nursing students on this topic might consider the addition of these advantages, *the faculty schedule* and

as a way to stay up to date, and disadvantages, *loss of clinical contact with patients* and *dealing with demanding students.*

Interests in the Activities/tasks of a Faculty Role

The measures for interests in the activities/tasks of a faculty role demonstrated good internal reliability (>0.8) (Pallant, 2010). The measures for interests in the activities/tasks of a faculty role were created for this study and had not been used in other studies. Repeat use of these measures in other studies is recommended.

Research Question Four: Comparison of High Intent Students for a Faculty Role and Low/unsure Intent Students

Research question four compared the characteristics of pre-licensure nursing students with high intention to pursue a future nursing faculty role with those of low/unsure intent students on any of the SCCT constructs: (1) person inputs; (2) distal and proximal background variables; (3) self-efficacy; (4) learning experiences; (5) outcome expectations; and (6) interests in the activities of a nursing faculty role. The results of each of these analyses are discussed and compared with the findings from the literature.

Person Inputs

In the bivariate analysis, age was the only statistically significant variable among the person inputs, with students aged less than or equal to 25 indicating lower than expected intent for a future faculty role and those aged 31 to 40 indicating higher than expected intent for a future faculty role. It is not clear why students aged 31 to 40 indicated higher than expected intent for a future faculty role. Yet, career interests tend to be stable by age 26 (Hansen, 2005), thus perhaps the students with high intent for a faculty role will pursue that role.

This study did not find that gender differences were significant between high intent and low/unsure intent students. Only 9% of the male students indicated high intent for a future faculty role. Yet, if these male students pursue a faculty role, it will be an increase in the current 4-5% of males who are in nursing faculty roles (AACN, 2010b, Kaufman, 2007). While the numbers of males in graduate nursing programs has slightly increased (Kaufman, 2010b), there is not a clear indication that more males will seek future faculty roles, despite a supposition made by Bevill et al. (2007) that males might be more likely to pursue future faculty roles.

This study did not find statistically significant differences between the high intent and low/unsure intent students by race/ethnicity. However, nearly 22% of the high intent students were members of racial/ethnic minority groups, comprised of 7.5% African American students, 5.7% Asian students and 4.2% Hispanic/Latino students. The current percent of racial/ethnically diverse faculty roles has been estimated at 7-16% (AACN, 2010b; Kaufman, 2007; SREB, 2003). Therefore, if the high intent minority students in this study pursue future faculty roles, there will be an increase of diversity among nursing faculty.

Distal Background

This study did not find differences between high intent students and low/unsure students on any of the distal background variables, parent education and occupation. In the literature, the findings on the influence of parent education or occupation on college students' career choice are mixed. Some (Mau & Bikos, 2000; Watt, 2007a) reported a significant effect of parent education and occupation on undergraduates' career choice, while others did not (Metz et al. 2009; Watt, 2007a; Williams et al., 2009).

Proximal Background

Type of nursing program. When comparing the two student groups, students in an accelerated baccalaureate nursing program were more likely to have high intent for a future nursing faculty role than students in a traditional baccalaureate program. The reasons for this are not clear. The literature suggests that nurses from baccalaureate programs are more likely than nurses from other types of undergraduate programs to pursue masters and doctoral degrees (DHHS, 2010). However, the literature does not distinguish between types of baccalaureate degrees in nursing. Most likely, this distinction between types of baccalaureate nursing programs is not made because accelerated baccalaureate nursing programs are relatively new. It is assumed that students in an accelerated baccalaureate nursing program are "career changers," are older and have had more life experiences than students in a traditional baccalaureate nursing program. In this study, among students with high intent for a faculty role, students in an accelerated program were, on average, four years older than those in a baccalaureate program. The students in accelerated nursing programs were also more likely to have earned a previous academic degree.

Educational level and background. This study found no significant difference by semester (educational level) between the high intent and low/unsure intent students. In the medical literature, Neacy et al. (2000) and Straus et al. (2006) found that residents became less interested in faculty roles as they proceeded through their educational program. Yet, in studies of SCCT among various levels of college students, Lent, Lopez, Lopez and Sheu (2008) found no differences by college year.

In the bivariate analysis, this study did not find previous degrees to be statistically significant. If students had earned previous degrees (educational background), it seems that they

might be accustomed to an academic environment and might have higher intent for a faculty role. In the literature, nursing studies compared students by year regarding their clinical specialty interest (McCann et al., 2010), not more long-term career choices, such as for a faculty role.

Supports and barriers. Each of the support items was highly rated among high intent students for a faculty role and low/unsure intent students. However, when the two groups of students were compared, the individual support items and the total support mean were rated significantly higher by the high intent students for a faculty role than the low/unsure intent students. In the literature, supports and barriers affect career choice (Lent et al., 2001; Lent et al., 2002; Lent et al., 2003; Lent et al., 2005; Rivera et al., 2007; Schutz et al., 2001) and this study found similar results. Therefore it seems that all students, regardless of intent, would feel support from friends, family and nursing faculty if they chose to pursue a faculty role.

Of the barriers, five of the seven individual barrier items were statistically significant between the high intent and the low/unsure intent students, with the high intent students rating the barriers lower than the low/unsure intent students. While both groups rated "difficulty financing graduate education" very high, students with a high intent for a faculty role did not rate it as much of a barrier as students with low/unsure intent. Other barriers previously discussed that were indicated by the students in the open-ended response options were: (1) *lack of job availability for a nursing faculty position*; (2) *anticipated difficulty in balancing work and sometimes family responsibilities, along with graduate education*; and (3) *lack of knowledge of the faculty role*. Future research on this topic should add these open-ended responses to determine their significance between the student groups, if any.

Another study in engineering (Lent et al., 2005) investigated the differences in supports and barrier perceptions between students in historically black colleges and universities and

students in predominantly white universities. The low numbers of racial/ethnic minority students prevented this sort of analysis in this study. However, future research in this area is needed.

Self-Efficacy

It was unexpected that students, regardless of their intent for a future faculty role, highly rated their self-efficacy for learning to become a nursing faculty member. However, when comparing the two groups of students, high intent students rated each individual item higher than low/unsure intent students. Self-efficacy, specifically, perceived teaching ability, was one of the primary motivators for pursuing a career in education (Watt et al., 2007a). Self-efficacy has been found to be significantly related to career intent in numerous studies (Lent et al., 2001; Lent et al., 2003; Lent et al., 2005; Quimby & DeSantis, 2006).

Both groups of students also rated their self-efficacy for achieving a master's and a doctoral degree high, however, high intent students for a faculty role rated their self-efficacy significantly higher than low/unsure intent students. Not surprising, both groups rated their self-efficacy for completing a master's degree in nursing higher than for completing a doctoral degree in nursing. Because the study sample was drawn from the membership of NSNA, the student respondents are probably the most highly achieving students among the population of nursing students, which may reflect the high self-efficacy scores in this study.

Learning Experiences

Teaching experience. In this study, students who had any of the teaching experiences rated them high, regardless of faculty role intention. Yet, when comparing the two groups of students, high intent students for a faculty role were more likely to have had previous teaching experiences and more likely to rate the positivity of their experiences higher than the low/unsure intent students. Lent et al.'s (2002) qualitative study found that direct exposure to work-relevant

activities was the most frequently cited category of support for undergraduate career choices and this study found similar results. Likewise, studies in dentistry (Bibb & Lefever, 2002; Rupp et al., 2006) and education (Hammond, 2002; Schutz et al., 2001) also supported the positive impact that past teaching experiences had on students' stated decision to teach in the future. Seldomridge (2004) was on the right path in offering students a teaching experience as part of the curriculum; students stated they would not have considered teaching without that experience. These results also support the theories of Bandura (1986) and Lent (2005), who stated that past performance accomplishments (or in this study, previous teaching experiences) are the most powerful of the learning experiences.

Role model. High intent students rated the total role model mean higher than low/unsure intent students and each role model item higher with the exception of "there is no one particularly inspirational to me among my nursing faculty." While the importance of observing a faculty role model seems intuitive for its influence on nursing students' intent for a faculty role, the literature was inconclusive on the effects of role modeling. Some studies (MacKinnon & Leighton, 2002; Manuel & Hughes, 2006; Schutz et al., 2001) found positive effects while other studies (Quimby & DeSantis, 2006; Williams & Subich, 2006) did not find any evidence to support role modeling. However, none of the studies were in nursing. In the only study found in the health sciences, MacKinnon and Leighton found that learning about a faculty career from a physical therapy faculty member significantly influenced intent for a faculty career among physical therapy students. Observing a faculty role model in the health sciences, and particularly in nursing, may be more important than in other careers and may also support Lent's (2005) posits that vicarious learning is important for career choice.

Encouragement. In this study, both groups of students rated encouragement high, yet, high intent students rated encouragement to pursue a faculty role more highly than low/unsure intent students. High intent students for a faculty role also rated encouragement to pursue graduate education more highly than low/unsure intent students. These findings were supported in the literature. In nursing, Seldomridge stated (L. Seldomridge, personal communication, July 13, 2009) that students who later pursued a faculty role indicated how important it was for someone to suggest that they would be a "good teacher". In MacKinnon and Leighton's (2002) study, physical therapy students identified a physical therapy faculty member as the most influential individual on making a decision to later teach. Bieber and Worley (2006) found that the undergraduate years may be the most influential in the choice of a faculty career. This study quantified the importance of encouragement during the undergraduate years, especially the encouragement received from a nursing faculty member to pursue a future nursing faculty role.

Outcome Expectations

Advantages. This study found similar findings about the perceptions of the advantages of a faculty role as Seldomridge's (2004) qualitative study in nursing and studies in education (Manuel & Hughes, 2006; Watt et al., 2007a; Watt et al., 2007b; Williams et al., 2009). First, as Seldomridge, this study found that undergraduate nursing students perceive there are advantages for a future nursing faculty role, such as "making a difference" and "making a contribution to nursing." Second, this study found similarities of the advantages of a faculty role to studies of students who are in undergraduate education tracks with a desire to be a teacher (Manuel & Hughes, 2006; Watt et al., 2007a; Watt et al., 2007b; Williams et al., 2009), such as "doing challenging work." In the bivariate analysis, while both groups of students rated the advantages highly, high intent students rated the advantages even higher than low/unsure intent students.

The lowest rated individual item among both high intent students and low/unsure intent students was "to earn an attractive salary," with high intent students not rating this item as low as low/unsure students. One of the issues schools of nursing have found that keeps them from being able to attract and hire nursing faculty is low salaries (NLN, 2008; Tracy & Fang, 2010). It is interesting that undergraduate nursing students seem to have an accurate perception of faculty salaries. Yet, for high intent students, the advantages of the faculty role seem to outweigh the lower salary. It is also remarkable that undergraduate nursing students may perceive the many advantages of teaching, even though at this point in time, many of them may have a low or unsure intent to pursue that role in the future. Among the open-ended responses, students stated another advantage of a faculty role was the *faculty schedule* and *as a way to keep up to date*. Undergraduate nursing students may perceive that a faculty member has some flexibility in their schedule, unlike in clinical roles, and that faculty are exposed to the latest research. Future research on this topic should add these open-ended responses to determine their significance between the student groups, if any.

Disadvantages. This study also found that undergraduate nursing students perceive similar disadvantages for a faculty role as in Seldomridge's (2004) qualitative study in nursing, such as complexity of the role, responsibility and liability, low salary and heavy workload. In comparing the two groups of students, high intent students rated each item lower than low/unsure intent students. The highest rated disadvantage was "have to earn a graduate degree" among high intent students and low/unsure intent students. Since both groups of students had high interest and intent to pursue a graduate education, students may not perceive having to earn a graduate degree as a disadvantage of pursuing a faculty role, but just a credential that must be accomplished. The second highest rating among the disadvantages was "have a workload that is

too heavy." Heavy workload is also a dissatisfier for current faculty and for graduate prepared nurses who might consider a faculty role (Brendtro & Hegge, 2000; Lacey & McNoldy, 2008; NLN, 2005). High intent students rated heavy workload lower than low/unsure intent students. In other words, high intent students do not seem to be as negatively influenced by the heavy workload, the complexity, responsibility or liability of a faculty role as low/unsure intent students. Among the open-ended responses, students stated other disadvantages of a faculty role were *loss of clinical contact with patients* and *dealing with demanding students* (previously discussed). Students don't seem to perceive the faculty role as one in contact with patients, at least in the frequency they desire. It was surprising to find that some students perceived the behavior of their classmates as negative and would not wish to be in the faculty role and have to cope with this type of behavior. Future research on this topic should add these open-ended responses to determine their significance between the student groups, if any.

Interests in Activities/Tasks of a Faculty Role

In examining the differences between high intent students and low/unsure intent students, high intent students rated each of the items in interests in activities/tasks of a faculty role higher than low/unsure intent students. It was not surprising, but it was disheartening, that the individual items involving research were the lowest rated items. Research is a highly complicated area and undergraduate nursing students may be overwhelmed by its complexity. Several studies concluded that interests are predictive of a career choice goal (Lent et al., 2001; Lent et al., 2003; Lent et al., 2005; Lent, Lopez, Lopez, & Sheu, 2008; Lent et al., 2008) and this study found similar results.

In summary, there were significant differences between high intent students and low/unsure intent students on the constructs and variables in the derived SCCT. These

differences include: (1) person inputs–age; (2) proximal background variables-type of nursing program and supports and barriers; (3) self-efficacy for a faculty role and graduate education; (4) learning experiences-previous teaching experience, observing a nursing faculty member role model and receiving encouragement to pursue a future faculty role and graduate education; (5) outcome expectations-advantages and disadvantages; and (6) interests in the activities/tasks of a faculty role. In other words, in the bivariate analysis that compared the two groups of students, the high intent group was more likely to be between the ages of 31 to 40; from an accelerated nursing program; rated supports higher and barriers lower for pursuing a faculty role; had some sort of previous teaching experience; had a nursing faculty role model in teaching; had received encouragement to pursue a faculty role; rated the advantages of a faculty role higher and the disadvantages lower; and had higher interest in the activities/tasks of a faculty role. Overall, the literature supported these findings. Unlike some of the literature, constructs and variables that did not reach statistical significance between the two groups of students were: person inputs-race and gender; distal background-parent education and occupation; and proximal background-educational level and academic background. The next section discusses the findings of the logistic regression for intent to pursue a future nursing faculty role.

Research Question Five: SCCT Constructs and Variables and Prediction of Intent to Pursue a Future Nursing Faculty Role

Research question five examined the SCCT constructs and the associated variables for high intent for a future nursing faculty role among undergraduate pre-licensure baccalaureate nursing students. While many of the constructs and the associated variables were statistically significant between the high intent students and low/unsure intent students in the bivariate statistical analysis, they did not reach statistical significance in the logistic regression analysis.

The variables that reached statistical significance in the logistic regression from highest to lowest odds ratios were: interests in the activities/tasks of a faculty role, type of pre-licensure nursing program, outcome expectations-advantages, teaching experience, encouragement to pursue a faculty role, and outcome expectations-disadvantages. Each of the variables that were significant in the logistic regression model are discussed and compared to the theoretical constructs of SCCT. Outcome expectations advantages and disadvantages are discussed together.

Interests in the Activities/tasks of a Faculty Role

It was not surprising that high intent students for pursuing a future faculty role were twice as likely as low/unsure intent students to have interest in the activities/tasks of a faculty role. According to SCCT, interests draw one to a specific career (Lent & Brown, 2006). Individuals may develop a career choice goal because of their interest in the activities associated with that role (Lent et al., 1994). What was unanticipated is that undergraduate students were already expressing intent for a future nursing faculty role. Bieber and Worley's (2006) small qualitative study of doctoral students from a variety of disciplines found that the undergraduate years may be the most influential in the choice of a faculty career. Yet, their study did not include nursing students. In the past, it has been assumed that most undergraduate nursing students only consider a clinical focus, such as surgical nursing, maternity nursing, etc. But contrary to this assumption, this study found that a substantial number of undergraduate nursing students intend to pursue a future faculty role. The undergraduate years are a formative time when nursing students have the most contact with a nursing faculty member who can discuss the activities of a future faculty role and begin interest undergraduate nursing students in faculty roles.

Type of Pre-Licensure Nursing Program

High intent students for a future faculty role were twice as likely as the low/unsure intent students to be enrolled in an accelerated nursing program. Potential reasons for this were explored. Students from an accelerated nursing program were more likely to have other academic degrees and to be older than traditional baccalaureate students. Previous teaching experience was also explored because some of the students indicated experience in teaching careers other than nursing. Their experiences might influence their decision to pursue a career nursing. However, analysis of previous teaching experience did not support this assumption. A confounding variable may be that 31% of high intent students for a future faculty role had a previous academic degree, but were enrolled in a baccalaureate nursing program. Having a previous academic degree was further explored by type of academic degree and 64% of high intent students had previous baccalaureate degrees, but were enrolled in a baccalaureate nursing program. Since this was a national survey, perhaps an accelerated option is not available to all students with previous baccalaureate degrees. This finding provides evidence that students in an accelerated program may be more likely to be the nursing faculty of the future.

Outcome Expectations

High intent students for a future faculty role were almost twice as likely as low/unsure intent students to rate the advantages of a faculty role higher. High intent students were also almost one-half as likely as low/unsure intent students to rate the disadvantages of a faculty role lower. In other words, high intent students perceived a positive outcome or advantage of a future faculty role and fewer barriers towards that goal, intending to achieve that outcome in the future. The results of the logistic regression analysis in this study were supported by Bandura's Social Cognitive Theory and SCCT. For example, according to Social Cognitive Theory, when

behaviors that individuals use to achieve a positive outcome are reinforced, the individuals will be more likely to continue to set goals in that area (Bandura, 1994). Consistent with SCCT, Lent and Brown (2006) state that people behave in ways that gain valued outcomes and avoid behaviors that produce negative consequences.

It was interesting to note that all students, regardless of intent, rated the advantages of a faculty role highly. However, high intent students for a faculty role rated the advantages of a faculty role even higher than low/unsure intent students. All students rated the disadvantages of a faculty role low. Yet, high intent students rated the disadvantages even lower than low/unsure intent students. Iwasiw (2008) and Northam (2005) stated that few undergraduate nursing students would consider a career as a faculty member, even if specific strategies were implemented, but there was no data to support their suppositions. Contrary to their assumptions, the results of this study show that, high intent students believed that the advantages of a faculty role far outweighed the disadvantages of the role. It was unexpected to find that undergraduate nursing students had so much knowledge about the advantages and disadvantages of a faculty role. It was also unexpected to find that, despite their awareness of the disadvantages of a faculty role, the high intent students were not deterred in their intentions by the lower salaries in faculty roles, heavy workload, the complexity, responsibility or liability of a faculty role.

Teaching Experience

In this study, high intent students for a future nursing faculty role were almost two times as likely as low/unsure intent students to have had a previous teaching experience. Additionally, the results for previous teaching experience in the logistic regression were consistent with theoretical constructs of Social Cognitive Theory and SCCT. For instance, previous learning experiences serve as authentic learning that influences goals (Bandura, 1986; Bandura, 1994;

Lent & Brown, 2006). Gazza (2009) proposed providing undergraduate nursing students with peer teaching assignments as a way of inspiring them to become interested in a future faculty role; however, this supposition had not been investigated prior to this study. Other authors proposed that exposure to opportunities to practice teaching, might encourage their interest in a nursing faculty role (Brady, 2007; De Young & Bliss, 1995; DeYoung et al., 2002; Iwasiw, 2008; Northam, 2005; Yordy, 2006). Yet, with the exception of Seldomridge's qualitative study, little has been researched in this area for nursing until now and is a new finding that may lead to future intervention studies.

Encouragement to Pursue a Faculty Role

High intent students for a future faculty role were 1.5 times more likely than low/unsure intent students to have been encouraged to pursue a faculty role by nursing faculty. Encouragement to pursue a faculty role by nursing faculty members was significant in the logistic regression and is congruent with the theoretical basis of this study. Encouragement, or as termed by Bandura (1986), verbal persuasion, is one of the types of learning experiences that impacts future goals. Lent and Brown (2006) stated that learning experiences lead to interests and goals in SCCT. Authors have called for faculty to encourage undergraduate nursing students to pursue a faculty role (Brady, 2007; DeYoung & Bliss, 1995; Eddy, 2010; Hessler & Ritchie, 2006; Reinhard et al., 2007; Sims, 2009; Trossman, 2009; Yordy, 2006). Yet, this is a new finding for this first study to investigate the impact of encouragement by faculty on prospective students on their pursuit of a future nursing faculty role.

Research Question Six: SCCT Constructs and Variables and Prediction of Intent to Pursue Graduate Education

Research question six examined the SCCT constructs and the associated variables for high intent for graduate education among undergraduate pre-licensure baccalaureate nursing students. While many of the variables were statistically significant between the high intent students and low/unsure intent students in the bivariate statistical analysis, they did not reach statistical significance in the logistic regression. The variables that reached statistical significance in the logistic regression from highest to lowest odds ratios were: encouragement to pursue graduate education by nursing faculty, interests in the activities/tasks of a faculty role, self-efficacy for completion of a master's degree in nursing, barriers, self-efficacy for completion of a doctoral degree and age. Each of the variables that were significant in the logistic regression model are discussed next and compared to the theoretical constructs of SCCT. Self-efficacy for completion of a master's degree and a doctoral degree are discussed together.

Encouragement to Pursue Graduate Education

High intent students for graduate education were nearly three times as likely as low/unsure intent students to have received encouragement to pursue graduate education from a nursing faculty. To meet the nation's needs for a more highly educated nursing workforce, the Institute on Medicine [IOM] (2011) stated that each accredited nursing school should matriculate at least 10% of baccalaureate graduates into a master's or doctoral program within 5 years of graduation. It is gratifying to learn that students perceive they have received encouragement to pursue graduate education and that students appear to have received the message that graduate study is crucial. Additionally, results of the study by Plunkett et al.'s (2010) found that the ideal time to recruit nurses into graduate programs was immediately upon baccalaureate degree

completion. Nursing faculty members are in the best position to who know their students' academic ability and encourage them to pursue graduate education.

Interests in the Activities/Tasks of a Faculty Role

High intent students for graduate education were nearly twice as likely as low/unsure intent students to have an interest in the activities/tasks of a faculty role. Additionally, high intent students for a future faculty role were more almost twice as likely to aspire to obtain a doctoral degree in nursing (53%) as low/unsure intent students (29%). In this sample, students were aware that their pursuit of interest in the activities of a faculty role would require a graduate education and they intend to pursue a master's and doctorate degrees. In this study, 94% of the high intent students for a faculty role intend to pursue graduate education and 53% aspired to earn a doctorate degree in nursing. This cannot happen quickly enough since 30% of schools of nursing were unable to find doctorally prepared faculty (Tracey & Fang, 2010). To facilitate the need for faculty, it is vital to encourage undergraduate students to earn a doctorate in nursing, especially if they intend to become nursing faculty.

Self-Efficacy for Completion of a Master's and a Doctoral Degree

High intent students for graduate education were 1.6 times more likely than low/unsure intent students to rate themselves as having high self-efficacy for completion of a master's degree in nursing. High intent students for graduate education were only 1.1 times more likely than low/unsure students to rate themselves as having high self-efficacy for completion of a doctoral degree in nursing. One's perceived ability to be successful in developing the required skills in order to produce a desired outcome is important before individuals exert the necessary actions (Bandura, 1986). In other words, students must have self-efficacy at their ability to be successful at completion of a master's degree in nursing before they take the necessary steps for

entry into a graduate program. Self-efficacy is significant for career choices (Lent et al., 2001; Lent et al., 2002; Lent et al., 2003; Lent et al., 2005). Plunkett, Iwasiw and Kerr (2010) found that the strongest independent predictor of baccalaureate student nurse intention to pursue graduate studies was self-efficacy for graduate education ($\beta = 0.412$, $t = 4.754$, $p < 0.001$). They also found that students rated themselves lowest in confidence in creating a statement of research interests, gaining admission into a graduate program, designing a research project and conducting a research project. Undergraduate nursing students need to be provided with experiences in these activities in order to increase their self-efficacy for graduate education.

Barriers

Students with high intent for graduate education were 0.7 times less likely than low/unsure intent students to rate barriers highly. In other words, students with high intent for graduate education did not perceive as many barriers to pursuing graduate education as students with low/unsure intent. In the descriptive analysis, the highest rated individual barrier among all students was "to feel that financing graduate education would be difficult." In Seldomridge's (2004) study, 32% of the nursing students expressed interest in pursuing a teaching career in nursing; however, the students identified one of the barriers to pursuing a faculty role was the lack of available doctoral education. There will be fewer individuals preparing for a future nursing faculty role if doctoral education is not readily available to them and if students do not have financial support to pursue their educational goals.

Age

While not a strong predictor, high intent students for graduate education were slightly more likely to be younger than low/unsure students. In analyzing this variable in more depth, students who were less than age 30 were slightly more likely to be in the high intent for graduate

education group than students over the age of 30. Perhaps students over the age of 30 are more likely to be in the child-bearing and child-rearing years and foresee more difficulties with financing and balancing family, work and graduate education, although the status of children was not explored in this study.

Summary

In summary, there were a number of new findings in this study. The first new finding was that 25% of the undergraduate baccalaureate nursing students had high or very high intent for a future nursing faculty role. Second, approximately 76% of the study sample had high or very high intent for graduate education. Of the students with high intent for a future faculty role, 94% intend to earn a master's or doctoral degree. Third, the students with high intent for a faculty role plan to begin graduate education in 3.3 years and to work as nurses for 5.8 years prior to assuming a faculty role. Fourth, overall, with the exception of the barriers measures, the other measures of the SCCT constructs adapted for nursing students demonstrated good internal reliability. Fifth, the bivariate analysis revealed new findings about the differences between high intent students for a faculty role and low/unsure intent students, which were then used in the logistic regression analysis. The logistic regression analysis provided a profile of pre-licensure undergraduate nursing students who were more likely to pursue a future faculty role. The high intent students were significantly more likely to (1) have interests in the activities/tasks of a faculty role; (2) be enrolled in an accelerated baccalaureate nursing program; (3) perceive the advantages in a faculty role; (4) have previous teaching experiences; (5) have received encouragement from faculty to pursue a faculty role; and (6) perceive few disadvantages of a faculty role. In contrast, the students' age, gender, race/ethnicity, parent education and occupation, educational level and background, supports and barriers, self-efficacy for a faculty

role, and role modeling by a faculty member did not significantly impact their intent for a faculty role.

Lastly, the logistic regression analysis provided a profile of students more likely to pursue graduate education. Students who had a high intent to pursue graduate education were significantly more likely to (1) have received encouragement to pursue graduate education by nursing faculty; (2) have interests in the activities/tasks of a faculty role; (3) rate self-efficacy for completion of a master's degree in nursing higher; and (4) rate barriers for a faculty role lower. Weaker predictors for pursuing graduate education were rating self-efficacy for completion of a doctoral degree higher and being less than age 30. In contrast, the students' gender, race/ethnicity, parent education and occupation, educational level and background, supports, self-efficacy for a faculty role, role modeling by a faculty member and outcome expectations advantages and disadvantages did not significantly impact intent to pursue graduate education. Most importantly, high intent students for a future faculty role were more likely to report intent to pursue graduate education, particularly doctoral education.

These findings have many implications for developing the nursing faculty of the future. First, there is no need to wait to recruit individuals into faculty roles after years of clinical experience. Undergraduate nursing students have developed intent for a future faculty role and perceive the advantages and disadvantages of such a role and therefore, should be helped to pursue that path. Second, undergraduate nursing students, especially those in accelerated nursing programs were more likely to intend to pursue a future faculty role and therefore should be encouraged in that endeavor. Third, students who have had some type of positive previous teaching experiences were more likely to intend to pursue a faculty role and should be given opportunities to teach while in undergraduate programs. Lastly, nursing students should be

encouraged to pursue a future faculty role. Additionally, for students to pursue graduate education, they must be encouraged by their nursing faculty and receive experiences that will increase their self-efficacy for completion of graduate education, such as how to gain admission into a graduate program and instruction in creating a statement of research interests, designing a research project and conducting a research project. Furthermore, students need to have any barriers for pursuit of graduate education removed, especially financial barriers.

Study Strengths

This study was apparently the first of its kind to use theory derivation to determine the applicability of SCCT to pre-licensure baccalaureate nursing students' considerations for a future faculty role and graduate education. The study was strengthened by the large number of respondents from a national sample of undergraduate nursing students. The adaptation of previously tested reliable and valid instruments for select scale measures (supports/barriers, outcome expectations, role model) were also strengths of this study. Because a study, such as this, had not been conducted with undergraduate nursing students, another strength of this study was the overall reliability of the instruments. The use of the open-ended responses in the survey provided an option for students to contribute their ideas to several measures in the questionnaire, such as, supports and barriers and outcome expectations (advantages and disadvantages). The online methodology was both a strength and a limitation. It was a strength because it was created based on the recommendations of Dillman et al. (2009) and enabled the researcher to access students from a national audience at a low cost. It was a limitation in that only students who were comfortable with online surveys may have responded.

Study Limitations

One of the limitations of the study was the sample of students who belong to the National Student Nurses Association. Student nurses who are within this organization are those who are professionally motivated to belong to their nursing organization and thus, may be more oriented towards career achievement, such as assuming a role as a future nursing faculty member and graduate education. Second, non-response bias was another limitation to the study, particularly in the low percentages of males and racial/ethnic minority students who responded, less than those enrolled in nursing programs nationwide. While the numbers of responses from nursing students for this study were large, they represented only a small number in comparison to the number of baccalaureate and accelerated nursing students enrolled in nursing programs nationwide. The responses were also limited to those who responded during the time frame in which the survey was open. Third, the survey contained some measures that had not had reliability or validity established, such as the measures for self-efficacy for a faculty role and interests in the activities/tasks of a faculty role. While the survey was piloted for readability among pre-licensure baccalaureate nursing students, questions may not have been interpreted as intended by the researcher. Lastly, while most of the items were answered by all 1,078 students, items near the end of the survey were not responded to by all students, perhaps due to survey fatigue. The students enrolled in the pilot study stated that the survey was not too long, but perhaps some of the respondents felt otherwise or they may not have understood the questions and skipped the questions they did not understand.

Conclusions and Recommendations

Nursing Theory

This study used theory derivation procedures as described by Walker and Avant (2010) to apply derived constructs from SCCT (Lent et al., 1994) to career choice goals for a future nursing faculty role and graduate education among pre-licensure baccalaureate nursing students. In theory derivation, the structure of the theory or the constructs may be modified from one field to the second field in order to add to the body of literature (Walker & Avant, 2010). Because little was known about how undergraduate nursing students may perceive or be attracted to or dissuaded from a future nursing faculty role, theory derivation from SCCT was appropriate because SCCT has been validated in determining career choice goals among college students enrolled in a variety of majors across multiple college campuses. While not all constructs of SCCT were statistically significant in the logistic regression of this study, it provided a comprehensive framework for examining career choice for pursuit of a future nursing faculty role among undergraduate nursing students. SCCT was partially supported to predict the intent of pre-licensure baccalaureate nursing students for a future nursing faculty role, explaining between 24.4% and 36.2% of the variance in the students' intention. Interests in the activities/tasks of a faculty role and outcome expectations were fully supported and proximal background and learning experiences were partially supported, while variables within person inputs, distal background and self-efficacy were not.

Nursing Practice

In this study, the average age of the high intent student for a faculty role was nearly 28 years and the high intent students planned to work for a mean of 5.8 years and to pursue graduate education in an average of 3.3 years. Depending upon whether the students enroll in graduate

education while working their 5.8 years and the length of time it takes them to complete a minimum of a master's degree (projected at two years), the high intent students will be between 35.8 and 39.1 when pursuing their first faculty position. This is encouraging. The majority of high intent students (53.2%) intend to earn a doctorate degree in nursing. Thus high intent students may be working, attending graduate education and potentially having a family at the same time. Thus high intent students will need employer support through flexible schedules and tuition assistance in order to support young nurses' returning to graduate school as soon as possible. If sufficient numbers of high intent students begin their graduate education as planned, hopefully, this will begin to reverse the tradition of long clinical careers prior to pursuing graduate education (Allen, 2008; Yordy, 2006).

Nursing Education

This study was relevant for undergraduate nursing students, the nursing faculty workforce and the profession of nursing. From the perspective of undergraduate nursing students, this study may lead to future intervention studies that will help nursing students make long-term career choices, especially for graduate education, at earlier stages in their careers. The nursing faculty workforce may benefit from this study by understanding more about how undergraduate nursing students may perceive a faculty role and the advantages and disadvantages of such a role. From this understanding, interventions may be designed that encourage undergraduate nursing students towards graduate education and a future faculty role earlier in their careers. The nursing profession may also gain if pre-licensure nursing students choose graduate education and a future faculty role earlier in their careers, thus minimizing the effects of the impending nursing faculty shortage on the numbers of students who can be admitted into nursing programs.

While the person inputs of age, gender and race/ethnicity were not significant in the logistic regression for pursuit of a faculty role, 30% of the high intent students for a faculty role who responded to the study were minority students. Fang et al. (2011) of the AACN reported the percentages of minority students enrolled in nursing programs at 26% for baccalaureate programs, 26% in master's programs and 23% in research focused doctoral programs in 2010. Yet in this study, nearly 80% of minority students had a high intent for graduate education. It is imperative to assist minority students to achieve their career goals and encourage their pursuit of faculty roles in order to have a diverse nursing faculty population.

According to the logistic regression, high intent students for a faculty role were more likely to be enrolled in accelerated nursing programs. Yet, a large number of high intent students were in a baccalaureate nursing program. Administrators at schools of nursing should assess their target student group and develop accelerated nursing programs in order to attract students having previous degrees into the field of nursing whenever possible.

In the logistic regression for graduate education, barriers were significant with "difficulty financing graduate education" as the highest rated barrier. Nursing faculty should let students know about financial options for graduate school in order to support young nurses' returning to graduate school as soon as possible. According to the IOM (2011) report, faculty should feel obligated to help students plan for their next degree and advanced career opportunities.

Self-efficacy was not significant in the logistic regression for predictors of a faculty role, perhaps because the study sample were members of their professional association and were probably excellent students with high self-efficacy for many nursing roles, although this was not examined. Individuals may be self-efficacious; however, if they do not believe the outcomes are positive, they may not choose to have an interest in the activities or intent in a particular area

(Lent & Brown, 2006). Therefore, nursing faculty should point out the outcome expectations, both advantages and disadvantages of the faculty role, in order that students can determine their intent for a future nursing faculty role or not. Faculty might also discuss faculty roles and provide their story of how they became faculty. Interestingly, students in the study were asked to agree or disagree on a 5-point scale (1 = strongly disagree; 5 = strongly agree) with the statement "Taking this survey has increased the likelihood of my consideration of a future nursing faculty role." For the high intent students for a faculty role, 40% were influenced by the survey. Perhaps taking the survey served as an increased awareness of the advantages of a future faculty role. Self-efficacy for completion of a master's degree was significant in the logistic regression for pursuit of graduate education. Providing students with experiences to further increase their self-efficacy for graduate education, previously discussed, should be provided.

Experience in teaching was a predictor of high intent for a future nursing faculty role. Of the types of teaching experiences in this study (serving as a teaching assistant, peer teaching, peer tutoring, other), students were most positive about serving as a peer teacher and as a teaching assistant. Therefore, faculty should consider offering these types of experiences to undergraduate students and to make every effort for the experience to be positive.

DeYoung et al. (1995) urged faculty to encourage undergraduate nursing students to pursue graduate education and a future faculty role (social persuasion). It is gratifying to learn that encouragement to pursue a future nursing faculty role was statistically significant in the logistic regression model for pursuit of a future faculty role. It was also heartening that encouragement to pursue graduate education was significant in the logistic regression for pursuit of graduate education. Participants in the Bieber and Worley (2006) study described the most influential encouragement occurring during the undergraduate years with such phrases as [the

student] “having what it takes” (p. 1,021). Therefore, faculty might consider such phrases as this for students who show promise as potential faculty.

Interests in the activities/tasks of a faculty role were significant in this study for high intent students for a future faculty role and for graduate education. Nursing faculty should talk to students about their faculty role and their career path for becoming faculty. This may be a method for “growing your own” faculty as recommended in the narrative by Hessler and Ritchie’s (2006).

Nursing Policy

As previously stated, one of the highest rated barriers was “difficulty financing graduate education.” Nurses continue to need financial assistance for full and part-time graduate studies in order to continue their careers and meet the demands for the numbers of nursing faculty needed in the future. Additionally, nurses need flexible options for repaying loans, such as by working in nursing faculty shortage areas. Lastly, workforce data is needed to understand the current and growing faculty shortage with emphasis on tracking strategies that have worked to attract faculty in other settings. Other related data is needed. For example, there is no national data on the age, race/ethnicity or gender of students enrolled in masters in nursing education programs.

Nursing Research

Using a theory derivation process for SCCT provided a valuable framework for researching the complicated question of intent for a future nursing faculty role and future researchers should consider the use of this theory. The adapted measures for the constructs of SCCT provided good reliability overall. The measures created for this study for self-efficacy for a faculty role and interests in the activities/tasks of a faculty role also provided good reliability. Future researchers should also consider including the additional barriers and outcome

expectations provided in the open-ended student responses in future surveys of potential nursing faculty, which were: (1) for barriers, *lack of job availability for a faculty role*; *difficulties balancing work, returning to graduate school and family*; and *lack of experience or knowledge of the faculty role*; (2) for outcome expectations-advantages, *the faculty schedule* and *as a way to keep up*; and (3) for outcome expectations-disadvantages, *loss of clinical contact with patients* and *dealing with demanding students*. Lent and Brown (2006) stated that interests may be an independent or dependent variable, depending upon the study purpose. The results of this study indicate that intent might be the better outcome variable for future nursing studies on this topic.

Further research should be conducted about the derived SCCT constructs and variables to investigate potential moderators of the theory by participant characteristics, to examine the relationship of the independent variables and to create structural equation modeling of intent to pursue a faculty role by undergraduate nursing students. Additionally, adaptation and testing of the derived SCCT should be conducted using samples of associate degree nursing students and students in masters' degree programs. While this study investigated the predictor variables of students with high intent for a faculty role, there was a sizeable group of students (n = 488, 45.3%) who were unsure of their intent for a future faculty role. It is not known what may influence unsure students, another potential future study.

Park et al. (2007) found that interest in "teaching/lecturing" was more attractive at five-six years after graduating from nursing school in the United Kingdom, moving up from eighth to fifth in popularity. Therefore, only a longitudinal study will determine which students actually pursue graduate education and a future nursing faculty role. Students were asked in this survey if the researcher might contact them once/year with two questions: (1) the career path that was

chosen and (2) if graduate education had been pursued. A sizeable number of students (n = 713) provided email address and/or telephone number for annual follow-up.

Summary

This theoretically based nationwide study used previously tested reliable instruments to examine the intent of pre-licensure baccalaureate nursing students for a future nursing faculty role and graduate education and provides the first of its kind insight on this complex topic. Derived variables from Social Cognitive Career Theory (SCCT) provided a way to frame the research and most of the multiple item measures of the constructs demonstrated good reliability. Almost 25% of the students in this study had a high or very high intent for a future faculty role. Additionally, a large number of students had a high or very high intent (76%) for pursuing graduate education. The majority of students with a high intent for a future faculty role (53%) aspired to earn a doctoral degree in nursing. Finding ways to accelerate their path into graduate education is imperative.

The constructs and the associated variables that contributed to pursuit of a future nursing faculty role in the logistic regression in order from highest to lowest were: (1) interests in the activities/tasks of a faculty role; (2) enrollment in an accelerated nursing program; (3) outcome expectations-advantages; (4) previous teaching experience; (5) encouragement to pursue a faculty role; and (6) outcome expectations-disadvantages. Learning that undergraduate nursing students have an interest in the activities/tasks of a faculty role was unheard of prior to this study; heretofore studies have only examined undergraduate nursing students' intent for a particular clinical field. Targeting students who are in an accelerated nursing program with selected interventions that might interest them in a future faculty role may stimulate more interest and stronger intent for a future nursing faculty role. Students are much more aware of the

advantages and disadvantages of a faculty role than previously understood. Interestingly, students with a high intent for a faculty role were not dissuaded by the disadvantages of that role. The positive impact of providing undergraduate students with peer teaching experiences was verified in this study and lends value to potential intervention studies for the future. While nursing faculty have assumed that encouragement was important for students to consider a future faculty role, this study demonstrated statistical data to support that endeavor. It is not clear why some of the applied constructs and their variables were not supported in this study; however; replication of the study should be done in order to validate, expand or refute this study's findings.

Lastly, the variables that contributed to pursuit of graduate education in the logistic regression were: encouragement to pursue graduate education by nursing faculty, interests in the activities/tasks of a faculty role, self-efficacy for completion of a master's degree in nursing, barriers, self-efficacy for completion of a doctoral degree and age. Most importantly, students with high intent for a future faculty role apparently understood the need for and aspired to graduate education. Prior to this study, there was no unifying theory and only a limited understanding of whether undergraduate nursing students might be interested in a faculty role. Now, there is a partially supported theory and a modest understanding of the variables that are significant for undergraduate nursing students' intent to pursue a future nursing faculty role.

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APPENDIX A: TABLE OF DEFINITIONS AND MEASURES

Table of Constructs and Variables, Theoretical and Operational Definitions and Measurement			
Constructs and Variables	**Theoretical Definition**	**Operational Definition**	**Measurement**
Pre-licensure baccalaureate nursing students	Pre-licensure baccalaureate nursing students enrolled in a nursing program that prepares them to take the initial licensing examination to become registered nurses DOL: 2010; NCSBN, 1999)	Pre-licensure baccalaureate nursing students are those enrolled in baccalaureate and accelerated pre-licensure nursing programs who have completed at least one semester/quarter of clinical nursing during their nursing program.	Are you currently enrolled in a nursing program? [yes/no] In what state or territory is your nursing program? If you nursing program is an online program, indicate your state of residence. [Choose one.]
Nursing faculty role	An academic position where the faculty member teaches undergraduate or graduate nursing students on a part-time or full-time basis.	A full-time nursing faculty position in any type of nursing program that prepares registered nurses (NLN, n.d.)	
Person Inputs	Person inputs are the predispositions, gender, race/ethnicity of the individual (Lent, 2005).	Gender (Kaufman, 2010b; NLN, 2007; Muldoon & Reilly, 2003), age (Buerhaus, Staiger & Auerbach, 2009; NLN, 2010b), and race/ethnicity (AACN, 2010b; Kaufman, 2010b; NLN, 2009a).	What is your gender? [female/male] What is your age? [enter text] What is your year of birth? [enter text] What race or ethnic group do you identify most closely with? [Choose one: Black or African American; American Indian or Alaska Native; Asian; Hispanic or Latino; Native Hawaiian or other Pacific Islander; Mixed Race; Caucasian; or Other [please specify]

Constructs and Variables	Theoretical Definition	Operational Definition	Measurement
Distal background	Variables in the background of each individual that shape career choices such as cultural influences and skill development opportunities (Lent, 2005)	Attributes in the background of each pre-licensure baccalaureate nursing student during the formative years and includes: 1) parent education –highest level of education attained by either parent; 2) having either parent as an educator, a registered nurse or a health care professional (Lease, 2003; Mau & Bikos, 2000; Metz et al., 2009; Watt et al, 2007a; Williams, Graham et al., 2007)	What is the highest level of formal education obtained by each of your parents? [Choose one for each parent: grammar school, some high school, high school graduate, postsecondary school other than college, some college, associate's degree, baccalaureate degree, master's degree, doctoral degree, unknown] Do you have a parent who is/was a teacher/faculty member or administrator? [Choose one answer for each parent: Not a teacher/faculty or administrator, Teacher/faculty or administrator (elementary), Teacher/faculty or administrator (secondary), Teacher/faculty or administrator (college)] Do you have a parent who is/was a health care professional? [Choose one answer for each parent: Not a health care professional, Registered Nurse, Other health care professional (Please specify)]

Constructs and Variables	Theoretical Definition	Operational Definition	Measurement
Proximal background	The attributes present at critical points of career decision making, such as emotional or financial support, job availability or barriers (Lent, 2005)	Attributes present at critical points in the student's career decision making times: 1) type of nursing program (only data from students in pre-licensure baccalaureate programs will be included)(Bevil et al., 2007; DHHS, 2010; NLN, 2008); 2) educational level and background (Bieber & Worley, 2006; McCann et al., 2010); and 3)supports/barriers to pursuing nursing faculty role (Seldomridge, 2004)	What is the type of nursing program in which you are currently enrolled? [Choose one: Diploma, Associate Degree, Accelerated pre-licensure baccalaureate, Baccalaureate pre-licensure, Master pre-licensure, Doctorate pre-licensure, RN to BSN] How are the courses in your nursing program delivered? [Choose one: face-to-face; hybrid, online] 2b) How many semesters/quarters of clinical nursing education have you completed? [Choose one: 0,1, 2, 3,4, 5 or more] Expected date of graduation- [Choose one for each: month and year or Not applicable] Do you have any other degrees from a college or university? [yes/no, if no skip to next question] If yes, what is your highest degree prior to enrolling in the nursing program? [Choose one: Associate Degree, Baccalaureate Degree, Master's Degree, Doctorate. Please specify your field of study.] Lent et al (2005) Social Supports & Barriers: How likely would you be to experience each of the following situations if you pursued a nursing faculty role in the future? Three response options added from Warren & Mills (2009). Total of 16 options rated "Not At All Likely" (1) to "Extremely Likely" (5), a 5-point Likert scale. An open-ended response option to "What other situations might arise if you chose to pursue a nursing faculty position?"

Constructs and Variables	Theoretical Definition	Operational Definition	Measurement
Self-efficacy	The belief that individuals have regarding his/her capabilities to complete actions or to perform at a certain level (Bandura, 1986; Lent, 2005)	The beliefs one has about one's capabilities to succeed in a nursing faculty role (Muldoon & reilly, 2003; Nugent et al., 1999; Yang et al., 2006).	Please indicate how much confidence you have in your ability to learn to become a nursing faculty member by rating the following items from "No Confidence At All" (0) to "Complete Confidence" (9). There are a total of eight response options.
Learning experience	Learning experience variables are defined as those experiences that impact self-efficacy as follows: 1) personal performance accomplishments ; 2) vicarious learning; and 3) social persuasion (Bandura, 1986; Lent, 2005).	Experiences during nursing school related to the faculty role: 1) teaching experience such as peer teaching (a formal assignment in which you taught a group of classmates), serving as a teaching assistant, peer tutoring (one-on-one study sessions), or other experiences; 2) having experiences with a nursing faculty member who serves as a role model for the student in teaching; and 3) having a nursing faculty member to encourage an pre-licensure baccalaureate nursing student to consider a future nursing faculty role (Seldomridge, 2004).	Which of the following experiences have you had? Mark all that apply. [Peer teaching (a formal assignment in which you taught a group of classmates), Serving as a teaching assistant, Peer tutoring (one-on-one study sessions), Other. Please describe the experience(s) in as much detail as possible] Please rate how positive each of the above experiences were from "Not applicable"(1) or "Very Negative" (2) to "Very Positive" (6), a 5-point Likert scale. 2) Adaptation of the Nauta & Kokaly (2001) Inspiration/Modeling subscale (7 items) from "Strongly Disagree" (1) to "Strongly Agree" (5), a 5-point Likert scale. 3) To the above Nauta & Kokaly subscale two items were added: "I have received encouragement from nursing faculty to pursue a future nursing faculty role" and ""I have received encouragement from nursing faculty to pursue graduate education" rate from "Strongly Disagree" (1) to "Strongly Agree" (5), a 5-point Likert scale,

Constructs and Variables	Theoretical Definition	Operational Definition	Measurement
Outcome expectations	The beliefs one has about the consequences or outcomes of behaving in a particular way (Lent, 2005).	Pre-licensure baccalaureate nursing students' perceptions about the advantages and disadvantages of a nursing faculty role (Seldomridge, 2004).	Lent et al.'s (2005) adapted scale with the addition of items from Plunkett, Iwasiw, & Kerr (2010), Manual & Hughes's (2006) Seldomridge (2004) qualitative studies, 20 response items on a Likert scale of "Not at All Likely" (0) to "Extremely Likely" (5), a 6-point Likert scale. An open-ended response option to, "Please explain any other advantages or disadvantages for you if you became a nursing faculty member."
Interest in the activities of a career	Patterns of like, dislike or indifference regarding career-relevant activities (Lent et al., 1994).	Patterns of like, dislike or indifference towards the activities/tasks performed by a nursing faculty member	9 items listing nursing faculty activities/tasks and rated on a Likert scale of "Very Low Interest" (1) to "Very High Interest" (5), a 5-point Likert scale.
Career choice goal	Career choice goal is the individual's intention to engage in a particular activity (Lent et al., 1994; Lent, 2005)	Career choice goal is defined as interest and intent in a future nursing faculty role and graduate education. Specifically, interest is defined as the feeling of curiosity in a future nursing faculty role and graduate education and intent is defined as the stated action towards pursuing a future nursing faculty role and graduate education.	Level of interest for pursuit of a faculty role and graduate education on a 5-point Likert scale, "Very Low Interest" (1) to "Very High Interest" (5). On a 5-point Likert scale from "Strongly Disagree" (1) to "Strongly Agree" (5) for "In the future, I intend to pursue a nursing faculty role." and "In the future, I intend to pursue graduate education." How many years they believe they need to work as a nurse before becoming a nursing faculty member? [Choose one: NA, 1-20]; How many years before they pursue graduate education [Choose one: NA, 1-20]; and highest academic degree they intend to obtain [Choose one: Bachelor's degree in nursing, Bachelor's degree in another field, Master's degree in nursing, Master's degree in another field, Doctorate degree in nursing, Doctorate degree in another field, Other (Please specify.)]

APPENDIX B: INTRODUCTORY AND PERSON INPUT ITEMS

A. Please answer the following questions so that I know more about you.

A1. Are you currently enrolled in a nursing program?

- ○ Yes
- ○ No

A2. In what state or territory is your nursing program? If your nursing program is an online program, indicate your state/territory of residence. (Drop down menu of states, Guam, Puerto Rico and U.S. Virgin Islands)

B. PERSON INPUTS. Please answer the next questions about your gender, age, and race/ethnicity.

B1. What is your gender?

- ○ Female
- ○ Male

B2. What is your current age? ☐

B3. What year were you born? ☐

B4. What race or ethnic group do you identify most closely with?

- ○ Black or African American
- ○ American Indian or Alaska Native
- ○ Asian
- ○ Hispanic or Latino
- ○ Native Hawaiian or other Pacific Islander
- ○ Mixed Race
- ○ Caucasian
- ○ Other, please specify_____

APPENDIX C: DISTAL BACKGROUND ITEMS

C. I am interested in learning more about your parents' education and occupation.

C1. What is the highest level of formal education obtained by each of your parents? Choose one answer for each of your parents.

Your father	Your mother
(drop down choices of)	(drop down choices of)
Grammar school or less	Grammar school or less
Some high school	Some high school
High school graduate	High school graduate
Postsecondary school other than college	Postsecondary school other than college
Some college	Some college
Associate degree	Associate degree
Baccalaureate degree	Baccalaureate degree
Master's degree	Master's degree
Doctorate degree	Doctorate degree
Unknown	Unknown

C2. Do you have a parent who is/was a teacher/faculty member or administrator? Choose one answer for each of your parents.

Your father	Your mother
(drop down choices of)	(drop down choices of)
Not a teacher/faculty or administrator	Not a teacher/faculty or administrator
Teacher/faculty or administrator (elementary)	Teacher/faculty or administrator (elementary)
Teacher/faculty or administrator (middle or high school)	Teacher/faculty or administrator (middle or high school)
Teacher/faculty or administrator (college)	Teacher/faculty or administrator (college)
Unknown	Unknown

C3. What is/was your father's occupation?

- ○ Not a health care professional
- ○ Registered Nurse
- ○ Other health care professional Please specify below

_____

C4. What is/was your mother's occupation?

- ○ Not a health care professional
- ○ Registered Nurse
- ○ Other health care professional Please specify below

_____

APPENDIX D: PROXIMAL BACKGROUND ITEMS

D. Please answer the following questions about your educational background and nursing program.

D1. What is the type of nursing program in which you are currently enrolled (choose only one answer):

- ○ Diploma
- ○ Associate Degree
- ○ Accelerated pre-licensure baccalaureate
- ○ Baccalaureate pre-licensure
- ○ Master pre-licensure
- ○ Doctorate Pre-licensure
- ○ RN to BSN

D2. How are the courses in your nursing program delivered?

- ○ Face-to-face
- ○ Hybrid (at least 50% of the program is delivered online)
- ○ Online

D3. How many semesters/quarters of clinical nursing education have you completed?

Drop down box of 0,1,2,3,4,5 or more

D4. What is your expected date to take the licensure examination to become a registered nurse?

Month (Jan-Dec in drop down and Not applicable) Years (2011-2020 in drop down and Not applicable)

D5. Do you have any other degrees from a college or university?

- ○ No (Skip to next question)
- ○ Yes

If yes, what is your highest degree prior to enrolling in the nursing program?

- ○ Associate Degree
- ○ Baccalaureate Degree
- ○ Master's Degree
- ○ Doctorate
- ○ Other, please specify

APPENDIX E: PROXIMAL BACKGROUND SUPPORTS AND BARRIERS

E. For the next questions, imagine that you want to pursue a nursing faculty role in the future. A nursing faculty role is any full-time faculty role in a nursing program that prepares registered nurses and requires at least a master's degree in nursing. Response choices are "not at all likely", "somewhat likely", "unsure", "likely", and "extremely likely".

If you were to pursue a nursing faculty role in the future, please indicate how likely you would be to experience each of the following situations?	**Not at all likely**	**Somewhat Likely**	**Unsure**	**Likely**	**Extremely Likely**
to have access to a "role model" in this field (i.e., someone you can look up to and learn from by observing)*	1	2	3	4	5
to receive negative comments or discouragement about this choice from family members*	1	2	3	4	5
to feel support for this decision from important people in your life (e.g., faculty)*	1	2	3	4	5
to worry that such a career path would require too much time or schooling*	1	2	3	4	5
to feel that there are people "like you" in this field*	1	2	3	4	5
to feel that you don't fit in socially with other individuals in this field*	1	2	3	4	5
to receive negative comments or discouragement about your choice from your friends*	1	2	3	4	5
to get helpful assistance from a colleague, if you felt you needed such help*	1	2	3	4	5
to get encouragement from your friends for pursuing this field*	1	2	3	4	5
to get helpful assistance from your advisor*	1	2	3	4	5
to feel pressure from parents or other important people to change your choice to some other field*	1	2	3	4	5
to feel that financing graduate education would be difficult**	1	2	3	4	5
to feel that your family members support this decision*	1	2	3	4	5
to feel that close friends or relatives would be proud of you for making this decision*	1	2	3	4	5
to worry that family responsibilities would interfere with graduate education**	1	2	3	4	5
to have access to a "mentor" who could offer you advice and encouragement*	1	2	3	4	5
What other situations might arise if you chose to pursue a nursing faculty position? Please explain.					

*Adapted with permission from Lent 9/2/2010.

**Adapted with permission from Warren 8/16/2010.

APPENDIX F: SELF-EFFICACY

F. Please indicate how much confidence you have in your ability to learn to become a nursing faculty member by sliding the bar from left to right to respond to each statement. To the left is "no confidence at all" and to the right is "complete confidence". The further the bar is slid to the right, the more confidence you have in your abilities.

How much confidence do you have in your ability to successfully learn to:	**No Confidence at all**			**Some Confidence**				**Complete Confidence**		
teach in a classroom setting	0	1	2	3	4	5	6	7	8	9
teach in an on-line setting	0	1	2	3	4	5	6	7	8	9
teach in a nursing laboratory	0	1	2	3	4	5	6	7	8	9
teach in a clinical setting	0	1	2	3	4	5	6	7	8	9
serve as an advisor to students	0	1	2	3	4	5	6	7	8	9
conduct research	0	1	2	3	4	5	6	7	8	9
participate in an academic setting	0	1	2	3	4	5	6	7	8	9
complete a graduate nursing degree at the master's level	0	1	2	3	4	5	6	7	8	9
complete a graduate nursing degree at the doctoral level	0	1	2	3	4	5	6	7	8	9

Lent & Brown (2006)

APPENDIX G: LEARNING EXPERIENCES

G1. TEACHING EXPERIENCES. Which of the following experiences have you had? (Mark all that apply.)

- ○ Peer teaching (a formal assignment in which you taught a group of classmates)
- ○ Serving as a teaching assistant
- ○ Peer tutoring (one-on-one study sessions)
- ○ None
- ○ Other, please describe other similar experiences in the next question.

If you answered "other" in the box above, please describe the experience(s) in as much detail as possible:

Please rate how positive each of the above experiences were for you from "Not applicable" or "Very Negative" to "Very Positive". Provide an answer for each choice.	**Not Applicable**	**Very Negative**	**Negative**	**Unsure**	**Positive**	**Very Positive**
Peer teaching	NA	1	2	3	4	5
Serving as a teaching assistant	NA	1	2	3	4	5
Peer tutoring	NA	1	2	3	4	5
Other:	NA	1	2	3	4	5
Please explain what was positive or negative about the experiences in as much detail as possible.						

G2. FACULTY ROLE MODEL/FACULTY ENCOURAGEMENT.

Please rate your level of agreement with the following statements from "Strongly Disagree" to "Strongly Agree".	**Strongly Disagree**	**Disagree**	**Unsure**	**Agree**	**Strongly Agree**
There is someone I am trying to be like who is a nursing faculty member.*	1	2	3	4	5
There is no one particularly inspirational to me among my nursing faculty.*	1	2	3	4	5
There is someone I admire among the nursing faculty.*	1	2	3	4	5
There is no one I am trying to be like among the nursing faculty.*	1	2	3	4	5
I have a mentor among the nursing faculty.*	1	2	3	4	5
I know of a nursing faculty member who has a career I would like to pursue.*	1	2	3	4	5
Among the nursing faculty, there is no one who inspires me.*	1	2	3	4	5
I have received encouragement from nursing faculty to pursue a future nursing faculty role.	1	2	3	4	5
I have received encouragement from nursing faculty to pursue graduate education.	1	2	3	4	5

*Adapted from Nauta 9/2/2010.

APPENDIX H: OUTCOME EXPECTATIONS

H. Below is a list of outcomes that could result from becoming a nursing faculty member. Answer the question by sliding the bar from left to right. To the left is "not at all likely" and to the right is "extremely likely". The further the bar is slid to the right, the more likely the events are to occur.

Please indicate how likely each would occur if you became a faculty member.	**Not at All Likely**		**Likely**		**Extremely Likely**
receive a good job offer.*	1	2	3	4	5
find that the job is too complex.**	1	2	3	4	5
get respect from other people.*	1	2	3	4	5
do work that I would find satisfying.*	1	2	3	4	5
increase my sense of self-worth.*	1	2	3	4	5
find that the job has too much responsibility.**	1	2	3	4	5
do work that can "make a difference" in people's lives.*	1	2	3	4	5
go into a field with high employment demand.*	1	2	3	4	5
do exciting work.*	1	2	3	4	5
find that the job has too much liability.**	1	2	3	4	5
have the right type and amount of contact with other people (i.e. "right" for me).*	1	2	3	4	5
make a contribution to nursing.**	1	2	3	4	5
share my love of learning.**	1	2	3	4	5
have good working conditions.***	1	2	3	4	5
have a workload that is too heavy.**	1	2	3	4	5
earn an attractive salary.*	1	2	3	4	5
have a career that is valued by my family.*	1	2	3	4	5
do work that is challenging.***	1	2	3	4	5
have a lifestyle conducive to having/caring for a family.***	1	2	3	4	5
have to earn a graduate degree.****	1	2	3	4	5
Please explain any <u>other advantages or disadvantages</u> for you if you became a nursing faculty member.					

*Adapted from Lent with permission 9/2/2010
**Seldomridge's (2004) qualitative study
***Manual & Hughes's (2006) qualitative study
**** Plunkett, Iwasiw, & Kerr (2010)

APPENDIX I: INTERESTS IN ACTIVITIES/TASKS OF A FACULTY ROLE

I. Answer the following questions by sliding the bar from left to right. To the left is "very low interest" and to the right is "very high interest". The further the bar is slid to the right, the more interest you have in the activities.

How much interest do you have in:	**Very Low Interest**		**Medium Interest**		**Very High Interest**
developing courses and learning activities?	1	2	3	4	5
teaching and guiding learners?	1	2	3	4	5
evaluating learning?	1	2	3	4	5
advising students?	1	2	3	4	5
attending a variety of departmental and institutional meetings?	1	2	3	4	5
serving on various academic and institutional committees?	1	2	3	4	5
conducting research alone or in collaborative settings?	1	2	3	4	5
writing and publishing nursing research findings in academic/clinical journals?	1	2	3	4	5
attending regional and national professional meetings?	1	2	3	4	5

APPENDIX J: INTEREST AND INTENT

J. CAREER CHOICE GOAL

Please indicate your CURRENT degree of interest in the following activities from "very low interest" to "very high interest".	**Very Low Interest**	**Low Interest**	**Medium Interest**	**High Interest**	**Very High Interest**
Pursuit of a future nursing faculty role.	1	2	3	4	5
Pursuit of graduate education.	1	2	3	4	5
Please indicate your agreement with each of the following statements from "strongly disagree" to "strongly agree".	**Strongly Disagree**	**Disagree**	**Unsure**	**Agree**	**Strongly Agree**
In the future, I intend to pursue a nursing faculty role.	1	2	3	4	5
In the future, I intend to pursue graduate education.	1	2	3	4	5

If you intend to pursue a future nursing faculty role, how many years do you believe you need to work as a nurse before becoming a nursing faculty member? (drop down of 1-20, NA)

If you intend to pursue graduate education in the future, in how many years do you plan to enroll? (drop down of 1-20, NA)

What is the highest academic degree that you intend to obtain? (Choose only one answer.)

○ Bachelor's degree in nursing ○ Bachelor's degree in another field ○ Master's degree in nursing	○ Master's degree in another field ○ Doctorate degree in nursing ○ Doctorate degree in another field ○ Other. Please specify:

Taking this survey has increased the likelihood of my consideration of a future nursing faculty role.

- ○ Strongly disagree
- ○ Disagree
- ○ Neither disagree or agree
- ○ Agree
- ○ Strongly agree

Thank you so much for your responses. In appreciation of your responses, please indicate to which charity you would like to designate to receive up to $500. (Choose one answer.)(randomized response choices)

- ○ American Cancer Society
- ○ American Heart Association
- ○ March of Dimes

Would you allow me to email you once/year with two questions? The purpose of this email will be to find out: 1) what career path you have chosen and 2) if you have decided to pursue graduate education? **This is totally voluntary and you do NOT have to consent to this request.**

- ○ Yes (skips to request for email address, alternate email address, phone number, and alternative phone number).
- ○ No (skips to end of survey)

APPENDIX K: EMAIL REQUESTING PARTICIPATION

Subject line: Nursing Research

I am a doctoral nursing student conducting a short survey to find out about your potential interest in a future nursing faculty role and graduate education. Because of the current faculty shortage, your response is CRITICALLY IMPORTANT! The survey will take about 15 minutes of your time to complete. As you think about the questions, a nursing faculty role is defined as a full-time position in a nursing program that prepares registered nurses and requires at least a master's degree in nursing. To begin the survey, click on the link below. If your web browser does not automatically take you to the survey, cut and paste the link into your browser. Once you begin the survey, you cannot you cannot exit and re-enter the survey later. This survey will only be active until April 30, 2011.

In appreciation for your assistance, you will be able to select one of three previously chosen charities to receive a donation, solely because of your participation.
To participate, click on this link and it will direct you to the survey:

https://ecu.qualtrics.com/SE/?SID=SV_dmv2LEYYBzOxQRS

Thank you in advance for your time and consideration of the questions in the survey. It is only through the assistance of nursing students like you that we can advance the knowledge of the nursing profession about the nursing faculty shortage.
If you have any questions, please feel free to contact me at bondd06@students.ecu.edu or 919-350-0454.

Kindest regards,

Diana K. Bond, PhD (c), RN-BC
Nursing doctoral student at East Carolina University
Greenville, NC

APPENDIX L: INITIAL SURVEY SCREEN

Your participation in this survey is entirely voluntary and you may stop answering the questions and exit the survey at any time. All of your responses will be kept confidential and no personally identifiable information will be associated with your response in any report of this data. Additionally, there are no known risks from your participation in this study. This research has been approved by the Institutional Review Board of East Carolina University. Your completion of this survey serves as your consent to participate in this research study.

Please click the "next" button at the bottom right corner to begin the survey. During the survey, you may click the "back" button to go back and change an answer. Use this button instead of your browser's back feature. An answer is required for each question, except for answers where you have an option for entering text to respond. If you exit the survey after beginning it, you will not be able to re-enter the survey.
Thank you in advance for your time and your contribution in assisting me and the nursing profession understand more about why individuals may or may not pursue a nursing faculty role and graduate education.

Thank you!

Diana Bond, PhD (c), RN-BC
Nursing doctoral student at East Carolina University
Greenville, NC
Bondd06@students.ecu.edu
919-350-0454

APPENDIX M: PERMISSION TO ADAPT SCCT INSTRUMENT

RE: permission to adapt your instrument September 18, 2010
2:40 PM

From: "Robert W. Lent" <boblent@umd.edu>
To: "DIANA BOND" <dianabond@embarqmail.com>
Yes, that would be fine.

Bob Lent

-----Original Message-----
From: DIANA BOND [mailto:dianabond@embarqmail.com]
Sent: Saturday, September 18, 2010 12:14 PM
To: Robert W. Lent
Subject: permission to adapt your instrument

Dr. Lent, I contacted you in the spring and you sent me your the attached instrument. You may recall that I'm a nurse working on my dissertation at East Carolina University. I would like to adapt some of the subscales on your instrument for use with my target group of undergraduate nursing students and their interest in a future nursing faculty role. May I adapt this instrument?

Diana

APPENDIX N: PERMISSION TO ADAPT WARREN ITEMS

From: Joan.Warren@medstar.net [mailto:Joan.Warren@medstar.net]
Sent: Monday, August 16, 2010 4:46 PM
To: DIANA BOND
Subject: Re: dissertation help

Hi Diana,

Yes please feel free to use....Just wanted to let you know that I remember all too well staring out windows on beautiful days and then looking at a blank screen knowing I should be writing etc. Hang in there you are almost there!!!!!! There is a very bright light beginning to appear at the end of the tunnel :)

Joan Warren, PhD, RN-BC, NEA-BC
Director, Professional Practice and Research
Franklin Square Hospital Center
9000 Franklin Square Drive
Baltimore, MD, 21237

Phone: (443) 777-7957
Pager: (410) 932-0242

DIANA BOND
<DBOND@wakemed.org>
08/14/2010 05:17 PM

To "Joan.Warren@medstar.net"
<Joan.Warren@medstar.net>

cc

Subject dissertation help

Hi, Joan, this is your colleague from NC. I would like to formally ask permission to use a few of your items. Specifically, I'm interested in using the following:

- Feel that financing graduate education would be difficult
- Worry that family responsibilities would interfere with graduation education
- There is not a graduate nursing program in close proximity to me

You may recall, my research is on undergraduate nursing students. I'm interested in the variables that might attract them into a future nursing faculty position and these questions would be perfectly suited as part of my questionnaire.

Thanks for your help,
Diana

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APPENDIX O: INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

UMCIRB #: 10-0519

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UMCIRB

UNIVERSITY AND MEDICAL CENTER INSTITUTIONAL REVIEW BOARD
REVISION FORM

UMCIRB #: 10-0519 **Date this form was completed:** 4/4/2011

Title of research: Pre-licensure Baccalaureate Nursing Students' Career Choice Goal for a Future Faculty Role and Graduate Education: Adaptation and Testing of Social Cognitive Career Theory

Principal Investigator: Diana Bond
Sponsor: Sigma Theta Tau; Beta Nu Chapter

Fund number for IRB fee collection (applies to all for-profit, private industry or pharmaceutical company sponsored project revisions requiring review by the convened UMCIRB committee). If you are a non-ECU entity payment is required at the time of submission:

Fund	Organization	Account	Program	Activity (optional)
		73059		

Version of the most currently approved protocol: 2
Version of the most currently approved consent document: 2

CHECK ALL INSTITUTIONS OR SITES WHERE THIS RESEARCH STUDY WILL BE CONDUCTED:

☒ East Carolina University
☐ Pitt County Memorial Hospital, Inc
☐ Heritage Hospital
☐ Beaufort County Hospital
☐ Carteret General Hospital
☐ Boice-Willis Clinic
☒ **Other.** Nursing students who are members of the National Student Nurses' Association

The following items are being submitted for review and approval:

☐ Protocol:
☐ Consent:
☒ **Additional material:** version 3 or date 4/4/2011 (Change is questionnaire items) - KK

Complete the following:

1. Level of IRB review required by sponsor: ☐ full ☒ expedited
2. Revision effects on risk analysis: ☐ increased ☒ no change ☐ decreased
3. Provide an explanation if there has been a greater than 60 day delay in the submission of this revision to the UMCIRB.
4. Does this revision add any procedures, tests or medications? ☒ yes ☐ no If yes, describe the additional information:

   This revision is being submitted in order to add "Not applicable" as a response option to two questions in the online survey.

5. Have participants been locally enrolled in this research study? ☒ yes ☐ no
6. Will the revision require previously enrolled participants to sign a new consent document? ☒ yes ☐ no

Briefly describe and provide a rationale for this revision. The online survey will be sent by the National Student Nurses' Association (NSNA) to their membership. The president of the NSNA reviewed the online survey after IRB approval and found that two of the questions and response options were not needed for NSNA members who were already registered nurses. The question asks, "What is your expected date to take the licensure exam to become a registered nurse?" and respondents must answer by clicking the appropriate month and year for when they are eligible to take the licensure examination. To amend this, I have added "Not applicable" as a response option to month and to year. See pdf of question from the online survey (attached) or see https://ecu.qualtrics.com/SE/?SID=SV_4[illegible]