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Mentoring as it relates to persistence in associate degree nursing students

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Mentoring as it Relates to Persistence in Associate Degree Nursing Students

by

Caroline M. Peltz

Dissertation

Submitted to the College of Education

Eastern Michigan University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY
Educational Studies
Concentration in Nursing Education

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Dedication

I dedicate this educational journey, culminating in the writing of this dissertation, to my father, Darwin J. Fischer, who taught me the value of an education at a very young age. His everlasting presence has given me the wisdom, the strength, the courage, and the inspiration to pursue “this ultimate degree.” Others have survived and I did too! May he continue to help me encourage others to embrace their educational privilege and share the knowledge that has been gained in this exploration of the topic of mentoring.

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To all of my mentors! Thank you for providing me with the psychological and emotional support, degree and career support, academic support, and your presence as a role model on this academic adventure.

It all began with a spark. Many thanks to Dr. Barbara Scheffer for seeing in me what I did not know was possible. Thank you for the encouragement to apply and pursue this degree. Your endless support from program application to completion will never be forgotten.

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To my dear children, Katie and Brad, thank you for believing in me, for allowing me the opportunity to be lost in a world that I didn't know existed. I'm back!

To my dearest husband Brian. We did it! Together! Always and Forever! 98¾% guaranteed! CHEERS!

Abstract

Students who are preparing to become registered nurses are more likely to attend community colleges due to the unequal distribution of financial resources to educational systems that have evolved from the impact of globalization. The purpose of this descriptive cross-sectional study was to increase the understanding of mentoring as it relates to the perceived ability to persist among nontraditional students enrolled in associate degree nursing programs at community colleges. This investigation presented a discussion of how student involvement in a mentoring relationship and the domains of mentoring differed by student background characteristics. Additionally, the domains of mentoring and student involvement in a mentoring relationship were explored with the students' perceived ability to persist.

Study participants were administered an online survey, which yielded $N = 283$. Descriptive and inferential statistics were performed using SPSS Version 21 statistical software. The sample characteristics resembled those compiled by the National League of Nursing (2012).

Males met with a mentor more frequently per grading period than females. Differences were found between males and females on the measures for psychological/emotional support and academic support. Part-time students and students who were successful in nursing courses met more frequently with a mentor than full-time students and those who failed a nursing course. A significant relationship was found between psychological/emotional support and the existence of a role model. Most often, the person whom the study participants identified as their mentor was a family member.

Researchers in nursing education have the opportunity to build a consistent definition of mentoring and a conceptual framework for traditional and nontraditional students enrolled in two- and four-year institutions through the continued exploration of mentoring and how mentoring relates to the perceived ability to persist.

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Chapter I: Introduction

Background and Significance

Globalization has had a significant impact on public education. Girves, Zepada, and Gwathmen (2005) noted that the opportunity and ability for some individuals to develop have been dampened by the rapid globalization of our economy, resulting in social injustices. The changes that have transpired in public education stem from economic and social justice issues that have evolved over time. Social justice in education means that all students have equal educational opportunities (Lipman, 2004). Globalization has not produced the same or equal results for all people, creating inequities in funding that have created educational environments that do not prepare all students for success in today's economy. The unequal distribution of financial resources for public education has hindered equal opportunities for some individuals, placing them at risk for achieving successful degree completion. Hu, McCormick, and Gonyea (2011) emphasized that students are not being equally prepared to be successful in higher education, resulting in sluggish graduation rates in the United States.

Girves et al. (2005) highlighted that mentoring of individual students was becoming a national priority as an effective strategy to improve retention rates. Retention leads to successful graduation of college students, by promoting educational and career advancement to assist our nation to remain internationally competitive. These researchers supported the idea that mentoring programs that enhance persistence and, ultimately, graduation carry both individual and societal benefits.

Nationally, a wide range of college campuses have adopted mentoring as an initiative to foster college adjustment and improve persistence (Barefoot, 2004; Swing,

2004). Crisp and Cruz (2009), Jacobi (1991), Jeffreys (2004), and Shelton (2000) found that the majority of research on the topic of mentoring has been conducted at four-year institutions. As our economy continues to impact the cost of education, community colleges enroll almost half of all college students, and these enrollments continue to increase (Thorsheim, LaCost, & Narum, 2010). Because research conducted on mentoring at four-year colleges or universities may not be generalizable to students who are attending a community college, Crisp (2010) acknowledged that additional research is needed on the topic of mentoring at community colleges.

The increase in enrollment at community colleges has also changed the face of the college student. Cavote and Kopera-Frye (2006/2007) stated, “The typical college student can no longer be described as traditional” (p. 478). Jeffreys (2007) described a traditional student as one who is 18 years old and enters the university as an undergraduate directly from high school. The traditional student is more commonly found at four-year institutions. Jeffreys (2007) described a nontraditional student as an individual who meets one or more of the following criteria: (a) 25 years or older, (b) commuter, (c) part-time enrollment, (d) male, (e) member of an ethnic and/or racial minority group, (f) English is a second language, (g) has dependent children, (h) has a general equivalency diploma, and (i) requires remedial classes. The nontraditional student is most commonly enrolled in a community college (Jeffreys, 2007; Thorsheim et al., 2010).

Additionally, those individuals who have been marginalized by changes in the educational system, such as those students who were not adequately prepared for academic success, are more apt to be enrolled in community colleges and meet the criteria for a nontraditional student. Community colleges use an unselective and

noncompetitive admissions process in which the criteria for admission are a high school diploma or a General Educational Development certificate (Hoachlander, Sikora, & Horn, 2003). Individuals who may be attracted to community colleges often possess a number of characteristics that may put them at risk for failure. Barker (2007) suggested that issues of socialization, isolation, and marginalization, resulting in unequally prepared students, may explain lower persistence rates for some of those students.

Crisp (2010) indicated that the persistence and program completion rates of nontraditional students are not comparable with those of traditional students. Nontraditional students who work off-campus, do not participate in campus activities, and are older because of delayed entry into higher education are less likely to persist in school. In addition, nontraditional students are less likely to remain in college if they have children at home, are single parents, are paying for their own education, and earned a general equivalency diploma (Crisp, 2010). The National Center for Education Statistics reported that nontraditional students do not persist in postsecondary education as well as traditional students. One in three nontraditional students left school without a credential, compared to one in five traditional students (Hoachlander et al., 2003).

Crisp and Cruz (2009, 2010) depicted in their research that mentoring by faculty had been used as a way to promote the success of students by providing a variety of supports. Crisp and Cruz (2009) found that recent qualitative work had expanded the understanding of the outcomes of mentoring for the nontraditional student. Additional research conducted by Crisp (2010) discussed the impact of mentoring on persistence in community college students. "Mentoring was found to indirectly have a positive influence on students' intentions to persist, as mediated through goal commitment"

(Crisp, 2010, p. 52). Hu and Ma (2010) recognized that having an assigned college mentor was positively related to persisting in college. Hu and Ma (2010) also discussed how the impact of a mentoring program on persistence may be indirect rather than direct, and that it would be useful to consider how mentees perceive the importance of the experience.

The increased pool of nontraditional students entering nursing programs causes nurse educators to rethink strategies related to student success (Benner, Sutphen, Leonard & Day, 2010). Benner et al. (2010) identified that 60% of the total number of nursing graduates in the United States were from associate degree nursing programs.

Nontraditional students make up a large portion of the student population in this type of institution of higher learning. Because the majority of registered nurses are educated in associate degree nursing programs that are housed in the community college system, it is essential to explore the issues of persistence and mentoring with this population.

Purpose of the Study

The purpose of this study was to increase the understanding of mentoring as it relates to the perceived ability to persist among nontraditional students enrolled in associate degree nursing programs at community colleges. The educational journey to become a registered nurse remains rigorous. High standards and a high degree of responsibility are demanded from students as they are preparing to care for human lives. The characteristics of a student enrolled in a program of study to become a registered nurse are different from student characteristics of a decade ago. The characteristics of nontraditional students must be considered in determining the types of mentoring supports necessary to boost persistence. An exploration of the topic of mentoring that

embraces the changing student milieu will provide data to support mentoring relationships which may better support the perceived ability to persist for students enrolled in associate degree nursing programs.

Jacobi (1991) and Crisp and Cruz (2009) each completed an extensive review of the literature on the topic of mentoring. These researchers found that mentoring has been identified in a variety of disciplines as a contributing factor to persistence and student success as demonstrated by retention and graduation rates. The literature to date focused on the impact and outcomes of mentoring programs. Crisp and Cruz (2009) recognized that additional research was needed to understand the impact of various mentoring activities on different groups of students and the involvement of different student groups with a mentor. Hu and Ma (2010) noted that the gap that exists in the literature on mentoring is the investigation of how student background characteristics are related to different aspects of mentoring, and how different aspects of mentoring are related to persistence. This is consistent with the gap found in the existing nursing literature after conducting an extensive review of the literature on mentoring of nursing students.

This investigation presented a discussion of how both involvement with a mentor and the relevance of the domains of mentoring (psychological and emotional support; degree and career support; academic support; and the existence of a role model; Crisp, 2009) differed when compared to student background characteristics for associate degree nursing students. Additionally, this study explored whether the domains of mentoring and involvement with a mentor were related to the ability to persist as perceived by students enrolled in an associate degree nursing program.

Research Questions

The following research questions were used to guide this study:

1. Does student involvement in a mentoring relationship differ by student characteristics of nontraditional students enrolled in an associate degree nursing program?
2. How do the domains of mentoring (Crisp, 2009) differ by student characteristics of nontraditional students enrolled in an associate degree nursing program?
3. What is the relationship between the domains of mentoring (Crisp, 2009) and nontraditional associate degree nursing students' perceived ability to persist through the program?
4. What is the relationship between the nontraditional associate degree nursing students' involvement in a mentoring relationship and their perceived ability to persist through the program?

In an effort to advance the mentoring research, the mentoring literature identified a need for describing how nontraditional associate degree nursing students perceived and experienced mentoring and persistence. The next section presents a review of the literature used to develop the research questions and achieve the purpose of the study.

Chapter II: Literature Review

The body of research on mentoring continues to grow with both qualitative and quantitative investigation. Allen, Eby, O'Brien, and Lentz (2008) indicated that the topic of mentoring reflects an area of research that is at an early stage of development. There is not clear agreement about what makes mentoring successful. One limitation of research on the topic of mentoring has been inconsistencies in how mentoring is defined and a lack of consensus regarding a conceptual framework which attempts to relate mentoring to outcomes (Crisp & Cruz, 2009; Jacobi, 1991).

In order to gain a fuller understanding of the breadth and depth of investigation of the topic of mentoring, the literature cited herein has not been limited by the year of publication. The investigation of the topic of mentoring has a historical premise within the disciplines of psychology, business, and education. Jacobi (1991) completed a review of the mentoring research literature with relevance to undergraduate academic success, theoretical foundation, and methodological approach. Crisp and Cruz (2009) synthesized and analyzed empirical literature pertaining to the mentoring of colleges students from 1990-2007 to reframe and update the work of Jacobi (1991). Building from the comprehensive literature reviewed by Jacobi (1991) and Crisp and Cruz (2009), the original articles they reviewed were examined and studied. Additionally, articles beyond Jacobi (1991) and Crisp and Cruz (2009) were also included in this review to describe the contributions of each discipline. The additional articles that were reviewed included studies from both non-nursing and nursing education research on the topic of student mentoring. Three additional articles from the non-nursing literature were reviewed prior

to 2009. Seven non-nursing articles from 2009-2011 were studied. A total of 36 nursing education research articles were reviewed from 1992-2013.

It is important to gain an appreciation of the topic of mentoring through a review of the literature to understand the direction of this research. This chapter reviews the contributions to the definition of mentoring, characteristics of mentoring, a proposed conceptual framework for mentoring, mentoring in nursing education, and mentoring as it relates to persistence. The gap in the literature review that led to the development of the research questions will be addressed. The chapter closes with a review of the specific research questions with a rationale for each, based on this review of the literature.

Contributions to the Definition of Mentoring

A review of the literature on how mentoring is defined serves as a beginning point for this investigation. The concept of mentoring has been in vogue since ancient Greek writings. It may seem that because mentoring has such a long history, its definition would be concrete. However, the definition of mentoring remains vague. As previously described by Crisp and Cruz (2009), there are more than fifty definitions of mentoring. Many definitions of mentoring are broad, lacking depth and clarity. In addition, how the term is used in the literature creates further vagueness. For example, mentoring has been described as both a formal relationship (Chao, Walz, & Gardner, 1992) and an informal relationship (Campbell & Campbell, 1997). The establishment of a concrete definition of mentoring remains a work in progress. The disciplines of business, psychology, and education have significantly influenced how mentoring is defined. The definitions specific to research are included in this review. These perspectives are important as they

serve as a foundation for the domains of mentoring which are used as variables in this study.

Levinson, Darrow, Klein, Levinson, and McKee (1978) have been early leaders of the topic of mentoring within the discipline of psychology. These psychologists stated in their description of mentoring that “mentoring is defined not in terms of formal roles but in terms of the character of the relationship and the functions it serves” (Levinson et al., 1978, p. 98). In addition, these scholars (Levinson et al., 1978) contributed to a holistic appreciation of the person describing the mentoring relationship as the most complex, developmentally important relationship in early adulthood. They described mentoring as a dimension in which a person provides moral and emotional support for the psychosocial development of another person, supporting and facilitating the realization of the mentee’s dream. The functions of a mentor included teacher, sponsor, host, someone to admire and try to be like, and a person who gives moral support. Within this same discipline, but almost a decade later, Schockett and Haring-Hidore (1985) identified two reliable model factors for mentoring: a psychosocial function and a vocational function. The psychosocial function of mentoring included role modeling, encouragement, counseling, and movement toward friendship. The vocational function of mentoring identified educating, consulting, sponsoring, and protecting as mentoring functions.

Within the discipline of business, Campbell and Campbell (1997), almost two decades later, referred to mentoring as:

a situation in which a more-experienced member of an organization maintains a relationship with a less-experienced, often new member to the organization and

provides information, support, and guidance so as to enhance the less-experienced member's chance of success in the organization and beyond. (p. 727)

Kram (1983) further detailed the process of mentoring from a business perspective through the identification of the four phases of a mentoring relationship. Kram (1983) indicated that mentoring relationships progress through a series of four stages: the initiation stage, the cultivation stage, the separation stage, and the redefinition stage. In their program of research, Kram and Isabella (1985) proposed that the functions of a mentoring relationship were to provide career and psychosocial support. These two functions were later validated within the business discipline (Chao et al., 1992; Cullen & Lina, 1993; Green & Bauer, 1995; Noe, 1988). In later research, Roberts (2000) defined mentoring as "a formalized process whereby a more knowledgeable and experienced person actuates a supportive role of overseeing and encouraging reflection and learning within a less experienced and knowledgeable person, so as to facilitate that person's career development" (p. 162).

In education, Anderson and Shannon (1988), the pioneers of qualitative research in education, hypothesized that mentoring be a deliberate, nurturing, and insightful process that is protective and supportive, and involves role modeling. These researchers defined mentoring in the following way:

Mentoring can best be defined as a nurturing process, in which a more skilled or more experienced person, serving as a role model, teaches, sponsors, encourages, counsels, and befriends a less skilled or less experienced person for the purpose of promoting the latter's professional and/or personal development. Mentoring

functions are carried out within the context of an ongoing caring relationship between the mentor and the protégé. (Anderson & Shannon, p. 40)

Blackwell (1989) provided a more specific definition, stating that mentoring “is a process by which persons of a superior rank, special achievements, and prestige instruct, counsel, guide and facilitate the intellectual and/or career development of persons identified as protégés” (p. 9).

From the disciplines of psychology, business, and education, mentoring can be summarized largely as a relationship consisting of a set of behaviors in which a seasoned, more experienced person provides support and guidance to a less experienced person to increase the latter’s likelihood of becoming successful. The broad definitions of mentoring offered a foundation for identifying the characteristics of mentoring, leading to the development of the domains of mentoring as constructs in a conceptual framework for mentoring as proposed by Nora and Crisp (2007). In later research Crisp (2009) considered the definition of mentoring within the context of college students as:

Support provided to college students that entails emotional and psychological guidance and support, help succeeding in academic coursework, assistance examining and selecting degree and career options, and the presence of a role model by which the student can learn from and copy their behaviors relative to college going (p. 189).

This definition has the components necessary to address the role that mentoring can play in assisting the nursing student to be successful. Crisp (2010) suggested that students may experience the forms of support that are provided from the domains of mentoring in or out of a formal mentoring program, from one or more persons in a student’s life.

Characteristics of Mentoring

Crisp and Cruz (2009) built from the work of Jacobi (1991) and presented three common characteristics of mentoring: (a) the development and achievement of the individual, (b) the type of mentoring relationships, and (c) supports of mentoring practices. Many researchers have established that mentoring is centered on the development and achievement of an individual (Chao et al., 1992; Crisp 2009, 2010; Crisp & Cruz, 2009, 2010; Cullen & Luna, 1993; Ehrich, Hansford, & Tennent, 2004; Haring, 1999; Hu & Ma, 2010; Johnson & Nelson, 1999). The type of relationships involved in mentoring are reciprocal and personal (Crisp 2009, 2010; Crisp & Cruz, 2009, 2010; Davidson & Foster-Johnson, 2001; Green & Bauer, 1995; Healy & Welchert, 1990; Hu & Ma, 2010; Hunt & Michael, 1983; Johnson & Nelson, 1999; Kram & Isabella, 1985). The types of relationships that evolve with mentoring vary. Although the literature highlights that relationships with faculty provide many of the supports of mentoring (Crisp & Cruz, 2009), other individuals who participate in a mentoring exchange may include peers, staff, program seniors or graduates, friends, family, and religious affiliates (Crisp 2009, 2010; Crisp & Cruz, 2009, 2010; Kram & Isabella, 1985; Zalaquett & Lopex, 2006). The Internet and the ability to video conference may influence the personal connection of the mentoring relationship (Crisp & Cruz, 2009; Jacobi, 1991). In addition, mentoring relationships may be formal or informal, structured, spontaneous, and long-term or short-term. Campbell and Campbell (1997) described informal relationships as those that evolve by the mentee and mentor seeking each other out. Formal relationships usually involve a third party who matches the mentor and the

mentee (Chao et al., 1992). The length of time for the relationship does not have a limit (Kram & Isabella, 1985; Levinson et al., 1978).

Many of the researchers previously mentioned found a variety of supports in mentoring practices. A key support described in the literature is psychological support (Chao et al., 1992; Crisp, 2009, 2010; Crisp & Cruz, 2009, 2010; Cullen & Lina, 1993; Davidson & Foster-Johnson, 2001; Green & Bauer, 1995; Hu & Ma, 2010; Kram & Isabella, 1985; Levinso et al., 1978). Assistance with professional and career development (Campbell & Campbell, 1997; Chao et al., 1992; Crisp 2009, 2010; Crisp & Cruz, 2009, 2010; Davidson & Foster-Johnson, 2001; Hu & Ma, 2010; Kram & Isabella, 1985) and role modeling (Brown, Davis, & Shederick, 1999; Crisp 2009, 2010; Crisp & Cruz, 2009, 2010; Hu & Ma, 2010) are described as additional supports. The supports were most commonly provided through some type of activity with a faculty member (Bernier, Larose, & Soucy, 2005; Campbell & Campbell, 1997; Chao et al., 1992; Crisp 2009, 2010; Crisp & Cruz, 2009, 2010; Cullen & Lina, 1993; Ehrich et al., 2004; Haring, 1999; Hu & Ma, 2010; Ishiyama, 2007; Johnson & Nelson, 1999; Kahveci, Southerland, & Gilmer, 2006; Salinitri, 2005). Other types of assistance identified in the literature included peers, discussion groups, phone conversations with a faculty member, and letters from the program of study office (Pagan & Edwards-Wilson, 2002/2003).

Similar components and supports of mentoring have been identified through the examination of mentoring characteristics within the disciplines of psychology, business, and education. Nora and Crisp (2007) used the supports to develop a conceptual framework for mentoring to further understand mentoring and how it is experienced by students.

Conceptual Framework

It must be highlighted that the supports of mentoring practice, as identified in the literature, were proposed by Nora and Crisp (2007) as constructs for a conceptual framework to help drive the identification and development of mentoring program activities and interventions. The conceptual framework consisted of four constructs, combining concepts from the education, psychology, and business literature. The conceptual framework (Nora & Crisp, 2007) proposed that mentoring is perceived and experienced by undergraduate college students as four interrelated constructs: (a) psychological and emotional support, (b) goal-setting and career paths, (c) academic subject knowledge support, and (d) the existence of a role model.

Psychological and emotional support was thought to include a sense of listening, providing moral and emotional support, identifying problems, providing encouragement, and creating a supportive relationship between the student and the mentor. The theoretical perspectives for this construct included (a) Kram's (1988) view that mentoring incorporates feedback from the mentor through a positive exchange, (b) Schockett and Haring-Hidore's (1985) perspective that building of self-confidence holds merit, (c) Levinson et al.'s (1978) stipulation that mentoring requires moral support, and (d) Miller's (2002) specification that the mentoring experience must include listening, identification of problems, and encouragement (Nora & Crisp, 2007).

The idea that mentoring involves an assessment of the student to identify strengths and weaknesses and to provide assistance with decision making regarding academic and career goals was represented in the construct of degree and career support. This construct combined the theoretical perspectives of Cohen (1995), Levinson et al.

(1998), and Roberts (2000). The focus of this construct was the facilitation of the mentee's dream through the exploration of interests using a reflective process to envision potential development and afford an opportunity to offer suggestions for current plans (Nora & Crisp, 2007).

The construct for academic subject knowledge support focused on acquiring the skills and knowledge to be successful academically. This construct was built from the theoretical premise of Kram (1988), Miller (2002), Roberts (2000), and Schockett and Haring-Hidore (1985) and centered on the teaching-learning process. Last, the work of Kram (1988) served as the basis for the construct, the existence of a role model. The opportunity to enrich the mentoring relationship relied on the mentor sharing life experiences (Nora & Crisp, 2007).

Two hundred students attending a two-year institution were surveyed to determine whether items constructed for the study captured the core of each mentoring domain. According to Nora and Crisp (2007), the results were not as clear-cut as anticipated. However, three of the four domains were extracted from the data set, the exception being the fourth domain, the existence of a role model. A need for additional research was identified to test the model among two- and four-year college students and to study differences among groups, in order to further test the conceptual framework and develop mentoring programs that can best serve all students (Nora & Crisp, 2007).

Crisp (2009) built on the 2007 research and developed and established the internal consistency and construct validity of the College Student Mentoring Scale (CSMS). This instrument was designed to assess the four domains of mentoring:

(a) psychological and emotional support, (b) goal-setting and career paths, (c) academic subject knowledge support, and (d) the existence of a role model, identified as constructs in the previously proposed theoretical framework. Three hundred and fifty-one students enrolled in core curriculum courses at a community college were surveyed. The items measuring each of the four constructs were found to be reliable. The reported Cronbach coefficient alphas ranged from $\alpha = .883$ to $.912$. Strong positive correlations, $r = .882$ to $.965$, were found between each of the constructs, indicating that psychological and emotional support, degree and career support, academic subject knowledge support, and the existence of a role model were perceived collectively as an overarching construct of mentoring. The need to further investigate differences among groups and model testing at additional community colleges and four-year institutions was identified (Crisp, 2009).

Crisp and Cruz (2010) further validated the domains that comprise the mentoring experiences of predominantly Hispanic students attending a four-year institution using the CSMS. A sample of 365 students from a four-year institution attending core undergraduate classes were administered the CSMS. *T*-test results indicated that different groups of students received similar mentoring experiences. Only a few differences between groups were found by gender, ethnicity, and student classification. Confirmatory factor analysis showed the mentoring model was valid. Strong positive correlations, $r = .784$ to $.863$, were found between each of the constructs (Crisp & Cruz, 2010). The research provided evidence that the students surveyed perceived mentoring to be composed of the four interrelated supports: (a) psychological and emotional support, (b) goal setting and career paths, (c) academic subject knowledge support, and (d) the existence of a role model. The study contributed to strengthening the conceptual

framework so that it can be used in the development and assessment of mentoring programs and interventions. Future research is needed to examine how different groups perceive mentoring and the types of supports that are needed for these groups. The CSMS was used to investigate the domains of mentoring and their significance with different student characteristics and the perceived ability to persist in this investigation. The CSMS is the only instrument to date that was developed from theoretical principles on mentoring from multiple disciplines and has successfully demonstrated that it measures how students perceive and experience mentoring with an established reliability and construct validity in the community college and university setting. The instrument is further described in the methodology chapter.

The contributions to the literature on mentoring continue to grow in all disciplines. Each discipline facilitates the direction of research on the topic toward a more concise and consistent definition of mentoring and movement toward a conceptual base for mentoring program development. The contributions made have also influenced mentoring in nursing education. When reviewing the literature, commonalities were found between nursing education and the disciplines of psychology, education, and business with regard to the definition of mentoring, the characteristics of mentoring, and the supports of mentoring.

Mentoring in Nursing Education

When reviewing the literature in nursing education, the definitions of *mentoring* were also broad, lacking depth and clarity. In addition, how the term *mentoring* is used in the literature creates further ambiguities. The establishment of a concrete definition of mentoring remains a work in progress. One of the most concise definitions of mentoring

in nursing education that has the components necessary to address the role that mentoring can play in assisting the nursing student to be successful was best described by Dorsey and Baker (2004). Mentoring in nursing education is “a nurturing process in which a more skilled or experienced person, serving as a role model, teaches, sponsors, encourages, counsels, and befriends a less skilled person for the purpose of promoting the latter’s professional and personal development” (Dorsey & Baker, 2004, p. 261). This definition of mentoring may be supported by the involvement of a single individual, such as a faculty member, and offered support to only a small component of the broader definition of mentoring within the context of college students as previously defined by Crisp (2009) in the discipline of education. Crisp (2010) suggested that students experience mentoring from one or more persons in a student life in or out of a formal mentoring program. This supports the need for research to describe the domains of mentoring (Crisp, 2009) for nursing students. Further investigation of the individuals who the student identifies as a mentor and the domains of mentoring (Crisp, 2009) they influence would also be beneficial.

Crisp and Cruz (2009) built from the work of Jacobi (1991) and presented three common characteristics of mentoring: (a) the development and achievement of the individual, (b) the type of mentoring relationships, and (c) supports of mentoring practice. The nursing literature sustains the idea that these characteristics also have merit in nursing education. The impact mentoring has on the way students perceive their ability to persist in an associate degree nursing program can be visualized through these characteristics. Shelton (2000) indicated that student-faculty contact promotes student development. The development and achievement of the individual in mentoring programs

has been used to help students assess their learning difficulties, develop plans for learning, and evaluate the results of their implementation of learning strategies (Candela, Cyrkiel, Kowalski, & Warner, 2004).

The nursing education literature was rich with qualitative studies focusing on the type of mentoring relationships highlighting the understanding of mentoring experiences from both the student and faculty perspective (Andrews & Chilton, 2000; Buchanan, 1999; Suen & Chow, 2001). Studies of how different groups of students perceive and experience mentoring have contributed to a better understanding of mentoring relationships (Childs, Jones, Nugent & Cook, 2004; DeLapp, Hautman, & Anderson, 2008; Labun, 2002; Rivera-Goba & Campinha-Bacote, 2008). Mentoring practices have been used in a variety of retention programs to increase grade point averages and maintain enrollment to successful program completion (Colalillo, 2007; Escallier & Fullerton, 2009; Fletcher, Williams, Beacham, Elliott, Northington, Calvin, Hayes, Winters, & Davis, 2003; Gordon & Copes, 2010; Stewart, 2005; Sutherland, Hamilton, & Goodman, 2007; Wilson, Andrews, & Leners, 2006). Shelton (2000) identified the supports of mentoring to be psychological and functional, reflecting the supports that were identified after a review of the literature within the disciplines of psychology, business and education. Psychological and functional support from faculty was shown to be a contributing factor to student persistence in nursing education (Shelton, 2000).

Mentoring as it Relates to Persistence

Jacobi (1991) and Crisp and Cruz (2009) found that mentoring has been identified in a variety of disciplines as a contributing factor to persistence and student success as described by the outcomes of retention and graduation rates. The goal of many mentoring

programs is to impact persistence by enhancing student retention and program completion by integration into the college experience. Integration into the college experience was described in the classic work of Tinto (1975, 1993, 1997) as the student becoming connected to the social and academic life of the institution. The integration of students has had a positive impact on the persistence of students. Pope (2002) identified that a common effort to achieve integration was through the mentoring experience by surveying the student perceptions of mentoring by race with a sample of 250 community college students. Pope (2002) found that multiple-level mentoring exposed students to a variety of individuals who ensured that the students adjusted to life as a college student. Hausmann, Ye, Schofield, and Woods (2009) established that when students become integrated, they develop a sense of belonging to the community, which was an important precursor to outcomes of persistence. Hausman et al. (2009) studied the effects of belonging for 345 university students. Hausman et al. (2009) found that a sense of belonging had direct effects on institutional commitment and indirect effects on intentions to persist for white and African American students.

In the discipline of business, one of the most well known quantitative studies on mentoring and persistence was conducted by Campbell and Campbell (1997). Campbell and Campbell (1997) demonstrated that a university mentoring program enhanced student persistence and academic performance as evidenced by lower dropout rates and an increase in grade point average. A matched-pairs design was used in which 339 minority students assigned to mentors were paired with non-mentored students based on gender, ethnicity, grade point average, and enrollment status. *T*-test results showed that mentored students had a significantly higher grade point average and were twice as likely to persist

as non-mentored students ($p < .001$). For this study, persistence was based on the number of units completed while enrolled in the first year and continuous enrollment in the following semesters. The findings are consistent with other studies that have indicated a positive impact of mentoring on student persistence and/or grade point averages (Crisp, 2010; Freeman, 1999; Hu & Ma (2010); Kahveci et al., 2006; Mangold, Bean, Adams, Schwab, & Lynch 2002/2003; Pagan & Edwards-Wilson, 2002/2003; Ross-Thomas & Bryant, 1994; Salinitri, 2005; Sorrentino, 2006/2007; Wallace, Abel, & Ropers-Huilman, 2000).

In the discipline of education, Crisp (2010) used structural equation modeling to test a theoretical model of student persistence. Crisp (2010) hypothesized a model between the four constructs for mentoring (i.e., psychological and emotional support, academic support, degree and career support, and the presence of a role model) and constructs related to persistence from Tinto's (1975, 1993, 1997) model (i.e., social integration, academic integration, institutional commitment, and goal commitment). A sample of 320 community college students was surveyed. Social and academic integration and institutional commitment were constructs of Tinto's model for student persistence that were not found statistically significant for explaining the complex nature of student persistence for community college students when testing a theoretical model of student persistence. "Mentoring was found to indirectly have a positive influence on students' intentions to persist, as mediated through goal commitment" (Crisp, 2010, p. 52). Crisp (2010) identified that persistence models for community college students are underdeveloped and require further exploration. The need for future research specific to the supports of mentoring for community college students and student persistence was

identified, triggering the development of an investigation involving associate degree nursing students at community colleges.

The most recent quantitative study on mentoring and student persistence in college, in the discipline of education, was conducted by Hu and Ma (2010). Data were gathered from two groups. Data collected from a sample of 452 students were used to examine the assignment of college mentors and their influence on student persistence. The relationship between different aspects of mentoring and student persistence was obtained from data collected from a sample of 334 students. The results of this study indicated that having an assigned college mentor was positively related to the probability of persisting in college. Persistence in this study was defined as completing two years of college. The extent to which students turned to their mentors for support and encouragement and the perceived importance of the mentoring relationship was positively associated with persistence. Hu and Ma (2010) also discussed how the impact of a mentoring program on persistence may be indirect rather than direct and how it would be useful to consider how mentees perceive the importance of the experience. The work of Crisp (2010) and Hu and Mu (2010) contributed to identifying student involvement with a mentor and the perceived ability to persist as variables in this investigation.

The nursing education literature also provided descriptions of how offering support to students through mentoring facilitates integration into the college milieu, encouraging persistence and, ultimately, retention and program completion. In the investigation of mentoring programs in nursing education, it has been found that mentoring students contributes to their retention and graduation (Alvarez & Abriam,

1993; Cahill, 1996; Earnshaw, 1995; Jeffreys, 2001; Johnson, 1996; Jones, Walters, & Akehurst, 2001; Littlejohn, 1992; Price & Balough, 2001; Pullen, Murray, & McGee, 2001; Ramsey, Blowers, Merriman, Glen, & Terry, 2000; Spouse, 1996; Suen & Chow, 2001; Sutherland et al., 2007; Watson, 1999; Yates, Cunningham, Moyle, & Wollin, 1997).

Shelton (2000) conducted a significant study in nursing education using a cross-sectional design involving 458 participants to investigate the Shelton Model of Student Retention with associate degree nursing students. According to the model, at-risk students may persist and achieve a satisfactory grade point average if they possess the internal resources related to persistence and academic success and if they use available external supports. Internal resources were defined as the psychological factors within the student that influenced their persistence and performance. External supports were further explained in terms of psychological support and functional support. Psychological support encouraged feelings of competence and self-worth. Functional support assisted students to achieve goals and perform tasks. The results of this investigation showed that psychological and functional support by nursing faculty contributed to student retention by promoting student persistence. Shelton (2000) categorized associate degree nursing students at a community college according to their persistence: (a) those who maintained continuous enrollment throughout a nursing program, (b) those who withdrew voluntarily at some point during the nursing program, and (c) those who had been required to withdraw because of academic failure. Shelton's research contributed further to this study's measurement of the perceived ability to persist. It must be noted that the variation

in how persistence has been measured and defined has contributed to the inconsistencies in findings within the literature.

Archer (2003) performed a qualitative study investigating the role of faculty and peers in students' decisions to persist in a baccalaureate nursing program. The sample for the study consisted of ten students from one college of nursing. Participants expected that their interactions with faculty and peers would be based on care and respect. When this did not transpire, feelings of vulnerability, powerlessness, and anger resulted. When the expectation of caring and respect was met, the students experienced a sense of self-efficacy and confirmed their career choice. Intentions to leave the nursing program surfaced following unprofessional faculty interactions. Intentions to persist (i.e. avoid leaving) in the program resulted from interactions with their peers, not from interactions with the faculty.

The qualitative study completed by Archer (2003) served as a bridge to the topic of mentoring and persistence in nursing education today. It must be noted that the study was completed in a university setting with a small group of students in a qualitative investigation, and the results may not be generalized to an associate degree nursing students. Previously, Shelton (2000) reported that associate degree nursing students were more likely to persist if they perceived faculty support. This supports the need for future research among two- and four-year institutions as identified by Nora and Crisp (2007) and Crisp (2009, 2010). Nontraditional associate degree nursing students enrolled in community colleges were sought as participants.

Nugent, Childs, Jones, and Cook (2004) developed a mentoring model that addressed the impact of mentoring on retention. The Mentorship Model for Retention of

Minority Students (MMRMS) used mentorship as a permeating concept in a baccalaureate nursing degree program to support retention. Mentorship was the common thread for all supporting concepts and was the focus of each strategy used to implement the model. Faculty, students, and minority nurse leaders in the community served as mentors to give advice and guidance on the supporting concepts of academic support, financial support, self-development, and professional/leadership development. Academic support was defined as remedial and tutorial support for students at risk for academic failure. Monetary assistance by the institution described financial support. The ability of the minority student to adjust socially and academically in a mainly a White institution defined self-development. Professional/leadership development was defined as providing a basis for the student to identify and develop characteristics to achieve career goals and be an effective leader (Nugent et al., 2004). The supporting concepts of the MMRMS reflect the supports of mentoring as described by Nora and Crisp (2007) with the exception of financial support. The model was developed based on a review of the mentorship literature published prior to 2004. Retention rates of students were discussed, but the manuscript did not describe empirical testing of the MMRMS.

Jeffreys (2004) developed the Nursing Undergraduate Retention and Success (NURS) Model, which included components for traditional and nontraditional nursing students. This model presented a new approach to assessing social integration. Jeffreys (2004) identified the interaction within the context of the nursing profession and career development as being as important as the interaction within the social system of the college environment. For students to maintain their desire to persist and meet their goals, professional integration factors needed to be nourished. Professional integration factors

were at the center of the model because they were at the meeting point of a decision to persist, drop out or stop out. Professional integration factors included faculty advisement and helpfulness, enrichment programs, and peer mentoring-tutoring. Environmental factors, academic factors, student profiles, student affective factors and psychological outcomes were other model factors which surrounded the center of the model (Jeffreys, 2004).

Jeffreys (2007) investigated the factors in the NURS Model (Jeffrey, 2004) using 1, 156 undergraduate nursing student's perceptions about the factors that supported or restricted their retention in their program of study. Majority of the sample, 86%, were associate degree nursing students. Jeffreys (2007) found that nontraditional nursing students perceived environmental factors to be the most influential in supporting or restricting their retention. The environmental factors consisted of factors outside of the academic setting. Some of the environmental factors included family financial and emotional support, family responsibilities, employment, employment, living arrangements, transportation, and encouragement by friends. Jeffreys (2007) concluded that nurse educators must continue to expand the teaching role into a mentor role by creating positive family-faculty-friend networks while advocating for changes that address the financial and time demands of nontraditional students.

Miller and Leadingham (2010) described a faculty-driven student mentoring program, the Nursing Success Program, and the outcomes of its implementation, following a review of the literature which included the NURS Model (Jeffreys, 2004). The Nursing Success program was designed for licensed practical nurse (LPN) -to-registered nurse (RN) students enrolled in an associate degree nursing program. Program

outcomes were inconclusive for the faculty-driven student mentoring program on retention and program progression for the 31 students who participated.

Jefferys (2012) continued that the NURS Model proposes that retention decisions are based on the interaction of student profile characteristics, student affective factors, academic factors, environmental factors, professional integration factors, academic outcomes, psychological outcomes and outside surrounding factors. These factors were used by Loftin, Newman, Gilden, Bond, and Dumas (2013) to organize intervention strategies that have been used by nursing programs to increase the success of underrepresented minority (URM) nursing students after conducting a review of the literature. These researchers found that limitations existed in assessing the suitability of the intervention strategies for nontraditional student success and that the discussion of faculty resistance and/or support for the implementation of the interventions was missing.

The review of the literature on the topic of mentoring and how mentoring relates to persistence was useful as further investigation of the relationship between the two is needed. Inconsistencies in the nursing literature are found with regard to the impact of faculty mentoring on student persistence among university and community college students. Additionally, a gap exists in the investigation of how student background characteristics and involvement with a mentor are related to different supports of mentoring and how different supports of mentoring and involvement with a mentor impact the perceived ability to persist. Building on this review of the literature, the following research questions were proposed.

Research Questions with Rationale

Q1.) Does student involvement in a mentoring relationship differ by student

characteristics of nontraditional students enrolled in an associate degree nursing program?

It was important to contribute to the body of research on mentoring relationships for nontraditional students enrolled in community colleges after identifying that the majority of registered nurses are first educated in this academic setting. The literature reviewed highlighted that student involvement with a mentor was positively associated with persistence. Input is needed to understand the involvement of different student groups with a mentor to assist in the identification and development of individualized mentoring program activities and interventions to contribute to student persistence.

Q2.) How do the domains of mentoring (Crisp, 2009) differ by student characteristics of nontraditional students enrolled in an associate degree nursing program?

Many supports of mentoring have been identified in the literature. The review of the literature determined that additional research is needed to understand the impact of various mentoring activities on different groups of students. The CSMS offers the most reliable and consistent method, to date, for identifying the supports of mentoring that may be sought by different student groups. The impact of various mentoring activities on different groups of students may contribute to the evolution of the conceptual framework for mentoring as suggested by Nora and Crisp (2007).

Q3.) What is the relationship between the domains of mentoring (Crisp, 2009) and nontraditional associate degree nursing students' perceived ability to persist through the program?

Consideration for this question was based on the premise that students attending community colleges are less likely to persist than students attending a four-year institution (Crisp, 2010). It was suggested that further research was needed to describe the relationship between the two, using the conceptual framework developed by Nora and Crisp (2007). As previously noted, the CSMS offers the most reliable and consistent method, to date, for identifying the supports of mentoring that may be sought to influence how a student perceives his or her ability to persist in his or her educational journey. This will address the need identified in the literature for describing how different aspects of mentoring are related to the perceived ability to persist.

Q4.) What is the relationship between nontraditional associate degree nursing students' involvement in a mentoring relationship and their perceived ability to persist through the program?

This question is also rooted in the premise that students attending community colleges are less likely to persist than students attending a four-year institution (Crisp, 2010). It was identified in the literature that research on the amount of time and the involvement that a student has with a mentor is needed for the development of individualized mentoring programs that may contribute to the students' perceptions of their ability to persist in the community college setting.

Answers to these research questions will strengthen existing knowledge about mentoring and persistence among nontraditional students enrolled in associate degree nursing programs. They are designed to address gaps that have been identified in the literature in a variety of disciplines. Effective mentoring appears to serve as a catalyst for persistence, which creates a cascade effect toward student success. Student success for

this investigation is the perceived ability to persist to enroll in subsequent semesters in a program to become a registered nurse. The next section presents the methods used to answer the research questions and achieve the purpose of the study.

Chapter III: Methodology

A description of how the study was conducted is presented in this chapter. There are six major sections. The first section provides the rationale for the research design. A description and rationale for the selection of students to be chosen for the sample, how the sample size was determined, and how the participants were obtained is described second. The third section depicts how the study was conducted, explains how the students were contacted by the researcher, and how the survey was administered. Next, the protection of human subjects is explained. The fifth section addresses the measures that were used in this investigation. The chapter concludes with a plan for the data analysis to be performed.

Research Design

The type of design used for this study was a descriptive cross-sectional survey method. Burns and Grove (2012) described this particular type of research as one which provides an accurate account of the characteristics of a particular group in real-life situations for the purpose of discovering new meaning, describing what exists, determining frequency of occurrences, and categorizing information. This type of design was chosen because it could effectively provide data to describe the differences among the characteristics of students enrolled in an associate degree nursing program with the domains of mentoring and student involvement in a mentoring relationship and describe the relationship between the perceived ability to persist by associate degree nursing students with the domains of mentoring and student involvement with a mentor.

Wood and Ross-Kerr (2010) identified that the strength of a descriptive research design allows the researcher to describe a topic and provide a base on which to build

further studies. A predetermined population is used for descriptive analysis. A cross-sectional survey method allows for data collection on all variables at one point in time (Wood & Ross-Kerr, 2010). The data for this investigation were collected at a single point in time using SNAP Survey software using a convenience sample of nontraditional community college students enrolled in an associate degree nursing program.

Sample

For this investigation, the population of interest was nontraditional community college students enrolled at any point in an associate degree nursing program. A convenience sample was used for the study to investigate nontraditional nursing students attending community colleges. Burns and Grove (2012) identified the strengths of the convenience sample as a sample that is inexpensive, accessible, and requires less time to acquire than other types of samples. The researchers recognize that a convenience sample identifies a target population and poses a threat to external validity of the study with regard to generalizations to other populations (Burns & Grove, 2012). The target population of this study was associate degree nursing students enrolled in community colleges who became available to the researcher through the student program directors. Inclusion criteria beyond enrollment were meeting the criteria for a nontraditional student as defined by Jeffreys (2007).

Wood and Ross-Kerr (2011) emphasize that the chance of error goes down in direct proportion to the increased size of the sample. Burns and Grove (2012) highlight that if the sample size is compromised, there will be an increased risk of a Type II error. A Type II error indicates that the researcher has concluded that no significant difference exists between samples when in fact there is a difference. Burns and Grove (2012)

continue that power is the probability that a statistical test will detect the existence of a significant difference, suggesting a power level of 80%. A power analysis was used to determine the sample size needed to obtain sufficient power. According to Burns and Grove (2012), the risk for Type II error can be decreased by looking at the parameters of power used to calculate power analysis. Burns and Grove (2012) include (a) significance level, (b) sample size, (c) effect size, and (d) power as the parameters of the power analysis.

The researcher must evaluate the elements of the methodology that will affect the sample size in quantitative studies. When determining sample size, Burns and Grove (2012) suggest that the researcher consider the type of study, the number of variables, the measurement tool, the data analysis techniques, the stringency of the significance level, one-tailed or two-tailed tests, the effect size, and the power.

The Kruskal-Wallis statistical analysis was identified to demand the largest sample for this study. This non-parametric test was used to examine the extent to which students turn to their mentors for support and encouragement (ordinal level of measurement with four groups) with ethnicity (nominal level of measurement with seven groups). Prajapati, Dunne, and Armstrong (2010) stated that the sample size for a non-parametric test is determined by multiplying the sample size for an equivalent parametric test by a correction factor referred to as the asymptotic relative efficiency (ARE). The equivalent parametric test for the Kruskal-Wallis is the ANOVA with an ARE = 0.955 (Prajapati et al., 2010).

To calculate the sample size for the ANOVA, Cohen's (1988) standard for interpreting the medium effect size for the difference between many means ($f = 0.25$) and

the conventional standard of power (0.80) were used. The following parameters were used to determine the sample size using the G*Power 3 calculator (Faul, Erdfelder, Lang, & Buchner, 2007): a medium effect size of $f = 0.25$; a power of $1 - \beta = 0.80$; an alpha error of probability of $\alpha = 0.05$; and number of groups = 7. For the ANOVA, the minimum number of participants needed for data analysis was 231. After multiplying $N = 231$ by $ARE = 0.955$, the minimum number of participants for the Kruskal-Wallis test was 220. The power analysis identified that attainment of a sample minimum of 220 participants were needed for data analysis.

In order to obtain the minimum number of participants, a narrative email communication, found in Appendix A, was sent to 22 nursing leaders of associate degree nursing programs in the state of Michigan. This narrative described the purpose of the research study, the informed consent, and the electronic questionnaire, and asked the nursing leaders to forward the informed consent and the survey to their students electronically via email. Ten nursing leaders did not respond to the narrative email communication after multiple contact attempts. Of the 12 nursing leaders who responded, one nursing leader declined participation after not receiving administrative approval from outside of their discipline to disseminate the survey to students. Two nursing leaders never received a response for approval from outside of their discipline and were unable to participate. Two nursing leaders were able to send the informed consent and the survey to students electronically without additional approval from outside their discipline. Five nursing leaders received approval from outside of their discipline to participate and were able to contact their students and asked them to read the informed consent and complete

the survey. Two research departments disseminated the informed consent and the survey electronically in lieu of the nursing leaders.

As a result of these contacts, the informed consent and the electronic survey were distributed to approximately 1,950 associate degree nursing students affiliated with nine different community colleges in the state of Michigan. Two hundred and eighty-three surveys were returned. Thirty-three of the participants identified themselves as graduated from their associate degree nursing program. Their responses were excluded from the data analysis. To measure the perceived ability to persist required that a nursing student be enrolled in the associate degree program, as the measure described how the student perceived his or her ability to persist in the nursing program. Two hundred and forty-nine surveys were used for data analysis. Data describing the differences in demographic characteristics of the sample are included in the presentation of the results.

Data Collection Procedures

The data collection was conducted online using SNAP Survey software. A narrative email communication (Appendix B) containing the link to the informed consent and survey, which briefly described the study, the informed consent, and the survey, were written for distribution to associate degree nursing students. The nursing leaders or an assigned individual from the college's research department sent the narrative email to students enrolled in their college's associate degree program.

The participants were first asked to read the informed consent and determine whether they agreed to participate. If agreeing to participate, the participant was asked to complete a 15-minute electronic survey that consisted of 25 items related to the student's mentoring experience while in college, along with several demographic questions. The

survey was submitted electronically through SNAP survey software immediately upon completion.

Human Subjects Protection

Participation in the research was voluntary with no anticipated negative consequences. The research study consisted of a self-administered questionnaire with no foreseeable risks for physical, psychological, and social harm or discomfort to the subjects during participation. Informed consent was obtained electronically with the survey (Appendix C). If the participant agreed to participate, he or she was asked to complete the survey and submit it electronically. No monetary gifts were offered. All subjects received a cover letter that described the study and explained the voluntary status. The email address of the primary investigator was included if questions arose about the project or interest in results. The email address and phone number of the University Human Subjects Review Committee co-chair were included if questions arose about the approval process for this investigation.

All subjects were able to withdraw up to the point of submitting a response without negative consequences. Confidentiality was guaranteed as names and internet protocol addresses were not collected. The surveys were returned electronically, using the SNAP Survey software. Only aggregate data will be shared publicly. The data were analyzed using SPSS Version 21 statistical software. Prior to initiating the study, a Human Subject consent application was sent to the Eastern Michigan University Human Subject Review Committee for approval. The review committee determined that the study met minimal risk standards and granted approval to proceed with the study (Appendix D).

Measures

The domains of mentoring, student involvement, and the perceived ability to persist are the measures used to address the research questions. The definition of the measures and a description of the demographic information collected to illustrate the student characteristics for a nontraditional nursing student follow.

Domains of mentoring. The domains of mentoring include (a) psychological and emotional support, (b) degree and career support, (c) academic subject knowledge, and (d) the existence of a role model (Nora & Crisp, 2007; Crisp, 2009). The instrument used to measure the domains of mentoring was the College Student Mentoring Scale (CSMS) (Crisp, 2009). This instrument was selected because it had been used in previous studies, and it met the criteria for internal consistency reliability and content validity for a conceptual model fit for mentoring. The CSMS was consistent with the attributes of mentoring that were used in this investigation. The internal consistency reliability of the items that measured the four constructs was established by calculating Cronbach coefficient alphas in a test of the instrument conducted by Crisp (2009) at a community college with a sample of approximately 280 participants. The values for the coefficient alphas were psychological and emotional support, .912; degree and career support, .903; academic subject knowledge support, .883; and existence of a role model, .845. A value greater than .7 is found to be substantial, indicating that the study participants responded consistently to the items measuring the four constructs of mentoring (Fraenkel, Wallen, & Hyun, 2011). Confirmatory factor analysis demonstrated the constructs were valid and strong positive correlations were found between each of the factors, $r = .882$ to $.965$. Prior to administering the survey used in this study, permission was obtained to use the

CSMS (Appendix E). The survey administered to the participants consisted of the CSMS and background information (Appendix F).

The CSMS is an instrument that consists of 25 items related to students' mentoring experiences. According to Crisp (2009), the survey items were derived from factors that were previously developed and validated in the areas of business, education, and psychology (Kram, 1988; Cohen, 1995; Schockett & Haring-Hidore, 1985; Levinson et al., 1978; Miller, 2002; & Roberts, 2000). Each of the four domains—(a) psychological and emotional support, (b) degree and career support, (c) academic subject knowledge, and (d) the existence of a role model—was measured by obtaining the mean value for items related to each construct. For each of the items, a five-point Likert-type scale was used with responses ranging from 5 = strongly disagree, 4 = disagree, 3 = neither agree nor disagree, 2 = agree, and 1 = strongly agree (Crisp, 2009).

Psychological and emotional support were measured by eight items related to encouraging the student to discuss problems, talking openly about personal issues, providing emotional support, and talking about social issues. The specific statements were:

While in college I had someone in my life who...

- 1.) I look up to regarding college-related issues.
- 2.) helps me work toward achieving my academic inspirations.
- 3.) helps me realistically examine my degree or certificate options.
- 4.) I can talk with openly about social issues related to being in college.
- 5.) I admire.
- 6.) helps me to perform to the best of my abilities in my classes.

- 7.) encourages me to consider educational opportunities beyond my current plans.
- 8.) I want to copy their behaviors as they relate to college-being.

Six items assessed degree and career support by examining degree options, assisting students in decision-making associated with their choice of degree, encouraging educational opportunities, and guiding an assessment of the students' skills. The specific statements were:

While in college I had someone in my life who...

- 1.) provides ongoing support about the work I do in my classes.
- 2.) gives me emotional support.
- 3.) encourages me to talk about problems I am having in my social life.
- 4.) sets a good example about how to relate to other people.
- 5.) helps me to consider the sacrifices associated with my chosen degree.
- 6.) expresses confidence in my ability to succeed academically.

Academic subject knowledge was measured by five items related to assistance in the achievement of academic inspirations, encouragement regarding problems with coursework, and ongoing support regarding problems with coursework. The specific statements were:

While in college I had someone in my life who...

- 1.) serves as a role model for how to be successful in college.
- 2.) discusses the implications of my degree choice.
- 3.) makes me feel that I belong in college.
- 4.) encourages me to use him or her as a sounding board to explore what I want.

- 5.) shares personal examples of difficulties he or she has had to overcome to accomplish academic goals.

The existence of a role model was measured by six items connected to students having someone whom they admire and look up to regarding college issues, a person who sets a good example and who shares examples of difficulties they had to overcome to achieve academic success. The specific statements were:

While in college I had someone in my life who...

- 1.) helps me carefully examine my degree or certificate options.
- 2.) I can talk with openly about personal issues related to being in college.
- 3.) encourages me to discuss problems I am having with my coursework.
- 4.) questions my assumptions by guiding me through realistic appraisal of my skills.
- 5.) recognizes my academic accomplishments.
- 6.) provides practical suggestions for improving my academic performance.

Student involvement. This measure considers the amount of time and the value of time the student places on the mentoring relationship by examining (a) the number of contacts with a mentor, (b) the extent to which the mentor provided support and encouragement, and (c) the student's perception of the mentoring experience for their success. The actual measures and the response scales for student involvement with a mentor were used in the research study conducted by Hu and Ma (2010).

The specific question to measure the number of contacts with a mentor was: How many times have you met with the mentor that has most influenced your college experience? The participant was asked to fill in the blank.

The specific question to measure the extent to which the mentor provided support and encouragement was: To what extent do you turn to the mentor that has most influenced your college experience for support and encouragement? The participant was asked to select from the following scale for their response: 1 = not at all, 2 = little, 3 = often, 4 = very often.

The specific question to measure the student's perception of the mentoring experience for their success was: How important is the experience with your mentor for your success as a student? The participant was asked to select from the following scale for their response: 1 = not important, 2 = somewhat important, 3 = very important.

Perceived ability to persist. The perceived ability to persist measured how students felt about their ability to persist in an associate degree nursing program. The measure of the ability to persist as perceived by an associate degree nursing student considered the previous research of Crisp (2010), who described students' intentions to persist at a community college, and Shelton (2000), who categorized associated degree students according to their persistence.

To measure the perceived ability to persist, a mean score for four items was calculated using a 5-point Likert-type scale, with responses ranging from 5 = always like me, 4 = usually like me, 3 = about half the time like me, 2 = seldom like me, and 1 = never like me. A mean score for the four items was calculated. The specific statements were: Rank each of the following:

- 1.) I see myself continuing from semester to semester.
- 2.) I see myself experiencing academic failure resulting in remediation.

- 3.) I see myself involuntarily withdrawing from the program due to multiple academic failures.
- 4.) I see myself voluntarily withdrawing from the program not due to academic failure.

Student characteristics for a nontraditional nursing student. Student characteristics for a nontraditional nursing student provided the background information of the participants to describe the sample and the differences among groups. Student characteristics for a nontraditional nursing student considered the definition described by Jeffreys (2007), which stated that a nontraditional nursing student meets one or more of the following criteria: (a) twenty-five years or older, (b) commuter, (c) part-time enrollment, (d) male, (e) member of an ethnic and/or racial minority group, (f) English is a second language, (g) has dependent children, (h) has a general equivalency diploma, and (i) require remedial classes. The issue of commuting status was controlled for since the community colleges that participated did not provide campus housing.

The specific question for age was: What is your age in years? The participant was asked to fill in the blank.

The specific question for enrollment was: At the time of this survey, what is your enrollment status? The participant was asked to select from the following for their response: part-time or full-time.

The specific question for gender was: What is your gender? The participant was asked to select from the following for their response: male or female.

The specific question for race/ethnicity was: What is your racial/ethnic background (mark the best response)? The participant was asked to select from the

following for their response: American Indian or Alaska Native, Asian or Pacific Islander, Black or African American, Hispanic/Latino, Middle Eastern, White, or other. If “other” was selected as a response, the participant was asked to fill in the blank.

The specific question for language was: Is English your first language? The participant was asked to select from the following for their response: yes or no.

The specific question for dependent children was: How many dependent children do you have? The participant was asked to fill in the blank.

The specific question for high school completion was: Regarding high school, did you: complete a GED or graduate from high school. The participant was asked to select one of those choices.

The specific question for remedial classes was: Have you ever failed a nursing course? The participant was asked to select from the following for their response: yes or no.

Mentoring relationship. Crisp (2010) suggested that students may experience the forms of support that are provided from the domains of mentoring in or out of a formal mentoring program, from one or more person in the student’s life. While the research questions in this study did not use this variable, a measure of mentoring relationships was included for exploratory purposes. The exploration of this measure in future research will also contribute to the understanding of mentoring as it relates to students’ perceived ability to persist.

The measure mentoring relationship considers (a) how important individuals were towards mentoring students toward success, (b) the most important individual who

mentored the student toward success, and (c) the formal assignment of the mentor. This measure considers the definition of mentoring within the context of college students as support provided to college students that entails emotional and psychological guidance and support, help succeeding in academic coursework, assistance examining and selecting degree and career options, and the presence of a role model by which the student can learn from and copy their behaviors relative to college going” (Crisp, 2009, p. 189).

This definition has the components necessary to address the role that mentoring can play in assisting the nursing student to be successful.

The specific question to measure how important individuals were in mentoring students toward success was: While responding to the previous items (i.e. the CSMS), indicate how important the following people were towards mentoring your success as a student:

- 1.) Friends/Boyfriend/Girlfriend
- 2.) Parents/Spouse/Family member
- 3.) Faculty member
- 4.) College Counselor/Staff member
- 5.) Co-worker/Supervisor

The participant was asked to select from the following scale for their response for each: 1 = extremely important, 2 = important, 3 = somewhat important, and 4 = not important.

The specific question to measure the most important individual who mentored the student toward success was: Who was the single most important individual, from the

above choices, who mentored you towards your success as a student? The participant was asked to fill in the blank.

The specific question to measure the assignment of the mentor was: Were you formally assigned by your college or department to the single most important individual who mentored you towards your success as a student? The participant was asked to select from the following for their response: yes or no.

Data Analysis

Data analyses for this report were performed using SPSS Version 21 statistical software. The criteria for significance testing was set at $p = .05$. As described in the discussion of the sample, a power analysis was performed to determine the sample size for this investigation. Descriptive statistics, frequencies, and percentages, were used to describe the sample. The statistical analyses for each research question guiding this investigation follows.

1. Does student involvement in a mentoring relationship differ when comparing student characteristics of nontraditional students enrolled in an associate degree nursing program? Student involvement included (a) number of contacts with a mentor, (b) the extent to which the student turned to their mentor for support and encouragement, and (c) overall experiences with mentoring.

The number of times a student meets with a mentor was at the ratio level of measurement. It was examined using a variety of statistical analyses depending on the level of measurement or number of groups created for the specific student characteristic. *T*-tests were used to compare groups on the measures of student characteristics that created two groups: enrollment status; gender; English as the primary language; general

educational background, and failure of a nursing course. ANOVA was used to compare differences between the ethnicity groups, a variable that created more than two groups. Since the number of times a student met with a mentor, subject age, and number of children were all measured at the interval or ratio level of measurement, a Pearson's r correlation was used to examine if there was a relationship between them (i.e., specifically paired as number of times meeting with a mentor and age, and the number of times meeting with a mentor and the number of dependent children).

To collect the number of times meeting with a mentor, the survey asked respondents to fill in the blank for how many times they had met with the mentor who has most influenced their college experience. While the expectation was that the subject would enter a numeric response, a number of subjects inserted a narrative response (e.g., weekly, many, a lot, numerous, and infinite). Responses that were able to yield a numeric value (e.g., weekly) were changed to a numeric value by examining the response given for the number of grading periods enrolled in the nursing program. A grading period was defined as 7.5 weeks. For example, a student who was enrolled for two grading periods and who reported meeting with the mentor weekly was assigned a numeric value of 15 (7.5 weeks x 2 grading periods = 15 weeks). Converting these narrative items yielded $n = 172$ for this measure. The word responses that were not able to be assigned a numeric value (e.g., numerous, many, a lot, and infinite) were excluded ($n = 50$).

Subject responses represented students enrolled in the program for varying durations. A measure of number of grading periods enrolled to date was collected to identify duration of program enrollment. The raw number of meetings with a mentor variable itself did not control for duration of enrollment. The raw number of meetings

with a mentor consisted of the number of mentor meetings for students who completed a different number of grading periods in their degree program. For example, one student may have met with a mentor five times in one grading period, while another student may have met with a mentor five times over four grading periods. To control for the number of grading periods, the calculated numeric values and the original numeric responses were divided by the number of grading periods in which the student was enrolled. This value afforded the opportunity to examine the number of times a student met with his or her mentor in one grading period ($n = 168$). The responses for the raw number of meetings with a mentor were provided by students at different grading periods in their degree program. The formation of the measure for the number of meetings with a mentor per grading period created a consistent measure for data analysis.

In order to fully investigate student involvement in the mentoring relationship and to capture the subjects lost for narrative response ($n = 50$), the original numeric and narrative responses to the number of times met with a mentor were converted into two categorical variables, one dichotomous and one ordinal. For the first created variable, all responses were categorized as either having met with or having never met with a mentor ($n = 222$). Students who wrote a zero or responded with “never” were categorized as having never met with a mentor. Students who provided a numeric value greater than zero or a narrative response indicating they met with a mentor were categorized as such. For the second created variable, three response levels were used in an effort to capture some distinctions relative to the frequency of mentor meetings. The responses were placed in the categories of never, occasionally, or frequently ($n = 222$). The frequency of mentor meetings per grading period, (i.e., 7.5 weeks) ranged from 0 – 53. The median

value for the number of mentor meetings per grading period was 4. *Never* was defined as zero number of meetings or a narrative response that yielded a “never.” *Occasionally* was defined by a student meeting with a mentor every other week or less per grading period. *Occasionally* was assigned by using the calculated number of meetings per grading period that were greater than zero or less than 4, or the word responses such as “several” and “multiple times.” *Frequently* was defined by a student meeting with a mentor more often than every other week or greater per grading period. *Frequently* was assigned by using the calculated number of meetings per grading period that were greater than 4, or the word responses such as “too many to count,” “infinite,” “numerous,” “a lot,” and “countless.” For the new categorical variables, nonparametric statistical analyses were used.

The extent to which a student turns to his or her mentor for support and encouragement was an ordinal level measure. It was also examined using a variety of statistical analyses depending on the level of measurement or the number of groups created for the specific student characteristic. The Mann-Whitney *U* statistic was used to test for differences between groups on the measures of student characteristics, which yielded two groups: enrollment status; gender; English as the primary language; general educational background, and failure of a nursing course. ANOVA was used to test for differences for mean number of dependent children between the groups created by the ordinal support and encouragement measure. The Kruskal-Wallis statistic was used to test for differences on perceptions of mentoring support and encouragement between ethnic groups.

The importance of the overall experience with a mentor was also measured at the ordinal level and was examined using a variety of statistical analyses depending on the measurement scale and number of groups created by the specific student characteristic. The Mann-Whitney U statistic was used to test for groups on the measures of student characteristics with two groups: enrollment status; gender; English as the primary language; general educational background, and failure of a nursing course. ANOVA was used to test for differences for mean number of dependent children between the groups created by the ordinal experience with a mentor measure. The Kruskal-Wallis statistic was used to test for differences on the overall experience with a mentor between ethnic groups.

2. How do the domains of mentoring (Crisp, 2009) differ by student characteristics of nontraditional students enrolled in an associate degree nursing program? Each of the domains of mentoring (psychological/emotional support; degree/career support; academic support; and the existence of a role model) was measured at the interval level and yielded a mean score which was examined using a variety of statistical analyses depending on the number of groups created by the specific student characteristic. T -tests were used to compare groups on the measures of student characteristics with two groups: enrollment status; gender; English as the primary language; general educational background, and failure of a nursing course. ANOVA was used to test for differences between ethnic groups. Pearson's r correlation was used to examine if there was a relationship between each domain of mentoring and age and each domain of mentoring and the number of dependent children.

3. What is the relationship between the domains of mentoring (Crisp, 2009) and

nontraditional associate degree nursing students' perceived ability to persist through the program? The domains of mentoring and the perceived ability to persist were measured at the interval level. Each of the domains of mentoring (psychological/emotional support; degree/career support; academic support; and the existence of a role model) were individually tested using Pearson's r correlations to determine if a relationship existed between each domain and the perceived ability to persist.

4. What is the relationship between nontraditional associate degree nursing students' involvement in a mentoring relationship and their perceived ability to persist through the program? Since the number of times meeting with a mentor and the perceived ability to persist were measured at the interval level or higher, a Pearson's r correlation was used to examine if a relationship existed between them. A Pearson's r correlation was used to examine if a relationship existed between the number of times meeting with a mentor per grading period and the perceived ability to persist as both were measured at the interval level or higher. T -test was used to compare groups on the measure "the perceived ability to persist for the nominal level measure ever met with a mentor" that created two groups. $ANOVA$ was used to compare groups on the measure "the perceived ability to persist for the ordinal level measure frequency of meeting with a mentor" that created three groups. $ANOVA$ was used to examine whether there was a difference for the perceived ability to persist between groups created by the ordinal level measure of the extent to which a student turns to their mentor for support and encouragement. $ANOVA$ was again used to examine if there was a difference for the perceived ability to persist between groups created by the ordinal measure of the importance of the overall experience with a mentor.

Chapter IV: Results

The following chapter presents the results from the present study. The characteristics of the sample are described first. The results of each research question follow. The chapter concludes with a summary of statistically significant results by research question.

Characteristics of the Sample

As previously discussed, the link to the survey for this study was sent electronically to approximately 1,950 associate degree nursing students affiliated with nine different community colleges in the state of Michigan in the spring of 2013. Two hundred and eighty-three surveys were returned. Thirty-three of the participants identified themselves as having graduated from their associate degree nursing program; therefore, their responses were excluded from the data analysis. They did not meet the inclusion criteria requiring currently enrolled associate degree nursing students for the measure “the perceived ability to persist.” One student agreed to participate and then did not complete the survey, leaving a usable sample of $N = 249$.

The characteristics of the sample are described in terms of the previously mentioned definition for a nontraditional nursing student. A nontraditional nursing student meets one or more of the following criteria: (a) twenty-five years or older, (b) commuter, (c) part-time enrollment, (d) male, (e) member of an ethnic and/or racial minority group, (f) English is a second language, (g) has dependent children, (h) has a general equivalency diploma, and (i) requires remedial classes (Jeffreys, 2007). The issue of commuting status was controlled for since all students are commuters at a community college.

A summary of the sample demographics are presented below. A full review of the sample characteristics are found in Tables 1 and 2. The mean age in years of the student population was 33.88, with ages ranging from twenty to fifty-nine. Almost three fourths (71%) of the students were enrolled full-time. The majority of the students surveyed were female (87%). The majority of the students were white (75%), while American Indian/Alaska Native had the smallest (0.8%) representation in this sample. See Table 1 for the frequency distribution of the racial/ethnic backgrounds. English was identified as the primary language for 95% of the students. The mean number of dependent children was 1.23, with the number of dependent children ranging from zero to seven. The majority (89%) of the students reported having graduated from high school; the remaining students obtained a GED. Almost three fourths (74%) of the students had never failed a nursing course. The most frequently reported person who mentored the student toward success was a family member (59%). A majority of the individuals who mentored the student toward success were not formally assigned (88%) by the college or nursing department. More than three fourths (82%) of the students are not responsible for the care of a parent or another family member other than their children. A majority of the students are working at paying jobs (62%), with the most frequently reported number of hours per week to be 21 to 30 hours (21%). Almost half of the students (47%) spend more than 15 hours a week studying. More than half of the students (63%) have loans to finance their education. The most frequently reported distance to travel to college was 11 to 20 miles (38%). Almost half of the students (48%) earned less than \$20,000 per year, with the majority of those students (15%) earning less than \$6,000 annually. The most frequently reported formal educational level for both parents, mother and father, was a

high school graduate (35% and 33%, respectively). Approximately one quarter of the students (27%) who participated in this research study had completed two grading periods in the nursing program.

These variables were used to investigate for differences in subject characteristics with the measures of (a) student involvement, (b) domains of mentoring, and (c) perceived ability to persist. A summary of the measures are presented below. Full reviews of the measures are found in Tables 3 and 4. The majority of the students surveyed had met with a mentor (81.1%). More than half of these students (55%) met with a mentor frequently. The mean number of meetings with a mentor while enrolled in the nursing program was 39.38, with the number of meetings ranging from zero to 530. The mean number of meetings with a mentor in one grading ranging was 13.00, with the number of meetings ranging from zero to 53. More than half of the students ranked the extent to which they turned to a mentor for support and encouragement as often (40.2%) or very often (26%). The majority of the students (62.2%) ranked the overall importance of the mentoring experience as very important.

The measure for the domains of mentoring were examined using the subscales of psychological/emotional support, degree/career support, academic support, and the existence of a role model as defined by Crisp (2009). After administering the CSMS (Crisp, 2009), the Cronbach alpha coefficients that were calculated for the subscales were psychological/emotional support, 0.916; degree/career support, 0.909; academic support, 0.871; and the existence of a role model, 0.866. The coefficient alphas were consistent with the values previously reported by Crisp (2009). The means and standard deviations

for the measures of psychological/emotional support, degree/career support, academic support, and the existence of a role model are presented in Table 4.

The measure of the perceived ability to persist was examined using the mean score of four items pertaining to how a student feels about his or her ability to persist in an associate degree nursing program. The calculated Cronbach coefficient alpha for the perceived ability to persist was 0.684. While lower than may be desirable, this value approximates the value of .70, which Fraenkel and Wallen (2009) suggest as substantial, indicating that the study participants responded consistently to the items measuring the perceived ability to persist. The mean and standard deviation for the perceived ability to persist is presented in Table 4.

Data screening was conducted to establish the appropriateness of the subsequent data analysis. The values of skewness and kurtosis were computed for the measures to be used to answer the research questions that required parametric statistical analyses. The impacted variables included those measured at the interval/ratio level for the research questions, which were (a) psychological/emotional support, (b) degree and career support, (c) academic support, (d) the existence of a role model, and (e) the perceived ability to persist. The skewness values were (a) psychological/emotional support = 0.718, (b) degree and career support = 0.867, (c) academic support = 0.597, (d) the existence of a role model = 0.619, and (e) the perceived ability to persist = -2.097. The kurtosis values were (a) psychological/ emotional support = 0.497, (b) degree and career support = 0.967, (c) academic support = 0.170, (d) the existence of a role model = 0.231, and (e) the perceived ability to persist = 4.760. The distributions of the scores were close to

Table 1

<i>Distribution of Sample Characteristics</i>	
Characteristic	<i>n</i> (%)
Enrollment status	
Part time	72 (29.0)
Full time	176 (71.0)
Gender	
Male	32 (12.9)
Female	217 (87.1)
Racial/ethnic background	
American Indian/Alaska Native	2 (0.8)
Asian/Pacific Islander	11 (4.4)
Black/African American	33 (13.3)
Hispanic/Latino	10 (4.0)
Middle Eastern	3 (1.2)
White	187 (75.1)
Other	3 (1.2)
English first language	
Yes	236 (94.8)
No	13 (5.2)
General educational background	
Complete a GED	25 (10.1)
Graduate from high school	222 (89.9)
History of a nursing course failure	
Yes	64 (25.7)
No	185 (74.3)
Most important person	
Friend	58 (23.6)
Family	145 (58.9)

Faculty	39 (15.9)
No-one	4 (1.6)
Formal Assignment of a mentor	
Yes	29 (11.7)
No	219 (88.3)
Care of family member excluding children	
Yes	45 (18.1)
No	203 (81.9)
Hours worked at paying job	
I do not work	86 (34.5)
Less than 10 hours	27 (10.8)
11 to 20 hours	46 (18.5)
21 to 30 hours	53 (21.3)
31 to 40 hours	29 (11.6)
More than 40 hours	8 (3.3)
Hours spent studying	
2 to 5 hours	17 (6.8)
6 to 10 hours	61 (24.5)
11 to 15 hours	53 (21.3)
More than 15 hours	118 (47.4)
Loans used to finance education	
Yes	155 (63.3)
No	90 (36.7)
Distance driven to get to college	
Less than 5 miles	22 (8.8)
6 to 10 miles	68 (27.3)
11 to 20 miles	95 (38.2)
Over 20 miles	64 (25.7)

Best estimate of total income in past year

Less than \$6,000	36 (14.5)
\$6,000 to \$9,999	19 (7.7)
\$10,000 to \$14,999	32 (12.9)
\$15,000 to \$19,999	33 (13.3)
\$20,000 to \$24,999	20 (8.1)
\$25,000 to \$29,999	17 (6.9)
\$30,000 to \$34,999	23 (9.3)
\$35,000 to \$39,999	8 (3.3)
\$40,000 to \$49,999	14 (5.6)
\$50,000 to \$59,999	10 (4.0)
\$60,000 to \$74,999	15 (6.0)
\$75,000 to \$99,000	10 (4.0)
Over \$100,000	11 (4.4)

Mother's highest level of formal education

Unknown	4 (1.6)
No formal education	4 (1.6)
Grammar school or less	5 (2.0)
Some high school	19 (7.7)
High school graduate	86 (34.7)
Some college	52 (21.0)
College graduate	48 (19.4)
Some graduate school	4 (1.6)
Professional degree	18 (7.3)
Vocational degree	8 (3.2)

Father's highest level of formal education

Unknown	15 (6.0)
No formal education	3 (1.2)
Grammar school or less	11 (4.5)
Some high school	29 (11.6)
High school graduate	81 (32.5)
Some college	49 (19.7)
College graduate	28 (11.2)
Some graduate school	5 (2.0)
Professional degree	16 (6.4)
Vocational degree	12 (4.9)

Completed nursing program grading periods

Zero	8 (3.4)
One	46 (19.4)
Two	63 (26.6)
Three	44 (18.6)
Four	30 (12.7)
Five	18 (7.5)
Six	6 (2.5)
Seven	8 (3.4)
Eight	6 (2.5)
Nine	4 (1.7)
Ten	4 (1.7)

Table 2

Means and Standard Deviations for Sample Characteristics

Characteristic	<i>M</i> (<i>SD</i>)	Range
Age in years	33.88 (8.71)	20 - 59
Dependent children	1.23 (1.31)	0 - 7

Table 3

Frequency of Measures for Student Involvement

Measure	<i>n</i> (%)
Student Involvement	
Ever met with a mentor	
Yes	180 (81.1)
No	42 (18.9)
Frequency of mentor meetings	
Never	42 (18.9)
Occasionally	58 (26.1)
Frequently	122 (55.0)
Extent student turned to mentor for support & encouragement	
Not at all	37 (14.9)
Little	47 (18.9)
Often	100 (40.2)
Very often	65 (26.0)
Overall experience with a mentor	
Not important	26 (10.6)
Somewhat important	67 (27.2)
Very important	153 (62.2)

Table 4

*Means and Standard Deviations for Student Involvement,
Domains of Mentoring and the Perceived Ability to Persist*

Measure	<i>M(SD)</i>	Range
Student Involvement		
Number of mentor meetings		
Calculated total	39.38 (81.80)	0 - 530
Calculated per grading period	13.00 (19.71)	0 - 53
Domains of Mentoring		
Psychological/emotional support	2.19 (.83)	1-5
Degree/career support	2.16 (.87)	1-5
Academic support	2.24 (.88)	1-5
Existence of a role model	2.28 (.93)	1-5
Perceived ability to persist	4.70 (.46)	1-5

zero, indicating a normal distribution of the data. The further a value of skewness or kurtosis is from zero, the more likely that the data are not normally distributed (Field, 2009).

Results by Research Question

Q1.) Does student involvement in a mentoring relationship differ by the student characteristics of nontraditional students enrolled in an associate degree nursing program? This question sought to identify whether student involvement in a mentoring relationship differed by student characteristics. Student involvement included (a) number of contacts with a mentor, (b) the extent to which the student turned to their mentor for support and encouragement, and (c) the overall experience with a mentor.

The number of contacts with a mentor was examined as the first measure to assist in describing student involvement in a mentoring relationship. The analysis first examined the sample distribution for the student characteristics as shown in Tables 1 and 2. As discussed previously, to avoid loss of data and accommodate subject responses, four alternative measures were used to test this variable. The four measures were (a) the number of mentor meetings, (b) the number of mentor meetings per grading period, (c) ever met with a mentor, and (d) the frequency of mentor meetings.

The number of times meeting with a mentor.

Age. A Pearson correlation was performed to examine the relationship between the number of times meeting with a mentor and age. A correlation that was not significant was found between the number of times meeting with a mentor and age, ($r(170) = -0.128, p = 0.095$).

Enrollment status. A t -test was performed to see if the number of times meeting with a mentor differed based on enrollment status. There was not a significant difference between enrollment status groups for the number of times meeting with a mentor, $t(169) = 0.669, p = 0.504$. The mean of the part-time students ($M = 46.96, SD = 97.20$) was not significantly different from the mean of full-time students ($M = 37.48, SD = 75.93$).

Gender. A t -test was performed to see if the number of times meeting with a mentor differed based on gender. Regardless of what appeared to be a large mean difference, there was not a statistically significant difference between gender groups for the number of times meeting with a mentor, $t(170) = 2.463, p = 0.058$. The mean of the male students ($M = 82.79, SD = 101.35$) was not significantly different from the mean of

the female students ($M = 34.50$, $SD = 77.80$). The $p = 0.58$ was approaching significance.

Racial/ethnic background. An ANOVA was performed to see if the number of times meeting with a mentor differed by racial/ethnic background. The one-way analysis of variance was not significant, $F(6, 165) = 0.607$, $p = 0.724$. The means of the racial/ethnic groups were not significantly different for the number of times meeting with a mentor: American Indian or Alaska Native ($M = 0.00$, $SD = 0.00$), Asian or Pacific Islander ($M = 20.33$, $SD = 25.84$), Black or African American ($M = 32.54$, $SD = 86.78$), Hispanic/Latino ($M = 11.90$, $SD = 11.70$), Middle Eastern ($M = 4.24$, $SD = 3.00$), and White ($M = 86.45$, $SD = 7.73$).

English as the first language. A t -test was performed to see if the number of times meeting with a mentor differed based on English as the first language. There was not a significant difference between English language groups for the number of times meeting with a mentor, $t(170) = 0.990$, $p = 0.324$. The mean of the students who spoke English as their first language ($M = 41.20$, $SD = 83.47$) was not significantly different from the mean for students who did not speak English as their first language ($M = 11.88$, $SD = 17.12$).

Number of dependent children. A Pearson correlation was performed to examine the relationship between the number of times meeting with a mentor and the number of dependent children. A correlation that was not significant was found between the number of times meeting with a mentor and the number of dependent children, ($r(170) = -0.097$, $p = 0.205$).

General educational background. A *t*-test was performed to see if the number of times meeting with a mentor differed based on general educational background. There was not a significant difference between general educational background groups for the number of times meeting with a mentor, $t(168) = -0.645, p = 0.520$. The mean of the students who completed a GED ($M = 28.79, SD = 60.77$) was not significantly different from the mean of students who graduated from high school ($M = 41.71, SD = 84.55$).

Failure of a nursing course. A *t*-test was performed to see if the number of times meeting with a mentor differed based on failure of a nursing course. There was not a significant difference between failure of a nursing course groups for the number of times meeting with a mentor, $t(170) = -1.599, p = 0.075$. The mean of the students who failed a nursing course ($M = 24.32, SD = 65.50$) was not significantly different from the mean of students who did not fail a nursing course ($M = 46.19, SD = 87.06$).

The number of times meeting with a mentor per grading period.

Age. A Pearson correlation was performed to examine the relationship between the number of times meeting with a mentor per grading period and age. A correlation that was not significant was found between the number of times meeting with a mentor per grading period and age, $(r(166) = -0.112, p = 0.148)$.

Enrollment status. A *t*-test was performed to see if the number of times meeting with a mentor per grading period differed based on enrollment status. There was not a significant difference between enrollment status groups for the number of times meeting with a mentor per grading period, $t(165) = 1.028, p = 0.305$. The mean of the part-time students ($M = 15.66, SD = 21.76$) was not significantly different from the mean of full-time students ($M = 12.12, SD = 18.96$).

Gender. A *t*-test was performed to see if the number of times meeting with a mentor per grading period differed based on gender. There was a significant difference between gender groups for the number of times meeting with a mentor per grading period, $t(166) = 0.002$, $p = 0.022$. The mean of the male students ($M = 25.71$, $SD = 24.37$) was significantly different from the mean of the female students ($M = 11.38$, $SD = 18.51$). Males met more frequently with their mentor per grading period than females.

Racial/ethnic background. An ANOVA was performed to see if the number of times meeting with a mentor per grading period differed by racial/ethnic background. A one-way analysis of variance was not significant, $F(6, 161) = 1.565$, $p = 0.161$. The means of the racial/ethnic groups were not significantly different for the number of times meeting with a mentor per grading period: American Indian or Alaska Native ($M = 0.00$, $SD = 0.00$), Asian or Pacific Islander ($M = 19.00$, $SD = 26.47$), Black or African American ($M = 8.86$, $SD = 16.67$), Hispanic/Latino ($M = 5.4$, $SD = 9.0$), Middle Eastern ($M = 3.0$, $SD = 2.82$), and White ($M = 14.27$, $SD = 20.43$).

English as the first language. A *t*-test was performed to see if the number of times meeting with a mentor per grading period differed based on English as the first language. There was not a significant difference between English language groups for the number of times meeting with a mentor per grading period, $t(166) = 0.456$, $p = 0.649$. The mean of the students who spoke English as their first language ($M = 13.16$, $SD = 19.84$) was not significantly different from the mean for students who did not speak English as their first language ($M = 9.89$, $SD = 17.72$).

Number of dependent children. A Pearson correlation was performed to examine the relationship between the number of times meeting with a mentor per grading period

and the number of dependent children. A correlation that was not significant was found between the number of times meeting with a mentor per grading period and the number of dependent children, ($r(166) = -0.072, p = 0.356$).

General educational background. A t -test was performed to see if the number of times meeting with a mentor per grading period differed based on general educational background. There was not a significant difference between general educational background groups for the number of times meeting with a mentor in one grading period, $t(165) = -0.605, p = 0.546$. The mean of the students who completed a GED ($M = 10.46, SD = 19.28$) was not significantly different from the mean of students who graduated from high school ($M = 13.38, SD = 19.86$).

Failure of a nursing course. A t -test was performed to see if the number of times meeting with a mentor per grading period differed based on having ever failed a nursing course. There was a significant difference between failure of a nursing course groups for the number of times meeting with a mentor per grading period, $t(166) = -2.334, p = 0.007$. The mean of the students who failed a nursing course ($M = 7.62, SD = 14.22$) was significantly different from the mean of students who did not fail a nursing course ($M = 15.28, SD = 21.26$). Students who did not fail a nursing course met with their mentor more often per grading period than students who failed a nursing course.

Ever met with a mentor.

Age. A t -test was performed to see if a student who met with a mentor and a student who did not meet with a mentor differed based on age. There was not a significant difference between age groups for a student who met with a mentor and a student who did not meet with a mentor, $t(220) = -0.045, p = 0.957$. The mean of students

who met with a mentor ($M = 34.01$, $SD = 8.99$) was not significantly different from the mean of students who did not meet with a mentor ($M = 34.07$, $SD = 6.65$).

Enrollment status. The chi-square test of independence was calculated to compare the frequencies of a student who met with a mentor and a student who did not meet with a mentor and enrollment status. A significant association was found ($\chi^2 (1) = 4.601$, $p = 0.032$). Part-time students were more likely to meet with a mentor (90.2%) than were full-time students (77.5%).

Gender. The chi-square test of independence was calculated to compare the frequencies of a student who met with a mentor and a student who did not meet with a mentor and gender. A significant association was not found ($\chi^2 (1) = 3.395$, $p = 0.065$). Gender did not play a role in whether a student met or did not meet with a mentor.

Racial/ethnic background. The chi-square test of independence was calculated to compare the frequencies of a student who met with a mentor and a student who did not meet with a mentor and racial/ethnic background. A significant association was not found ($\chi^2 (6) = 10.957$, $p = 0.09$). Racial/ethnic groups did not play a role in whether a student met or did not meet with a mentor.

English as the first language. The chi-square test of independence was calculated to compare the frequencies of a student who met with a mentor and a student who did not meet with a mentor and English as the first language. A significant association was not found ($\chi^2 (1) = 2.960$, $p = 0.085$). English as the first language did not play a role in whether a student met or did not meet with a mentor.

Number of dependent children. A t -test was performed to see if a student who met with a mentor and a student who did not meet with a mentor differed based on the

number of dependent children. There was not a significant difference between number of dependent children groups for a student who met with a mentor and a student who did not meet with a mentor, $t(220) = -1.933, p = 0.055$. The mean of students who met with a mentor ($M = 1.16, SD = 1.30$) was not significantly different from the mean of students who did not meet with a mentor ($M = 1.60, SD = 1.45$).

General educational background. The chi-square test of independence was calculated to compare the frequencies of a student who met with a mentor and a student who did not meet with a mentor and general educational background. A significant association was not found ($\chi^2(1) = 2.358, p = 0.125$). General educational background, whether a student earned a high school diploma or earned a GED, did not play a role in whether a student met or did not meet with a mentor.

Failure of a nursing course. The chi-square test of independence was calculated to compare the frequencies of a student who met with a mentor and a student who did not meet with a mentor with nursing course failure. A significant association was found ($\chi^2(1) = 5.715, p = 0.017$). Students who failed a nursing course were more likely to meet with a mentor (91.5%) than were students who did not fail a nursing course (77.3%).

Frequency of meeting with a mentor.

Age. An ANOVA was performed to see if a student who had never met with a mentor, a student who occasionally met with a mentor and a student who frequently met with a mentor differed based on age. The one-way analysis of variance was not significant, $F(2, 219) = 2.463, p = 0.088$. The means of the responses for a student who met never with a mentor, a student occasionally met with a mentor, and a student who

frequently met with a mentor were not significantly different by age: never ($M = 34.07$; $SD = 6.65$), occasionally ($M = 36.05$; $SD = 9.66$), and frequently ($M = 33.03$; $SD = 8.53$).

Enrollment status. A Mann-Whitney U was performed to see if a student who had never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor differed based on enrollment status, $n = 61$ part-time students and $n = 160$ full-time students. There was a significant difference between enrollment status groups for a student who met never with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor, $U = 4126.500$, $p = 0.048$, with the sum of ranks equal to 7524.50 for part-time students and 17006.50 for full-time students. The mean rank of the frequency of meeting with a mentor for part-time students ($M = 123.35$) was higher than for full-time students ($M = 106.29$). The actual and expected frequency counts were calculated to compare the frequencies of a student who met never with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor with enrollment status. The actual counts and the expected counts for the category “occasionally” were the same for part-time and full-time students, eliminating the need for interpretation for the occasionally respondents. For the category “never,” full-time students were more likely to have not met with a mentor than part-time students. For the category “frequently,” full-time students indicated they met with a mentor more frequently than did part-time students.

Gender. A Mann-Whitney U was performed to see if a student who met never with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor differed based on gender, $n = 30$ male students and $n = 192$

female students. There was a significant difference between gender groups for students who had never met with a mentor, students who occasionally met with a mentor, and students who frequently met with a mentor, $U = 2200.00$, $p = 0.021$, with the sum of ranks equal to 4025.00 for male students and 20728.00 for female students. The mean rank of the frequency of meeting with a mentor for males ($M = 134.17$) was higher than females ($M = 106.29$). The actual and expected frequency counts were calculated to compare the frequencies of students who had never met with a mentor, students who occasionally met with a mentor, and students who frequently met with a mentor by gender groups. For the category “frequently,” males were more likely to meet with a mentor than females. For the categories of “never” and “occasionally,” females were more likely than males to “never” meet or “occasionally” meet with a mentor.

Racial/ethnic background. A Kruskal Wallis was performed to see if a student who had never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor differed by racial/ethnic background. There was not a significant difference between racial/ethnic groups for a student who met never with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor, $H(5) = 7.709$, $p = 0.173$.

English as the first language. A Mann-Whitney U was performed to see if a student who had never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor differed based on English as the first language, $n = 210$ yes responses and $n = 12$ no responses. There was not a significant difference between language groups for a student who never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor,

$U = 1020.00$, $p = 0.218$, with the sum of ranks equal to 23175.00 for students who spoke English as their first language and 1578.00 for students who did not speak English as their first language.

Number of dependent children. An ANOVA was performed to see if a student who never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor differed based on the number of dependent children. The one-way analysis of variance was not significant, $F(2, 219) = 1.867$, $p = 0.157$. The means of the responses were not significantly different for a student who had never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor: never ($M = 1.60$; $SD = 1.45$), occasionally ($M = 1.16$; $SD = .153$), and frequently ($M = 1.36$; $SD = 0.123$).

General educational background. A Mann-Whitney U was performed to see if a student who had never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor differed based on general educational background, $n = 23$ students who completed a GED and $n = 197$ students who graduated from high school. There was not a significant difference between general educational background groups for a student who met never with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor, $U = 1983.50$, $p = 0.278$, with the sum of ranks equal to 2259.50 for students who completed a GED and 22050.50 for students who graduated from high school.

Failure of a nursing course. A Mann-Whitney U was performed to see if a student who had never met with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor differed based on failure of a nursing

course, $n = 59$ students who failed a nursing course and $n = 163$ students who did not fail a nursing course. There was not a significant difference between failure of a nursing course groups for a student who met never with a mentor, a student who occasionally met with a mentor, and a student who frequently met with a mentor $U = 4628.50$, $p = 0.636$, with the sum of ranks equal to 6398.50 for students who failed a nursing course and 18354.50 for students who did not fail a nursing course.

The extent to which a student turned to their mentor for support and encouragement. The extent to which a student turned to their mentor for support and encouragement in a mentoring relationship was the second item examined to describe student involvement in a mentoring relationship. The analysis first examined the sample distribution of the student characteristics (Table 1), and the sample distribution of the responses for this measure is shown in Table 3. A number of analyses were then performed to examine the extent to which the student turned to their mentor for support and encouragement with the student characteristics of (a) age, (b) enrollment status, (c) gender, (d) racial/ethnic background, (e) English as the first language, (f) number of dependent children, (g) general educational background, and (h) failure of a nursing course. The results of the analyses were as follows.

Age. An ANOVA was performed to see if the extent to which the student turned to their mentor for support and encouragement differed based on age. The one-way analysis of variance was not significant, $F(3, 245) = 0.612$, $p = 0.608$. The means of the responses for the extent to which the student turned to their mentor for support and encouragement were not significantly different on age: not at all ($M = 34.70$; $SD = 7.38$),

little ($M = 33.66$; $SD = 7.91$), often ($M = 34.41$; $SD = 9.54$), and very often ($M = 32.74$; $SD = 8.71$).

Enrollment status. A Mann-Whitney U was performed to see if the extent to which the student turned to their mentor for support and encouragement differed based on enrollment status, $n = 72$ part-time students and $n = 176$ full-time students. There was not a significant difference between enrollment status groups on the extent to which the student turned to their mentor for support and encouragement, $U = 6076.00$, $p = 0.595$, with the sum of ranks equal to 9224.00 for part-time students and 21652.00 for full-time students.

Gender. A Mann-Whitney U was performed to see if the extent to which the student turned to their mentor for support and encouragement differed based on gender, $n = 32$ male students and $n = 217$ female students. There was not a significant difference between gender groups on the extent to which the student turned to their mentor for support and encouragement, $U = 2868.00$, $p = 0.096$, with the sum of ranks equal to 4604.00 for male students and 26521.00 for female students.

Racial/ethnic background. A Kruskal Wallis was performed to see if the extent to which the student turned to their mentor for support and encouragement differed by racial/ethnic background. There was not a significant difference between racial/ethnic groups on the extent to which the student turned to their mentor for support and encouragement, $H(5) = 5.836$, $p = 0.323$.

English as the first language. A Mann-Whitney U was performed to see if the extent to which the student turned to their mentor for support and encouragement differed based on English as the first language, $n = 236$ yes responses and $n = 13$ no responses.

There was not a significant difference between English language groups for the extent to which the student turned to their mentor for support and encouragement, $U = 1392.50$, $p = 0.557$, with the sum of ranks equal to 29358.50 for students who spoke English as their first language and 1766.50 for students who did not speak English as their first language.

Number of dependent children. An ANOVA was performed to see if the extent to which the student turned to their mentor for support and encouragement differed based on the number of dependent children. The one-way analysis of variance was not significant, $F(3, 244) = 1.023$, $p = 0.383$. The means of the responses were not significantly different for the extent to which the student turned to their mentor for support and encouragement: not at all ($M = 1.49$; $SD = 1.26$), little ($M = 1.35$; $SD = 1.30$), often ($M = 1.08$; $SD = 1.35$), and very often ($M = 1.22$; $SD = 1.30$).

General educational background. A Mann-Whitney U was performed to see if the extent to which the student turned to their mentor for support and encouragement differed based on general educational background, $n = 25$ students who completed a GED and $n = 222$ students who graduated from high school. There was not a significant difference between enrollment status groups for the extent to which the student turned to their mentor for support and encouragement, $U = 2377.00$, $p = 0.218$, with the sum of ranks equal to 2702.00 for students who completed a GED and 27926.00 for students who graduated from high school.

Failure of a nursing course. A Mann-Whitney U was performed to see if the extent to which the student turned to their mentor for support and encouragement differed based on failure of a nursing course, $n = 64$ students who failed a nursing course and

$n = 185$ students who did not fail a nursing course. There was not a significant difference between failure of a nursing course groups for the extent to which the student turned to their mentor for support and encouragement, $U = 5832.50$, $p = 0.853$, with the sum of ranks equal to 8087.50 for students who failed a nursing course and 23037.50 for students who did not fail a nursing course.

Overall experience with a mentor. The final item that was examined to further describe student involvement in a mentoring relationship was the overall experience with a mentor. The analysis first examined the sample distribution of the student characteristics (Table 1) and the sample distribution of the responses for this measure as shown in Table 3. A number of analyses were performed to examine overall experiences with mentoring with the student characteristics of (a) age, (b) enrollment status, (c) gender, (d) racial/ethnic background, (e) English as the first language, (f) number of dependent children, (g) general educational background and (h) failure of a nursing course.

Age. An ANOVA was performed to see if the overall experience with a mentor differed based on age. The one-way analysis of variance was not significant, $F(2, 243) = 0.393$, $p = 0.675$. The means of the responses were not significantly different on the overall experience with a mentor: not important ($M = 35.15$; $SD = 7.29$), somewhat important ($M = 33.37$; $SD = 8.55$), and very important ($M = 33.75$; $SD = 9.05$).

Enrollment status. A Mann-Whitney U was performed to see if the overall experience with a mentor differed based on enrollment status, $n = 71$ part-time students and $n = 174$ full-time students. There was not a significant difference between enrollment

status groups on the overall experience with a mentor, $U = 5931.00$, $p = 0.570$, with the sum of ranks equal to 8487.00 for part-time students and 21648.00 for full-time students.

Gender. A Mann-Whitney U was performed to see if the overall experience with a mentor differed based on gender, $n = 32$ male students and $n = 214$ female students.

There was not a significant difference between gender groups on the overall experience with a mentor, $U = 2862.50$, $p = 0.082$, with the sum of ranks equal to 4513.50 for male students and 25867.50 for female students.

Racial/ethnic background. A Kruskal Wallis was performed to see if the overall experience with a mentor differed by racial/ethnic background. There was not a significant difference between racial/ethnic groups for the overall experience with a mentor, $H(5) = 7.994$, $p = 0.157$.

English as the first language. A Mann-Whitney U was performed to see if the overall experience with a mentor differed based on English as the first language, $n = 233$ yes responses and $n = 13$ no responses. There was not a significant difference between English language groups for the overall experience with a mentor, $U = 1240.00$, $p = 0.201$, with the sum of ranks equal to 28501.00 for students who spoke English as their first language and 1880.00 for students who did not speak English as their first language.

Number of dependent children. An ANOVA was performed to see if the overall experience with a mentor differed by the number of dependent children. The one-way analysis of variance was not significant, $F(2, 242) = 0.472$, $p = 0.625$. The means of the responses were not significantly different on the overall experience with a mentor: not

important ($M = 1.42$; $SD = 1.33$), somewhat important ($M = 1.26$; $SD = 1.32$), and very important ($M = 1.16$; $SD = 1.33$).

General educational background. A Mann-Whitney U was performed to see if the overall experience with a mentor differed based on general educational background, $n = 25$ students who completed a GED and $n = 219$ students who graduated from high school. There was not a significant difference between general educational background groups for the overall experience with a mentor, $U = 2613.50$, $p = 0.666$, with the sum of ranks equal to 2938.50 for students who completed a GED and 26951.50 for students who graduated from high school.

Failure of a nursing course. A Mann-Whitney U was performed to see if the overall experience with a mentor differed based on failure of a nursing course, $n = 62$ students who failed a nursing course and $n = 184$ students who did not fail a nursing course. There was not a significant difference between failure of a nursing course groups for the overall experience with a mentor, $U = 5537.0$, $p = 0.688$, with the sum of ranks equal to 7824.00 for students who failed a nursing course and 22557.00 for students who did not fail a nursing course.

Q2.) How do the domains of mentoring (Crisp, 2009) differ by student characteristics of nontraditional students enrolled in an associate degree nursing program? This question sought to identify if the domains of mentoring differed by student characteristics. The domains of mentoring (Crisp, 2009) included (a) psychological/emotional support, (b) degree/career support, (c) academic support, and (d) the existence of a role model. The analysis first examined the sample distribution of

the student characteristics (Table 1), and the means and standard deviations for each of the four domains of mentoring are shown in Table 4.

A number of analyses were performed to examine each of the domains of mentoring with the student characteristics of (a) age, (b) enrollment status, (c) gender, (d) racial/ethnic background, (e) English as the first language, (f) number of dependent children, (g) general educational background, and (h) failure of a nursing course. The results of the analyses were as follows.

Psychological/emotional support.

Age. A Pearson r correlation was performed to examine the relationship between psychological/emotional support and age. The correlation between psychological/emotional support and age was not significant ($r(247) = 0.033, p = 0.607$).

Enrollment status. A t -test was performed to see if psychological/emotional support differed based on enrollment status. There was not a significant difference by enrollment status on the psychological/emotional support scale, $t(246) = -0.580, p = 0.562$. The mean of the part-time students ($M = 2.14, SD = .81$) was not significantly different from the mean of full-time students ($M = 2.21, SD = .84$).

Gender. A t -test was performed to see if psychological/emotional support differed based on gender. There was a significant difference by gender on the psychological/emotional support scale, $t(247) = -2.631, p = 0.009$. The mean of the male students ($M = 1.83, SD = .65$) was significantly different from the mean of the female students ($M = 2.24, SD = .84$). Female students scored higher than male students on the measure for psychological/emotional support. Females appear to experience less psychological support than males.

Racial/ethnic background. An ANOVA was performed to see if psychological/emotional support differed by racial/ethnic background. The one-way analysis of variance was not significant, $F(6, 242) = 0.806, p = 0.566$. The means of the racial/ethnic groups were not significantly different on psychological/emotional support: American Indian or Alaska Native ($M = 1.69, SD = 0.80$), Asian or Pacific Islander ($M = 2.23, SD = 0.79$), Black of African American ($M = 2.16, SD = 0.88$), Hispanic/Latino ($M = 2.04, SD = 0.64$), Middle Eastern ($M = 1.33, SD = 0.38$), and White ($M = 2.22, SD = 0.84$).

English as the first language. A t -test was performed to see if psychological/emotional support differed based on English as the first language. There was not a significant difference by language on the psychological/emotional support scale, $t(247) = .0798, p = 0.426$. The mean of the students who spoke English as their first language ($M = 2.20, SD = 0.83$) was not significantly different from the mean for students who did not speak English as their first language ($M = 2.01, SD = 0.85$).

Number of dependent children. A Pearson correlation was performed to examine the relationship between psychological/emotional support and the number of dependent children. The correlation between psychological/emotional support and the number of dependent children was not significant, ($r(246) = 0.079, p = 0.214$).

General educational background. A t -test was performed to see if psychological/emotional support differed based on general educational background. There was not a significant difference by general educational background on the psychological/emotional support scale, $t(245) = -0.457, p = 0.648$. The mean of the students who completed a

GED ($M = 2.12$, $SD = 0.79$) was not significantly different from the mean of students who graduated from high school ($M = 2.20$, $SD = 0.84$).

Failure of a nursing course. A t -test was performed to see if psychological/emotional support differed based on failure of a nursing course. There was not a significant difference by failure of a nursing course on the psychological/emotional support scale, $t(247) = -0.426$, $p = 0.671$. The mean of the students who failed a nursing course ($M = 2.15$, $SD = 0.80$) was not significantly different from the mean of students who did not fail a nursing course ($M = 2.2$, $SD = 0.84$).

Degree/career support.

Age. A Pearson correlation was performed to examine the relationship between degree/career support and age. A correlation that was not significant was found between degree/career support and age, ($r(247) = 0.097$, $p = 0.129$).

Enrollment status. A t -test was performed to see if degree/career support differed based on enrollment status. There was not a significant difference by enrollment status on the degree/career support scale, $t(246) = -0.497$, $p = 0.619$. The mean of the part-time students ($M = 2.11$, $SD = 0.85$) was not significantly different from the mean of full-time students ($M = 2.17$, $SD = 0.876$).

Gender. A t -test was performed to see if degree/career support differed based on gender. There was not a significant difference by gender on the degree/career support scale, $t(56.824) = -1.579$, $p = 0.120$. The mean of the male students ($M = 1.99$, $SD = 0.57$) was not significantly different from the mean of the female students ($M = 2.18$, $SD = 0.90$).

Racial/ethnic background. An ANOVA was performed to see if degree/career support differed by racial/ethnic background. The one-way analysis of variance was not significant, $F(6, 242) = 0.899, p = 0.497$. The means of the racial/ethnic groups were not significantly different on degree/career support: American Indian or Alaska Native ($M = 2.33, SD = 0.00$), Asian or Pacific Islander ($M = 2.18, SD = 0.81$), Black or African American ($M = 2.13, SD = 0.98$), Hispanic/Latino ($M = 2.02, SD = 0.74$), Middle Eastern ($M = 1.06, SD = 0.10$), and White ($M = 2.18, SD = 0.85$).

English as the first language. A t -test was performed to see if degree/career support differed based on English as the first language. There was not a significant difference by language on the degree/career support scale, $t(247) = 0.287, p = 0.774$. The mean of the students who spoke English as their first language ($M = 2.16, SD = 0.85$) was not significantly different from the mean for students who did not speak English as their first language ($M = 2.09, SD = 1.12$).

Number of dependent children. A Pearson correlation was performed to examine the relationship between degree/career support and the number of dependent children. A correlation that was not significant was found between degree/career support and the number of dependent children, ($r(246) = 0.062, p = 0.330$).

General educational background. A t -test was performed to see if degree/career support differed based on general educational background. There was not a significant difference by general educational background on the degree/career support scale, $t(245) = 0.201, p = 0.841$. The mean of the students who completed a GED ($M = 2.19, SD = 0.87$) was not significantly different from the mean of students who graduated from high school ($M = 2.15, SD = 0.87$).

Failure of a nursing course. A *t*-test was performed to see if degree/career support differed based on failure of a nursing course. There was not a significant difference by failure of a nursing course on the degree/career support scale, $t(247) = -0.304, p = 0.762$. The mean of the students who failed a nursing course ($M = 2.13, SD = .87$) was not significantly different from the mean of students who did not fail a nursing course ($M = 2.17, SD = .86$).

Academic support.

Age. A Pearson *r* correlation was performed to examine the relationship between academic support and age. A correlation that was not significant was found between academic support and age, ($r(247) = 0.074, p = 0.243$).

Enrollment status. A *t*-test was performed to see if academic support differed based on enrollment status. There was not a significant difference by enrollment status on the academic support scale, $t(246) = -0.893, p = 0.373$. The mean of the part-time students ($M = 2.17, SD = 0.83$) was not significantly different from the mean of full-time students ($M = 2.28, SD = 0.90$).

Gender. A *t*-test was performed to see if academic support differed based on gender. There was a significant difference by gender on the academic support scale, $t(247) = -2.533, p = 0.012$. The mean of the male students ($M = 1.88, SD = 0.69$) was significantly lower than the mean of the female students ($M = 2.30, SD = 0.90$). Female students scored higher than males on the measure for academic support. Females perceived to experience less academic support than males.

Racial/ethnic background. An ANOVA was performed to see if academic support differed by racial/ethnic background. The one-way analysis of variance was not

significant, $F(6, 242) = 0.745, p = 0.614$. The means of the racial/ethnic groups were not significantly different on academic support: American Indian or Alaska Native ($M = 2.4, SD = 0.00$), Asian or Pacific Islander ($M = 2.34, SD = 0.88$), Black or African American ($M = 2.16, SD = 0.92$), Hispanic/Latino ($M = 2.00, SD = 0.84$), Middle Eastern ($M = 1.47, SD = 0.23$), White ($M = 2.27, SD = 0.88$), and other ($M = 2.67, SD = 1.17$).

English as the first language. A t -test was performed to see if academic support differed based on English as the first language. There was not a significant difference by language on the academic support scale, $t(247) = 0.381, p = 0.703$. The mean of the students who spoke English as their first language ($M = 2.25, SD = 0.88$) was not significantly different from the mean for students who did not speak English as their first language ($M = 2.15, SD = 0.90$).

Number of dependent children. A Pearson correlation was performed to examine the relationship between academic support and the number of dependent children. A correlation that was not significant was found between academic support and the number of dependent children, ($r(246) = 0.068, p = 0.286$).

General educational background. A t -test was performed to see if academic support differed based on general educational background. There was not a significant difference by general educational background on the academic support scale, $t(245) = -0.152, p = 0.879$. The mean of the students who completed a GED ($M = 2.22, SD = 0.86$) was not significantly different from the mean of students who graduated from high school ($M = 2.24, SD = 0.88$).

Failure of a nursing course. A t -test was performed to see if academic support differed based on failure of a nursing course. There was not a significant difference by

failure of a nursing course on the academic support scale, $t(247) = -0.477, p = 0.634$. The mean of the students who failed a nursing course ($M = 2.20, SD = 0.85$) was not significantly different from the mean of students who did not fail a nursing course ($M = 2.26, SD = 0.89$).

The existence of a role model.

Age. A Pearson r correlation was performed to examine the relationship between the existence of a role model and age. A correlation that was not significant was found between the existence of a role model and age, ($r(246) = 0.061, p = 0.338$).

Enrollment status. A t -test was performed to see if the existence of a role model differed based on enrollment status. There was not a significant difference by enrollment status on the existence of a role model scale, $t(245) = -1.377, p = 0.170$. The mean of the part-time students ($M = 2.15, SD = 0.81$) was not significantly different from the mean of full-time students ($M = 2.33, SD = 0.98$).

Gender. A t -test was performed to see if the existence of a role model differed based on gender. There was not a significant difference by gender on the existence of a role model scale, $t(246) = -1.797, p = 0.074$. The mean of the male students ($M = 2.01, SD = 0.72$) was not significantly different from the mean of the female students ($M = 2.33, SD = 0.96$).

Racial/ethnic background. An ANOVA was performed to see if the existence of a role model differed by racial/ethnic background. The one-way analysis of variance was not significant, $F(6, 241) = .840, p = .540$. The means of the racial/ethnic groups were not significantly different on the existence of a role model: American Indian or Alaska Native ($M = 2.5, SD = 0.47$), Asian or Pacific Islander ($M = 2.32, SD = 0.83$), Black of

African American ($M = 2.27, SD = 1.03$), Hispanic/Latino ($M = 2.27, SD = 1.07$), Middle Eastern ($M = 1.11, SD = 0.19$), White ($M = 2.29, SD = 0.92$), and other ($M = 2.5, SD = 1.3$).

English as the first language. A t -test was performed to see if the existence of a role model differed based on English as the first language. There was not a significant difference by language on the existence of a role model scale, $t(246) = 0.160, p = 0.873$. The mean of the students who spoke English as their first language ($M = 2.29, SD = 0.93$) was not significantly different from the mean of students who did not speak English as their first language ($M = 2.24, SD = 1.09$).

Number of dependent children. A Pearson r correlation was performed to examine the relationship between the existence of a role model and the number of dependent children. A correlation that was not significant was found between the existence of a role model and the number of dependent children, ($r(245) = 0.060, p = 0.350$).

General educational background. A t -test was performed to see if the existence of a role model differed based on general educational background. There was not a significant difference by general educational background on the existence of a role model scale, $t(244) = -0.391, p = 0.696$. The mean of the students who completed a GED ($M = 2.21, SD = 0.95$) was not significantly different from the mean of students who graduated from high school ($M = 2.29, SD = 0.94$).

Failure of a nursing course. A t -test was performed to see if the existence of a role model differed based on failure of a nursing course. There was not a significant difference by failure of a nursing course on the existence of a role model scale,

$t(246) = -0.680, p = 0.497$. The mean of the students who failed a nursing course ($M = 2.22, SD = 0.97$) was not significantly different from the mean of students who did not fail a nursing course ($M = 2.3, SD = 0.92$).

Q3.) What is the relationship between the domains of mentoring (Crisp, 2009) and nontraditional associate degree nursing students' perceived ability to persist through the program? Pearson r correlations were performed to examine the relationship between the mean scores for the domains of mentoring and the mean score for the perceived ability to persist. The domains of mentoring (Crisp, 2009) included (a) psychological/emotional support, (b) degree/career support, (c) academic support, and (d) the existence of a role model. The analysis first examined the means, and standard deviations for each of the four domains of mentoring and the perceived ability to persist as shown in Table 4. The results of the analyses were as follows.

Psychological/emotional support. A Pearson r correlation was performed to examine the relationship between the first domain of mentoring, psychological/emotional support, and the perceived ability to persist. A correlation that was significant was found between psychological/emotional support and the perceived ability to persist, ($r(247) = -0.143, p = 0.024$). Psychological/emotional support was related to the perceived ability to persist. Students who reported higher scores on perceived ability to persist reported lower scores on the measure for psychological/emotional support. Students who scored the highest on the measure of perceived persistence did not experience psychological support from a mentor.

Degree/career support. A Pearson r correlation was performed to examine the relationship between the second domain of mentoring, degree/career support, and the

perceived ability to persist. A correlation that was not significant was found between degree/career support and the perceived ability to persist, ($r(247) = -0.099, p = 0.118$).

Academic support. A Pearson r correlation was performed to examine the relationship between the third domain of mentoring, academic support, and the perceived ability to persist. A correlation that was not significant was found between academic support and the perceived ability to persist, ($r(247) = -0.105, p = 0.097$).

The existence of a role model. A Pearson r correlation was performed to examine the relationship between the fourth domain of mentoring, the existence of a role model, and the perceived ability to persist. A correlation that was significant was found between the existence of a role model and the perceived ability to persist, ($r(246) = -0.150, p = 0.018$). The existence of a role model was related to the perceived ability to persist. Students who reported higher scores on the perceived ability to persist reported lower scores on the measure of the existence of a role model. Students who scored the highest on the perceived ability to persist did not experience their mentor as a role model.

Q4.) What is the relationship between nontraditional associate degree nursing students' involvement in a mentoring relationship and their perceived ability to persist through the program? This question sought to identify if student involvement in a mentoring relationship differed by the student's perceived ability to persist. Student involvement included (a) number of contacts with a mentor, (b) the extent to which the student turned to their mentor for support and encouragement, and (c) overall experiences with mentoring. The analysis first examined the means and standard deviations for the perceived ability to persist, calculated mentor meetings, and calculated mentor meetings in one grading period, as listed in Table 4. The sample distribution of

the responses for the items that described student involvement were also examined (Table 1). As explained in the first research question, the variables used to examine the number of contacts with a mentor were (a) the number of times meeting with a mentor, (b) the number of times meeting with a mentor per grading period, (c) ever meeting with a mentor, and (d) the frequency of meeting with a mentor.

Number of times met with a mentor.

The number of times meeting with a mentor. A Pearson r correlation was performed to examine the number of times meeting with a mentor and the perceived ability to persist. A correlation that was not significant was found between the number of times meeting with a mentor and the perceived ability to persist, ($r(170) = -0.060$, $p = 0.438$).

The number of times meeting with a mentor per grading period. A Pearson r correlation was performed to examine the number of contacts per grading period with a mentor and the perceived ability to persist. A correlation that was not significant was found between the number of contacts per grading period with a mentor and the perceived ability to persist, ($r(166) = -0.063$, $p = 0.414$).

Ever meeting with a mentor. A t -test was performed to see if the perceived ability to persist differed based on whether or not a student met with a mentor. There was not a significant difference by whether or not a student had ever met with a mentor for the perceived ability to persist, $t(220) = -0.386$, $p = 0.70$. The mean of the yes, met with a mentor, responses ($M = 4.69$, $SD = 0.46$) was not significantly different from the mean of no, did not meet with a mentor, responses ($M = 4.73$, $SD = 0.43$).

Frequency of meeting with a mentor. An ANOVA was performed to see if the perceived ability to persist differed if a student had never met with a mentor, occasionally met with a mentor, or frequently met with a mentor. The one-way analysis of variance was not significant, $F(2, 219) = 0.237, p = 0.789$. The means of students who had never met with a mentor, occasionally met with a mentor, and frequently met with a mentor were not significantly different for the perceived ability to persist: never ($M = 4.73, SD = 0.43$); occasionally ($M = 4.72, SD = 0.46$); and frequently ($M = 4.68, SD = 0.47$).

The extent to which a student turned to their mentor for support and encouragement. An ANOVA was performed to see if the perceived ability to persist differed by the extent to which a student turned to their mentor for support and encouragement. The one-way analysis of variance was not significant, $F(3, 245) = 1.096, p = 0.351$. The means of the extent to which a student turned to their mentor for support and encouragement were not significantly different on the perceived ability to persist: not at all ($M = 4.78, SD = 0.34$); little ($M = 4.60, SD = 0.60$); often ($M = 4.71, SD = 0.39$); and very often ($M = 4.71, SD = 0.49$).

Overall experiences with mentoring. An ANOVA was performed to see if the perceived ability to persist differed by the importance of the overall experience of the mentoring relationship. The one-way analysis of variance was not significant, $F(2, 243) = 0.171, p = 0.843$. The means of the importance of the overall experience with a mentor were not significantly different on the perceived ability to persist: not important ($M = 4.73, SD = 0.44$); somewhat important ($M = 4.67, SD = 0.48$); and very important ($M = 4.70, SD = 0.46$).

Summary of Statistically Significant Results by Research Question

When addressing the research questions, the original data set of $n = 283$ included enrolled and graduated students in associate degree nursing programs at community colleges. The responses for students who had graduated, and for one student who agreed to participate and did not complete the survey ($n = 34$), were excluded, leaving a sample of 249 enrolled students.

The statistically significant results for the research questions were as follows.

Q1.) Does student involvement in a mentoring relationship differ by the student characteristics of nontraditional students enrolled in an associate degree nursing program?

1. Males met more frequently with their mentor per grading period than females.
2. Students who did not fail a nursing course met with their mentor more often per grading period than students who failed a nursing course.
3. There were differences between full-time and part-time students and whether or not they met with a mentor. Part-time students were more likely to meet with a mentor (90.2%) than were full-time students (77.5%).
4. There were differences between students who failed a nursing course and students who did not fail a nursing course and whether they met with a mentor. Students who failed a nursing course were more likely to have met with a mentor (91.5%) than were students who did not fail a nursing course (77.3%).
5. There were differences between part-time and full-time enrollment students for students who never met with a mentor, students who occasionally met with a mentor, and students who frequently met with a mentor. For the category

“occasionally,” part-time and full-time students were the same. Part-time students were more likely to have met with a mentor than were full-time students.

However, full-time students were likely to meet with a mentor more frequently than part-time students.

6. There were differences between male and female students who had never met with a mentor, male and female students who occasionally met with a mentor, and male and female students who frequently met with a mentor. Males were more likely to meet more “frequently” with a mentor than females. Females were more likely than males to “never” meet or “occasionally” meet with a mentor.

Q2.) How do the domains of mentoring (Crisp, 2009) differ by student characteristics of nontraditional students enrolled in an associate degree nursing program?

Female students scored higher than male students on the measures for psychological/emotional support and academic support. Females perceive to experience less psychological and academic support than males.

Q3.) What is the relationship between the domains of mentoring (Crisp, 2009) and nontraditional associate degree nursing students’ perceived ability to persist through the program?

Psychological/emotional support and the existence of a role model were related to the perceived ability to persist. Students who reported higher scores on the measure of the perceived ability to persist reported lower scores on the measure for psychological/emotional support and the existence of a role model. Students who scored the highest on the measure for the perceived ability to persist did not experience psychological/emotional support from their mentor nor their mentor as a role model.

Q4.) What is the relationship between nontraditional associate degree nursing student students' involvement in a mentoring relationship and their perceived ability to persist through the program?

No statistically significant results were found.

Chapter V: Discussion and Conclusions

Discussion

The literature supports the belief that the mentoring of individual students has been used nationally as an effective strategy to improve student retention and graduation rates, assisting our nation to remain internationally competitive, resulting in individual and societal benefits. The outcomes of mentoring, in terms of improved grade point averages and increased graduation rates, have been well documented in psychology, business, education, and nursing literature. However, the majority of the documented research has been conducted at four-year institutions involving a variety of student groups. There is a need to add to the body of research on the topic of mentoring for nursing students attending community colleges. Additional contributions to the mentoring literature from the student population of nontraditional students enrolled in an associate degree nursing program adds to the evolution of a precise consistent definition of mentoring and the advancement of a conceptual framework for mentoring, both of which remain a work in progress, in a relatively new area of study (Allen et al., 2008).

The purpose of this study was to increase the understanding of how student background characteristics and involvement with a mentor were related to the domains of mentoring (Crisp, 2009) and how the domains of mentoring (Crisp, 2009) and involvement with a mentor were related to the perceived ability to persist for nontraditional associate degree nursing students enrolled in a community college. The demographic characteristics for this group of students were used as key variables to describe student involvement in a mentoring relationship, the domains of mentoring (Crisp, 2009), and their perceived ability to persist. Analyses were performed on a data

set which included students ($N = 249$) enrolled at community colleges in associate degree nursing programs in the state of Michigan. The following section includes a discussion of the research sample and the results by research question. Implications for future research and the study limitations will be addressed in the conclusion section.

Research Sample

Nontraditional associate degree nursing students enrolled at community colleges were selected as the convenience sample for this study. Crisp and Cruz (2009) found in their review of the literature that nontraditional students and community college students have been almost completely excluded from the mentoring research. Although a convenience sample can pose a threat to external validity with regard to generalizations to other populations, for this investigation, the percentages for the student characteristics of race/ethnicity, gender, and age for this sample were similar to the percentages for the same student characteristics that were compiled by the National League for Nursing (2012) as displayed in Table 5. However, the sample for this investigation had a larger number of African-American students and a fewer number of male students than reported by the National League for Nursing. As a result of these findings, the results of this study may be able to be generalized to other groups of nontraditional students enrolled in associated degree programs at community colleges in the United States.

The percentages for the demographics of this study and those compiled by the National League for Nursing continue to reflect a lack of diversity in nursing programs as previously described by Benner et al. (2010). Benner et al. (2010) identified that schools of nursing enrolled predominately white females. The sample for this study, nontraditional associate degree nursing students, was mostly white females. A lack of

diversity in the sample impacted the results of the study when describing differences between and among groups in discussions of student characteristics with student involvement in a mentoring relationship, the supports of mentoring and the nontraditional associate degree nursing students' perceived ability to persist in their program of study.

Table 5

<i>Demographic Percentages</i>		
Student Characteristic	Study Sample	NLN 2012
Race/ethnicity		
American Indian or Alaska Native	0.8%	1.0%
Asian or Pacific Islander	4.4%	4.0%
Black or African American	13.3%	9.0%
Hispanic/Latino	4.0%	6.0%
Other	2.4%	7.0%
Gender		
Male	12.9%	16%
Mean age in years	33.00	30.00

Discussion by Research Question

Q1.) Does student involvement in a mentoring relationship differ by the student characteristics of nontraditional students enrolled in an associate degree nursing program? To describe student involvement in a mentoring relationship, the student characteristics for a nontraditional nursing student—(a) age, (b) enrollment status, (c) gender, (d) racial/ethnic background, (e) English as the first language, (f) number of dependent children, (g) general educational background, and (h) failure of a nursing

course—were examined with (a) the number of times meeting with a mentor, (b) the extent to which a student turned to his or her mentor for support and encouragement, and (c) the importance of the overall experience. For this study, student involvement in a mentoring relationship was described in terms of the number of times a student met with a mentor.

This research question mirrored the work of Hu and Ma (2010), who conducted a longitudinal study involving college and university students, to describe student involvement in a mentoring relationship for two groups of students: students who were assigned a mentor and students who were not assigned a mentor. Their sample consisted of scholarship recipients. The scholarship recipients were identified as high achievers from low income families. The demographic characteristics used as measures in the research study conducted by Hu and Ma (2010) included (a) race/ethnicity, (b) gender, (c) parental education, (d) institutional type, and (e) academic preparation in high school. When describing student involvement in a mentoring relationship for the number of times a student met with a mentor, by the identified student characteristics, parental education was significantly related to the number of meetings with a mentor. For the measure the student was asked to select from one to nine or more, for the number of meetings with the assigned mentor in an academic year (Hu & Ma, 2010). Parental education was not measured in this study.

In this study, after receiving numeric and word responses for the number of times a student met with a mentor while enrolled in the nursing program, four measures were used to examine the student characteristics for an associate degree nursing student with the number of times meeting with a mentor: (a) the number of mentor meetings, (b) the

number of mentor meetings per grading period, (c) ever met with a mentor, and (d) the frequency of mentor meetings. When examining the student characteristics with the number of mentor meetings, no significance was found.

When examining the student characteristics with the number of mentor meetings per grading period, differences between groups were found for the student characteristics of gender and failure of a nursing course. Males met more frequently with their mentor per grading period than females. Students who did not fail a nursing course met with their mentor more often in one grading period than students who failed a nursing course.

When examining the student characteristics with the “ever met with a mentor” variable, differences between groups were found for the student characteristics of enrollment status and failure of a nursing course. Part-time students were more likely to meet with a mentor than full-time students. Students who failed a nursing course were more likely to meet with a mentor than students who did not fail a nursing course.

For this study, inconsistency was found in the reporting of the differences between groups for the student characteristic, failure of a nursing course. When failure of a nursing course was examined with number of meetings per grading period and the extent of mentor meetings, the two statistical analyses yielded opposite results. However, the number of mentor meetings per grading period offered a more consistent measure. A control of per grading period was placed on the measure of the number of times a student met with a mentor. Students who did not fail a nursing course met with a mentor more often per grading period than students who did fail a nursing course.

When examining the student characteristics with the frequency of mentor meetings (never, occasionally, frequently), differences were found between groups for

the student characteristics of enrollment status and gender. Part-time students were more likely to meet with a mentor than full-time students. When full-time students met with a mentor, they met more frequently than the part-time students. Males were more likely to meet more frequently with a mentor. Females were more likely to have never met or occasionally meet with a mentor.

Significant findings were found in this study and in the research conducted by Hu and Ma (2010) when differences between groups were examined for the number of times a student met with a mentor. Hu and Ma (2010) identified that parental education was significantly related to the number of times a student met with a mentor. For this investigation, differences between groups were found for enrollment status, gender, and nursing course failure for the number of times a student met with a mentor.

The results provided by this research question highlight that when research is conducted, student characteristics that are not usually examined by researchers must be considered. Nurse educators must examine and take into consideration student characteristics that are not traditionally studied. As the face of the college student is changing, so must the approach to examining the mentoring relationship. The characteristics of nontraditional associate degree nursing students (i.e. gender, failure of a nursing course, and enrollment status) represented attributes that may make a difference in a student's day-to-day performance in an academic setting, influencing how they perceive their ability to persist. Differences between gender groups represented a significant finding for nurse educators as schools of nursing do not enroll students who are exclusively female or male. A gap in the literature existed to describe the mentoring experience for males enrolled in community colleges (Nora & Crisp, 2007; Crisp, 2009;

Crisp & Cruz, 2010; Hu & Ma, 2010). Although additional research on gender is needed, this investigation provided some insight to gender differences.

Significance was not found in this study between groups for the student characteristics of a nontraditional associate degree student with the measures for the extent to which a student turned to their mentor for support and encouragement, and the importance of the overall experience with a mentor. After conducting a two-year investigation, Hu and Ma (2010) described differences between groups for the student characteristic of racial/ethnic background when examined with the extent to which a student turned to a mentor for support and encouragement and the importance of the overall experience with a mentor. In their study, Hispanic students were more likely to turn to a mentor for support and encouragement and had a higher level of perceived importance of the overall experience with a mentor over a two-year period than White students.

The items and the response scales pertaining to the extent to which a student turned to a mentor for support and encouragement and the overall experience with a mentor were the same as those used by Hu and Ma (2010; see Appendix F). The differences in the study results may have been affected by the length of time of the investigation. For this investigation, students completed the survey at one point in time and may have not reflected on the mentoring relationship over a period of time. Hu and Ma (2010) conducted their research after a student had completed the second year of enrollment. Although the intent of this research question was to be able to describe student involvement in a mentoring relationship, only the number of times a student met with a mentor provided any significance. Students who did not fail a nursing course met

with their mentor more often per grading period than students who failed a nursing course. The two other measures for the variable, student involvement in a mentoring relationship, the extent to which a student turned to their mentor for support and encouragement, and the importance of the overall experience with a mentor was not significant.

Q2.) How do the domains of mentoring (Crisp, 2009) differ by student characteristics of nontraditional students enrolled in an associate degree nursing program? To describe the importance of the domains of mentoring (Crisp, 2009) for associate degree nursing students, the student characteristics for a nontraditional nursing student—(a) age, (b) enrollment status, (c) gender, (d) racial/ethnic background, (e) English as the first language, (f) number of dependent children, (g) general educational background, and (h) failure of a nursing course—were examined with the subscales for mentoring: (a) psychological/emotional support, (b) degree/career support, (c) academic support, and (d) the existence of a role model. Significance was found for the student characteristic of gender with two of the subscales for mentoring: psychological/emotional support and academic support.

In a previous study in nursing education, supports of mentoring were explored by Shelton (2000), who conducted a study to investigate the relationship between associate degree nursing student's perceived faculty support and nursing student retention. The results of the research study provided evidence that psychological and functional support contributed to student retention by promoting student persistence. The description of functional support provided by Shelton (2003) included the achievement of tasks to reach academic success. Although the work of Shelton was not described in terms of student

characteristics, the supports identified for associate degree nursing students in community colleges by Shelton (2000) cannot be ignored, as they matched the supports of mentoring that demonstrated significance for this research question. For this study, female students scored higher than males on the measures for psychological/emotional support and academic support. This indicated that females need to perceive that they are experiencing additional psychological and academic support. Although schools of nursing enroll predominately female students, the male students perceived that they were experiencing psychological and academic support to a greater degree than the female students.

The domains of mentoring—(a) psychological/ emotional support, (b) degree/ career support, (c) academic support, and (d) the existence of a role model (Crisp, 2009)—were used as a measure in this study as they offered the best fit for the supports identified in the definition of mentoring in that was used for this study. Crisp (2009) considered the definition of mentoring within the context of college students to include the supports provided by the domains of mentoring involving one or more person's in a student's life in or out of a formal mentoring program. This definition offers a broader base to describe the mentoring relationship than solely describing the mentoring relationship from the vantage point of a single individual, such as a faculty member, who mentors a student as defined by Dorsey and Baker (2004). The results of this study described that the primary mentor for this sample was not a faculty member but a family member. In addition, this investigation also illustrated that the domains of mentoring (Crisp, 2009) varied by some student characteristics for psychological/emotional and the existence of a role model by demonstrating statistical significance suggesting the importance of the domains of mentoring.

It was during the test of model fit conducted by Nora and Crisp (2007) for the conceptual framework for mentoring that differences between groups were identified for some student characteristics when examined with the domains of mentoring. The domains of mentoring evolved from the constructs of a conceptual framework for mentoring developed by Nora and Crisp (2007) to assist in describing the impact of various mentoring activities on different groups of students. Crisp (2009) developed and tested an instrument (CSMS) to measure the constructs. Crisp (2010) and Crisp and Cruz (2010) tested the conceptual framework in a community college setting and a college setting, respectively.

Crisp (2010) conducted a study to investigate the impact of mentoring on the success of community college students. The identified student characteristics explored in their study, while testing for model fit, were gender, ethnicity, and enrollment status with the domains of mentoring. The most significant difference found in the subscales for mentoring was by gender. Females experienced significantly more psychological support, degree support, academic support, and role model support more than males. The results of this investigation did not offer support to the findings of Crisp (2010) for the characteristic of gender and for two of the subscales for mentoring, degree and career support and the existence of a role model. Males experienced significantly more psychological/emotional support and academic support than females.

These conflicting findings indicate that further investigation of the supports of mentoring by gender is required for students enrolled in different degree programs. The sample used by Crisp (2010) consisted of students enrolled in general education courses at a community college. This investigation focused solely on students enrolled in

associate degree nursing programs at community colleges. Perhaps the large percentage of females (87%) who participated in this study, compared to the percentage of females (54%) in the study conducted by Crisp (2010), contributed to the differences in results. It must be noted that the female students in this study, who represented the majority of students by gender, did not report that they perceived to experience a high degree of psychological and academic support. Significance was not found in this investigation for the remaining student characteristics for a nontraditional student enrolled in an associated degree nursing program or for the remaining two subscales for mentoring: degree/career support and the existence of a role model.

An additional study was conducted by Crisp and Cruz (2010) to examine differences between how different groups of students experience mentoring at a Hispanic-serving college. The domains of mentoring were examined with the student characteristics of gender, ethnic groups, and classification while testing for model fit. Females reported receiving more mentoring support than males. Again, as previously mentioned, this study reported men receiving more mentoring supports than females, specifically, psychological/emotional support and academic support. Freshman students experienced more mentoring support than sophomores. White and Hispanic students perceived a similar degree of mentoring support. Although overall differences by gender were reported for mentoring support, as in this study, specific supports reported in terms of the subscales of mentoring were not identified.

This was one of the first studies in nursing education to investigate nontraditional associate degree nursing student characteristics with the domains of mentoring. The investigation of this research question addressed a major gap in the existing literature

(Nora & Crisp, 2007; Crisp, 2010; Crisp & Cruz, 2010; Hu & Ma, 2010) that identified a need to describe mentoring experiences by gender for community college students. Additionally, Hu and Ma (2010) suggested that instead of focusing on the impact of mentoring programs, studies involving student background characteristics and the different aspects of mentoring would prove beneficial in examining the specific aspects of mentoring. This investigation showed that by gender, males reported perceiving and experiencing more psychological/emotional support and academic support than females, advancing the discussion of how students perceive and experience mentoring relationships.

Consistent definitions of student characteristics, both traditional and nontraditional, throughout the literature would be helpful as research on the topic of mentoring continues to advance. As research moves forward to compare mentoring relationships at two- and four-year institutions, uniform definitions of the student characteristics will provide consistency when examining how students perceive and experience mentoring. This investigation and the recent study conducted by Crisp (2010) used gender, racial/ethnic background, and enrollment status as common characteristics for community college students, to examine the domains of mentoring. Crisp did not describe the research sample using a definition for either a traditional or a nontraditional student. Differences between groups for additional characteristics, other than gender, racial/ethnic background, and enrollment status, should have been described by Crisp.

The research conducted by Crisp and Cruz (2010) at a four-year college used gender, racial/ethnic background, and student classification (freshman, sophomore, junior, senior) as the student characteristics to examine the domains of mentoring.

Student classification was not a characteristic that was described in the research study conducted by Crisp (2010) but was selected as a characteristic in the research conducted by Crisp and Cruz (2010). Enrollment status was not a student characteristic that was described in the research study conducted by Crisp and Cruz (2010) but was selected as a characteristic in the research conducted by (Crisp, 2010). Differences in the student characteristics selected to be described may contribute to research inconsistencies, identifying a direction for future research. The characteristics of nontraditional associate degree nursing students (i.e. failure of a nursing course, dependent children, English as a second language) represent attributes that may describe a difference in the supports of mentoring that a student perceives as important and may influence how they perceive their ability to persist.

Q3.) What is the relationship between the domains of mentoring (Crisp, 2009) and nontraditional associate degree nursing students' perceived ability to persist through the program? The relationship between the domains of mentoring (Crisp, 2009) and the perceived ability to persist for the nontraditional associate degree nursing student was examined. A significant relationship was found between psychological/emotional support and the perceived ability to persist. Associate degree nursing students who reported higher scores on the measure of the perceived ability to persist reported lower scores on the measure for psychological/emotional support. Students who scored the highest on the measure of the perceived ability to persist did not experience psychological support from a mentor. Students who felt that they would persist, even if they experienced an academic struggle, experienced some degree of psychological/emotional support from a mentor. A significant relationship was also found

between the existence of a role model and the perceived ability to persist. Associate degree nursing students who reported higher scores on the measure of the perceived ability to persist reported lower scores on the measure for the existence of a role model. Students who scored the highest on the measure of the perceived ability to persist did not experience their mentor as a role model. Students who felt that they would persist, even if they experienced an academic struggle, experienced to some degree their mentor as a role model.

This was the first known research study in nursing education that investigated the constructs, the domains of mentoring, for the conceptual framework for mentoring with the perceived ability to persist for a group of community college students. Crisp (2010) studied mentoring as a component of a structural model that proposed that a community college student's intentions and decisions to remain in college were influenced by a series of direct and indirect experiences and attitudes. The research study used Tinto's Integration Model (1975) as a component of the structural model to measure persistence with the domains of mentoring. Mentoring was found to indirectly influence students' intentions to persist as mediated by goal commitment, which created an unclear link for persistence. Additionally, in the discussion of the results for the test of the structural model (Crisp, 2010), mentoring was not discussed in terms of the domains of mentoring.

The results from this study cannot be compared to Crisp (2010), as the specific aspects of mentoring were not described when mentoring was found to indirectly influence students' intentions to persist as mediated by goal commitment. In addition, Tinto's Integration Model was developed from research involving students enrolled at four-year universities and did not involve students at community colleges. Not all aspects

of Tinto's model for student persistence were found useful in explaining the complex nature of student persistence for community college students (Crisp, 2010). This reinforces the belief that the results of research on the topic of mentoring and persistence that has been conducted at four-year institutions may not apply to students attending community colleges, and additional research is needed for the population of community college students.

Previous research conducted by Shelton (2003) in nursing education more closely resembled the results obtained from this study. Shelton (2003) identified that psychological and functional support by nursing faculty contributed to student retention by promoting persistence. Shelton (2003) categorized associate degree nursing students at a community college according to their persistence. The categories included (a) those who maintained continuous enrollment throughout a nursing program, (b) those who withdrew voluntarily at some point during the nursing program, and (c) those who had been required to withdraw because of academic failure.

The measure, the perceived ability to persist, was created for this study. In the development of the conceptual framework for mentoring, Nora and Crisp (2007) proposed that mentoring was perceived and experienced as four interrelated constructs (psychological/emotional support, degree and career support, academic support, and the existence of a role model). Hu and Ma (2010) in their investigation of mentoring and student persistence suggested that the research has not advanced to investigate how a student feels about continuing in a program of study as the existing research has explored mentoring in terms of outcomes such as grade point average and retention. The insight of these researchers influenced the development of the measure "the perceived ability to

persist” for this investigation. If mentoring were described in terms of how it was perceived and experienced in a conceptual framework, then how persistence is perceived and experienced would offer consistency in describing relationships between the two. The items used to measure persistence in the research conducted by Shelton (2003)—(a) those who maintained continuous enrollment throughout a nursing program, (b) those who withdrew voluntarily at some point during the nursing program, and (c) those who had been required to withdraw because of academic failure—were used for this study (see Appendix F). For this investigation, it was important to understand how persistence was perceived and experienced by the associate degree nursing students when the specific aspects of mentoring were being examined. Although only one measure was created to investigate the student’s perceived ability to persist, the measure did identify relationships between the supports of mentoring (psychological/emotional support and the existence of a role model) and the student’s perceived ability to persist.

The research on the topic of mentoring and persistence is advancing toward the investigation of the specific aspects of mentoring with how a student feels about continuing in a program of study. The results of this research study provided insight into how a student perceiving their ability to persist could be described in terms of the specific supports of mentoring, instead of discussing the relationship between mentoring and persistence in terms of retention.

Q4.) What is the relationship between nontraditional associate degree nursing students’ involvement in a mentoring relationship and their perceived ability to persist through the program? Student involvement in a mentoring

relationship, which included (a) the number of times meeting with a mentor, (b) the extent to which a student turned to their mentor for support and encouragement, and (c) the importance of the overall experience with a mentor was examined with the perceived ability to persist for the nontraditional associate degree nursing student. This research question reflected the work of Hu and Ma (2010), who described the relationship between student involvement in a mentoring relationship and student persistence for two groups of students at a college or university in a two-year longitudinal study. The two groups of students included those who were assigned a mentor and those who were not. Students enrolled in associate degree nursing programs at community colleges were surveyed at a single point in time for this study.

In this investigation and in the study conducted by Hu and Ma (2010), significance was not found for the number of times a student met with a mentor and that student's measure of persistence. Perhaps the supports of the mentoring relationship are more important than the number of meetings with a mentor. In this study, students who perceived themselves as persisting, even though they experienced an academic failure, perceived to experience some degree of psychological support and some degree of support from their mentor as a role model. Perhaps the students who have overcome a failure were empowered to perceive themselves as persisting. The results of Hu and Ma (2010) identified that having an assigned college mentor was positively related to the probability of persisting in college. The probability of persisting was found to be positively associated with the extent to which the student turned to a mentor for support and encouragement. The probability of persisting was also found to be positively associated with the importance of the experience with a mentor. For this investigation,

significance was not found between the extent to which a student turned to a mentor for support and encouragement and the perceived ability to persist for the nontraditional associate degree nursing student. Significance was not found between the importance of the overall experience with a mentor and the perceived ability to persist for nontraditional associate degree nursing students.

This research study investigated student reports of the formal assignment of a mentor and the number of grading periods that the participant completed in their associate degree nursing program to describe student involvement in a mentoring relationship. It did not replicate the well controlled study design of Hu and Ma (2010) who formally assigned a mentor to students and then after a two year period described the student's involvement in the mentoring relationship and determined their persistence in terms of completing two of four years of college. Future research to describe the mentoring relationship using a controlled experimental design comparing the assignment of formal mentors and informal mentors and their involvement with a student from program point of entry to completion would be valuable.

This research study was conducted to advance the research regarding mentoring relationships and the perceived ability to persist for the community college students after finding conflicting research about mentoring relationships and persistence in two- and four-year nursing programs. In nursing education, Shelton (2000) and Archer (2003) explored mentoring relationships and student's decisions to persist. Shelton (2000) reported that associate degree students enrolled in community colleges were more likely to persist if they received faculty support. Intentions to persist in a baccalaureate program of study in a university setting resulted from interactions with peers, not from interactions

with faculty (Archer, 2003). Inconsistencies in the research findings for nursing students enrolled in two- and four-year institutions have value as the mentoring research has identified that research findings for mentoring and persistence for students enrolled in two- and four-year colleges may not be able to be applied interchangeably.

Additionally, the definition of mentoring in nursing education, defined by Dorsey and Baker (2004), identified the involvement of a single individual, such as a faculty member, which was different from a broader definition of mentoring in education where Crisp (2010) suggested that students experience mentoring from one or more persons in a student's life. The students surveyed for this investigation most frequently responded that someone in their family (i.e. parents, spouse, and/or family member) was most important in mentoring their success as a student. Peers followed by faculty were then reported as the most important person who mentored their success as a student. This was consistent with the findings of Jefferys (2007) who found that environmental factors, such as family financial and emotional support and encouragement by friends, were the most influential in supporting or restricting student retention for nontraditional associate degree nursing students. Jefferys (2007) concluded that nurse educators must expand the teaching role into a mentor role by creating positive faculty-family-friend networks. Miller and Leadingham (2010) did not find that a structured faculty-directed mentoring program impacted the retention of associate degree nursing students. Loftin et al. (2013) found that interventions for nontraditional students were not assessed for their appropriateness. This study and the review of the literature identify a need for research to describe who fulfills the supports of the mentoring relationship, the domains of mentoring (Crisp, 2009), from the student's perspective with regards to family, peers and faculty.

The exploration of the mentoring relationship in future research will consider: (a) the domains of mentoring (psychological and emotional support; degree and career support; academic support; and the existence of a role model; Crisp, 2009) that are perceived and experienced from family members, peers, and faculty members, (b) the role of family members, peers, and faculty members who mentor the student toward success and (c) the formal assignment of a mentor. Crisp (2010) suggested that students may experience the forms of support that are provided from the domains of mentoring in or out of a formal mentoring program, from one or more persons in a student's life. Perhaps, nontraditional students in this study were experiencing difficulty navigating various familial obligations and it was a member of their family who they perceived to mentor them toward success because of the type of support that was received. The relationship between family members, peers, and faculty members and how persistence is perceived and experienced by associate degree nursing students offers additional direction for investigation.

Conclusions

Implications for Research

The type of research design used in this investigation captured the outcome of a broad mentoring experience for associate degree nursing students at a specific point in time. Longitudinal studies involving not only associate degree nursing students enrolled in community colleges, but also students enrolled in baccalaureate nursing programs in colleges and universities, are needed to assist in understanding the needs of these student groups. Future research will contribute to the development of a consistent definition of mentoring and the development of a conceptual framework in nursing education. The

definition of student characteristics for a traditional and nontraditional student in two- and four-year institutions should be used when examining student characteristics to create consistency in findings by characteristics. The findings suggest the characteristics of a nontraditional student (i.e. gender, enrollment status, and failure of a nursing course) have proven to be valuable when describing differences between groups for student involvement in a mentoring relationship, the domains of mentoring, and the perceived ability to persist.

Future research may attempt to capture or control for a more consistent number of participants for each categorical variable to identify differences between and among groups. Additionally, the creation of groups for some of the student characteristics, such as age and number of dependent children, may demonstrate differences between groups. When conducting an ANOVA, the number of individual responses that were received for age and the number of dependent children were not large enough if significance was found. Post hoc analyses would not have been able to be performed because some groups would not meet the minimum number of subjects to run the between-group analyses.

Continued research is needed to investigate the impact of student characteristics on student involvement in a mentoring relationship and the perceived ability to persist in a nursing program. Additional research is needed to understand the supports of mentoring (psychological/emotional support, career and degree support, academic support, and the existence of a role model) on different groups of students and on their perceived ability to persist while being engaged in a mentoring relationship. Although the students who score the highest on the perceived ability to persist reported that they received minimal psychological and academic support, students who perceived themselves as persisting,

although they may have experienced academic difficulty, reported that they experienced psychological/emotional support and their mentor as a role model to some degree.

The sources of mentoring support for students identify another opportunity for future research. The students identified family, peers and faculty as mentors who contributed to their success as a student indicating that the domains of mentoring might best be filled by a variety of people. This supports the definition of mentoring as defined by Crisp (2009) more clearly than offering support to the definition of mentoring in nursing education by Dorsey and Baker (2004). Additional research, both quantitative and qualitative, may describe the supports that are received from mentors inside and outside of the academic setting and how they contribute to a student's perceived ability to persist in a program of study. Toward further investigation into whom in the student's lives fulfills the roles that support the individual mentoring domains, the CSMS (Crisp, 2009) could be modified to also ask the student who in their lives (e.g., family, faculty and friends) they perceive as filling the roles characterized by the items on the CSMS (Crisp, 2009). Qualitative investigation could explore if there were missing domains or confirm that the domains were inclusive. Psychological/emotional support and academic support were found in this investigation to be appropriate for the broader definition of mentoring provided by Crisp (2009).

Implications for Theory

Future research demands testing of model fit in support of the conceptual framework for mentoring involving traditional and nontraditional students enrolled in nursing programs at two- and four-year institutions. Further research is needed to examine how different groups perceive mentoring and the types of supports

(psychological/emotional, degree and career support, academic support, and the existence of a role model) that are needed for these groups in nursing education using the CSMS. As research continues to move forward, operational definitions of traditional and nontraditional students, such as those provided by Jeffreys (2007), must be used when identifying differences between groups for student characteristics for students enrolled in two- and four-year nursing programs. Jeffreys (2007) provided an operational definition for the traditional student which could be used in future studies.

Inconsistencies in prior research and lack of findings in this investigation offer the opportunity for further exploration of mentoring relationships taking into consideration the type of mentoring relationships. An investigation of student involvement in mentoring relationships with family, peers, and faculty with the supports of mentoring may offer a more holistic description of how a student perceives and experiences mentoring and how a student perceives and experiences persistence. The sources of the supports for mentoring have a place that has yet to be identified in the conceptual framework for mentoring. Using the CSMS (Crisp, 2009), who provides which domain of mentoring could be investigated in future research.

The supports for mentoring could be further examined with different student groups through qualitative investigation for the perceived ability to persist. Additionally, the development of a conceptual framework for how persistence is perceived and experienced may provide a more holistic approach for describing relationships between mentoring and the perceived ability to persist for students enrolled in two-year institutions. The types of mentoring relationships, both formal and informal, also have a place in describing a student's perceived ability to persist. The supports that a student

receives from formal and informal mentoring relationships all have a role in how a student perceives their ability to persist. Continued research will be foundational for the substantive development of theory and its utility.

Implications for Nursing Education

Research describing student involvement in a mentoring relationship, the supports of mentoring, and the perceived ability to persist for nontraditional associate degree nursing students requires continued investigation in nursing education. Additionally, a comparison of traditional and nontraditional students enrolled in two- and four-year institutions that house nursing programs would provide different lenses to examine the dynamics of mentoring relationships, the supports of mentoring, and the perceived ability to persist. Comparing and contrasting data for those groups would not only offer support to the development of a conceptual framework and a consistent definition of mentoring in nursing education, but the results would also assist in clarifying the role the nurse educator plays in a mentoring relationship and in the development of mentoring programs. An examination of the mentoring relationship for those who have graduated and a comparison with students who are enrolled may provide an understanding for the supports that are beneficial to a student's perceived ability to persist. Nurse educators must offer support to research and assist researchers in reaching students and graduates to assist in moving the mentoring research forward. Longitudinal studies are needed in nursing education examining mentoring relationships from program point of entry to program exit.

Additional quantitative investigation of student characteristics, student involvement in a mentoring relationship, and the perceived ability to persist for students

who have not persisted in an associate degree nursing program, as well as graduates from associate degree nursing programs, would provide insight to nurse educators about the supports of mentoring that did or did not make a difference in their educational journey. Qualitative investigation of students who did not persist in their program of study may provide insight as to how mentoring and persistence is perceived and experienced by this group.

Nurse educators need to develop a sense of who is involved in the mentoring relationship. Nurse educators must explore the mentoring relationship in terms of the type of the relationships experienced by the student and the person or persons involved in the student's life and the supports of mentoring that are provided to the student. In this study, the most frequently reported mentor who influenced the student's academic success was a family member. This is consistent with the findings of the NURS Model (Jeffreys, 2007). Nurse educators must realize that if faculty is not identified as the key mentor, additional avenues must be explored to assist in providing students with the supports that are needed to enhance the way the students feels about his or her ability to persist. Jeffreys (2007) identified that nurse educators must expand the teaching role into a mentor role by creating positive faculty-family-friend networks. Family may be the most significant provider of psychological and emotional support to students. Faculty may be more apt to provide career and degree support and portray role modeling behaviors. Peers might be the provider of academic support. The supports provided to students to enhance their perceived ability to persist could involve one or more persons in a student's life through formal and informal mentoring relationships. As future research describes the mentoring relationship in terms of mentors and supports, perhaps nurse educators may include

family as a part of orientation programs and periodically inform this group of mentors of the rigors of the program of study for their family member. Additionally, programs must be offered to faculty and peers to enrich their knowledge about the supports of mentoring that can be provided in a mentoring relationship to enhance a student's perceived ability to persist. Crisp (2010) identified that mentoring must be tailored to the individual, avoiding a one-size-fits-all approach.

In nursing education, educators must embrace the supports that peers and family provide to students as mentors. Female students, who represent the majority of nursing students, in this study did not perceive to experience high degrees of psychological and academic support. Shelton (2000) identified that female associate degree nursing students need psychological and functional support to persist. Jeffrey (2007) identified that nontraditional students reported that family provided emotional support. Additional quantitative studies to examine how mentoring is perceived and experienced by faculty, family, and peers will contribute to the development of a conceptual framework in nursing education and address gaps in the existing research literature. The literature to date has provided empirical support to the outcomes of mentoring programs in terms of student grade point averages and retention. The literature has also identified that nurse educators must advocate for changes that address the financial and time demands of nontraditional students and create positive family-faculty-friend networks. As nurse educators strive to attain a consistent definition of mentoring and a supporting conceptual framework, how mentoring is perceived and experienced by the student requires further investigation. The students identified family, peers and faculty as mentors who contributed to their success as a student indicating that the domains of mentoring might

best be filled by a variety of people. The broader definition of mentoring as defined by Crisp (2009), who considered one or more individual as a mentor providing different supports to a student more clearly describes the mentoring relationship than the succinct definition of mentoring (Dorsey & Baker, 2004) involving one individual who mentors a student to success.

The mentoring research is advancing to examine how mentoring relationships impact how students perceive and experience mentoring. This study touched on the perceived ability to persist for one type of nursing student. The development of additional assessment tools to examine how persistence is perceived and experienced would be beneficial. The relationship between how mentoring and persistence are perceived and experienced would enhance conceptual framework development in nursing education.

Limitations of the Study

A descriptive cross-sectional survey was the appropriate research design for this investigation. Data were collected electronically at one point in time using a predetermined population of nontraditional associate degree nursing students enrolled in community colleges in the state of Michigan. The students were not enrolled in the associate degree nursing program for the same amount of time. Students who were newly enrolled may have responded differently to survey items than a student who was approaching graduation. A longitudinal design may provide a more consistent examination of the research questions if a student was involved in the research study from program point of entry to program exit.

The sample size for this study was determined by identifying the statistical analysis that demanded the largest sample. The Kruskal-Wallis demanded a sample size

of $N = 220$. The majority of the analyses had a sample greater than or equal to $N = 220$, with the exception of the number of times a student met with a mentor, where numeric values were calculated. The sample size decreased to a low of $n = 168$ for the measure of the number of times a student met with a mentor per grading period, due to lack of numeric responses for number of times meeting with a mentor and for the number of grading periods that were completed. Consideration should be given to the item inquiring about the number of times meeting with a mentor. A limitation of the study was the combination of numeric and word responses that were received for the number of times a student met with a mentor. The work of Hu and Ma (2010) and their investigation of the mentoring relationship did not fit well for this study as their work involved the assignment of a faculty member to the mentor role. Although the original research question context could have been a natural fit for describing the mentoring relationship with a faculty member as a mentor, this investigation allowed for the identification of a variety of mentors. Where the original measure could effectively capture the normal frequencies of meetings with a faculty mentor, it did not perform well for the capture of meetings with a mentor when the mentor was identified as a family member. The number of times a student meets with each of those who fill a mentor roll (e.g., family, peers, and faculty) should be scaled appropriately to the role. Pilot testing of alternative response scales could be useful for that purpose. The data analyses for the measure, the number of times a student met with a mentor, was conducted four different ways. A Bonferroni correction (Burns & Grove, 2012) was not applied to control for Type I error with the carrying out of multiple significance tests.

The supports that were perceived and experienced by the students from a collective group of mentors was described, however, the supports that each type of mentor provided to the students was not ascertained. Additionally, each survey item was specific to one of the four domains of mentoring (Crisp, 2009). Further research, as suggested in Implications for Future Research above, is needed to describe the role each type of mentor plays in providing psychological/emotional support, academic support, degree and career support and the existence of a role model (Crisp, 2009).

The type of study participant and the impact of their responses to the research questions were also given consideration. Campbell and Campbell (1997) determined that students who volunteer to participate in research may be more responsive to the academic setting. This would impact study results, in reaching students who are less likely to perceive themselves as persisting in an associate degree program. In addition, it was assumed that the participants answered the survey items honestly. A threat to internal validity (attitude of subjects' threat) could have occurred if study participants thought they would be rewarded or recognized in some way for the type of response they provided.

The characteristics of the sample were limited by the population of students enrolled in associated degree nursing programs in the United States as the characteristics of the sample were similar to those compiled by the National League for Nursing (2012). A lack of diversity in the sample created an unequal distribution of subjects for categorical data that were being studied. For example, when conducting an ANOVA to examine differences between groups by racial/ethnic background, although significance was not found throughout this study by racial/ethnic background, post hoc analyses

would not have been able to be performed because some groups did not meet the minimum number of subjects to run the between group analyses. Another example can also be provided when a *t*-test was conducted to examine differences by gender. The numbers of male and female students were not equal due to the number of male participants.

The results of this study did not capture those students who have not persisted in an associate degree nursing program or the graduates from the associate degree nursing programs. These two groups require further investigation with regard to how mentoring and persistence is perceived and experienced, both qualitatively and quantitatively.

The methods used in this research study to conduct the data analysis provided an accurate account of the characteristics of a nontraditional associate degree nursing students in several community colleges in Michigan. The data collected were able to be categorized and sorted by frequency of occurrences. The use of parametric and nonparametric statistical analyses which examined relationships between variables and differences between groups for the student characteristics of nontraditional students enrolled in an associated degree nursing program, identified which student characteristics were most or least likely to impact student involvement in a mentoring relationship, the supports of mentoring, and the perceived ability to persist.

The measure “for the perceived ability to persist” was created for this study. A variation in how persistence has been measured and defined has contributed to the inconsistencies in findings within the literature. An instrument to measure how persistence is perceived and experienced in community college students opens another opportunity for research. Future research could strive to develop a measure that would

examine longitudinally how persistence is perceived and experienced, with a Cronbach alpha of 0.7 or higher, as this measure did demonstrate significant findings when examined with the domains of mentoring.

Summary

This research study has contributed to advancing the mentoring research in nursing education by narrowing the gap that existed in the literature for nontraditional associate degree nursing students enrolled in community colleges. The purpose of this study was to increase the understanding of mentoring as it relates to the perceived ability to persist among nontraditional students enrolled in associate degree nursing programs at community colleges.

The data analysis contributed new data regarding student involvement in a mentoring relationship, the supports of mentoring, and the perceived ability to persist for the sample group. The results of the research study have provided opportunities to construct further studies in an effort to move the mentoring literature forward toward the development of a consistent definition and a conceptual framework in nursing education through the examination of student involvement in a mentoring relationship, the domains of mentoring, and the perceived ability to persist for nontraditional associate degree nursing students enrolled in community colleges.

The findings from this study point to the conclusions explained below regarding the relationships between mentoring and the associate degree nursing students' perceived ability to persist. First, student characteristics are significant in describing student involvement in a mentoring relationship in terms of the number of times a student met with a mentor. Although there were challenges with the numeric and word responses that

were received, significant findings were obtained for the student characteristics of gender, enrollment status, and failure of a nursing course. Second, relationships were found for the student characteristic of gender and the domains of mentoring. Females scored higher on the response scales for psychological/emotional support and academic support than males. Last, a relationship between psychological/emotional support and the existence of a role model and the perceived ability to persist was found.

Gender was the student characteristic in this study that most frequently demonstrated significance. Males met more frequently with their mentor per grading period than females. Males reported that they perceived and experienced more psychological support and academic support than females. Differences between gender groups represented a significant finding for nurse educators as schools of nursing do not enroll students who are exclusively female or male. A gap in the literature existed to describe the mentoring experience for males enrolled in community colleges (Nora & Crisp, 2007; Crisp, 2009; Crisp & Cruz, 2010; Hu & Ma, 2010). Crisp (2010) found that females perceived and experienced significantly more psychological, degree, academic and role model support than men. The variation in the results for this investigation and the research conducted by Crisp (2010) demonstrates that additional gender differences should be highlighted as another area of investigation when describing how mentoring relationships and persistence are perceived and experienced.

As the mentoring relationship continues to be defined in nursing education, and its impact on student persistence continues to unfold, nurse educators must consider the individuals who collectively mentor our students. Research is needed to identify the key groups of people whom our students value as mentors and to further investigate the

supports that each has to offer in enhancing the perceived ability to persist. The focus of the research is moving away from looking at the outcomes of mentoring (i.e., GPA and retention) and is advancing to how mentoring and persistence are perceived and experienced. Students who are less likely to be involved in mentoring relationships must be sought. Students who felt that they would persist in their associate degree nursing program, even if they experienced an academic struggle, experienced some degree of mentoring support. The supports provided to this group of students must also be strengthened. Students who are high achievers were found less likely to experience support in a mentoring relationship.

Not all disciplines have multiple educational paths to prepare for a career, such as for a registered nurse. Testing of the conceptual framework for mentoring (Nora & Crisp, 2007) using the CSMS (Crisp, 2009) for traditional and nontraditional students enrolled in two- and four-year nursing programs, while examining the perceived ability to persist, will advance the mentoring research for all disciplines. Nursing education researchers have the opportunity to provide a consistent definition of mentoring and a conceptual framework for traditional and nontraditional students enrolled in two- and four-year institutions of higher education through the continued exploration of mentoring as it relates to the perceived ability to persist through a nursing program. The more evidence-based strategies used to enhance nursing education, the better the outcomes will be to improve the preparation nurses receive to serve the public. Mentoring may be a key strategy to achieve that end, and this research has contributed to the evidence base to support mentoring of nursing students.

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APPENDICES

Appendix A
Letter to Dean of Nursing

Dear Dean of Nursing,

I am a doctoral candidate in the Educational Studies PhD program (Nursing concentration) at Eastern Michigan University in Ypsilanti, Michigan. As a registered nurse/nursing faculty I am interested in studying mentoring as it relates to persistence in associate degree nursing students. This study will provide useful information for nursing educators about mentoring as it relates to this student groups' persistence toward graduation.

I am contacting you to ask for your help in reaching your associate degree nursing students to broaden the sample size for my study. The study involves completing an electronic questionnaire about attitudes and perceptions of mentoring and demographic information through SNAP Survey. The time to complete the questionnaire will take approximately 15 minutes. No monetary gift will be offered to the students. My research is being conducted with the approval of Eastern Michigan University Human Subjects Committee. Anticipated dates for data collection will be March through August 2013. All data will be aggregated and confidentiality of participating schools will be maintained at all times in any dissemination of the findings. The results of the study will be shared with you upon its completion.

Your consideration in allowing me to survey your students is greatly appreciated. Please let me know if you agree to have your students participate and that you have forwarded the link for the SNAP Survey to them. I look forward to your reply. Thank you for your time!

Best regards,

Caroline Peltz RN, MSN, MSHSA, CNE
PhD (candidate) Educational Studies
Eastern Michigan University
cpeltz@emich.edu
313.354.4086

Appendix B
Email Communication to Students

Dear Future Nurse of America!

My name is Caroline Peltz, I am a doctoral candidate at Eastern Michigan University in Ypsilanti, Michigan as well as a registered nurse and faculty member. I am **very** interested in your success as a student and the supports that assist you in the drive to become a registered nurse! I am looking for associate degree nursing students over the age of 18 who would be willing to take a 15 minute survey for my research. Please click on the link to view the informed consent and take the survey (or cut and paste it into a browser window):

<https://snap.emich.edu/snapwebhost/surveylogin.asp?k=136562335881>

THANK YOU!

Caroline

Appendix C Informed Consent

Study Title: Mentoring as it Relates to Persistence in Associate Degree Nursing Students
Investigator: Caroline M. Peltz RN, MSN, MSHSA, CNE

Purpose of Study:

I am a doctoral candidate at Eastern Michigan University in Ypsilanti, Michigan as well as a registered nurse and faculty member. I am very interested in your success as a student and the supports that assist you in the drive to become a registered nurse! The purpose of this study is to provide useful information for nursing educators about mentoring as it relates to associate degree nursing students. Mentoring is relationship that teaches an individual or allows him or her to grow. Mentoring is a nurturing process in which a more skilled or experienced person, serving as a role model, teaches, sponsors, encourages, counsels and assists a less skilled or less experienced person for the purpose of promoting personal and professional development.

Procedures:

The study involves completing an electronic questionnaire about attitudes and perceptions of mentoring and demographic information. Participation in the survey will take approximately 15 minutes. You cannot exit a partially completed survey and return to it.

Confidentiality:

You will not be asked to give your name or other personal identification information. Your responses will be collected anonymously. Results of the research study will be compiled as aggregate data. No identifiable information is collected or maintained by the researcher. Once downloaded, data files will be maintained in a locked file cabinet. When the online data survey data collection is complete, the files will be closed and deleted.

Voluntary Participation:

Your participation in this research study is voluntary. You are under no obligation to participate. There is no penalty for not participating. Additionally, while responding to survey questions you may refuse to answer individual survey questions. Once you submit your responses you cannot request to withdraw from the study since we cannot identify your specific survey form.

Risks of Participation:

The research study procedures involve no foreseeable risk or harm to you.

Benefits of Participation:

There are not foreseeable direct benefits to you. Your participation may facilitate the improvement of student mentoring program support in the future.

Use of Results:

The results will be used for development of a dissertation document, and may be shared at professional conference presentations and publications.

Concerns & Questions:

Should you have questions about the project or interest in the results, I encourage you to email me, Caroline Peltz at cpeltz@emich.edu.

This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subject Review Committee for use from March 1, 2013 to March 30, 2014. If you have questions about the approval process, please contact the UHSRC administrative co-chair at human.subjects@emich.edu or call 734-487-0042.

Appendix D
Human Subjects Approval

April 8, 2013

UHSRC Initial Application Determination:

EXPEDITED APPROVAL

To: **Ms. Caroline Peltz**

Teacher Education

Re: **UHSRC #130310**
Approval Date:

Category: Approved Expedited Research Project
April 7, 2013

Title: Mentoring as it Relates to Persistence in Associate Degree Nursing Students

The Eastern Michigan University Human Subjects Review Committee (UHSRC) has completed their review of your project. I am pleased to advise you that **your expedited research has been approved** in accordance with federal regulations.

Renewals: Expedited protocols need to be renewed annually. If the project is continuing, please submit the **Human Subjects Continuation Form** prior to the approval expiration. If the project is completed, please submit the **Human Subjects Study Completion Form** (both forms are found on the UHSRC website).

Revisions: Expedited protocols do require revisions. If changes are made to a protocol, please submit a **Human Subjects Minor Modification Form** or new **Human Subjects Approval Request Form** (if major changes) for review (see UHSRC website for forms).

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to human subjects and change the category of review, notify the UHSRC office within 24 hours. Any complaints from participants regarding the risk and benefits of the project must be reported to the UHSRC.

Follow-up: If your expedited research project is not completed and closed after three years, the UHSRC office will require a new **Human Subjects Approval Request Form** prior to approving a continuation beyond three years.

Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-0042 or via e-mail at gs_human_subjects@emich.edu. Thank you for your cooperation.

Sincerely,



Dr. Jennifer Kellman Fritz
Administrative Chair
University Human Subjects Review Committee

Appendix E
Permission to Use CSMS

From: Gloria Crisp [<mailto:Gloria.Crisp@utsa.edu>]
Sent: Tuesday, May 31, 2011 3:55 PM
To: Caroline Peltz
Subject: RE: College Student Mentoring Scale

Hi Caroline.

I appreciate your interest in my survey. I am attaching a copy of my dissertation, which includes a copy of the entire survey (including the 25 mentoring items) and a chart that explains which items were hypothesized to load onto each construct. Please let me know if you have any questions. Best of luck with your research!

Gloria

-----Original Message-----

From: Caroline Peltz [<mailto:cpeltz@emich.edu>]
Sent: Tue 5/31/2011 8:07 AM
To: Gloria Crisp
Subject: College Student Mentoring Scale

Good morning Dr. Crisp,

I am a second year doctoral student in Educational Studies with a concentration in Nursing Education at Eastern Michigan University. I am employed full time as nursing faculty at Wayne County Community College District in Detroit, Michigan. I am very interested in the topic of mentoring in nursing education. I feel that it is vital to support students through to program completion, specifically students who represent the diversity of the population.

I am searching for an instrument that may assist in measuring the outcomes of nursing student mentoring. I was very excited to discover your research and your work on the conceptualization and initial validation of the College Student Mentoring Scale. Would you be willing to share the complete instrument with me to see if the CSMS fits my area of study involving nursing students?

If so, I will keep you updated on my research and provide you with any information that offers support to your research.

I look forward to your reply! Thank you in advance for your time, support and assistance!!!

Professionally,
Caroline Peltz, RN, MSN, MSHSA
cpeltz@emich.edu
313.354.4086

Appendix F
College Student Mentoring Scale (CSMS) (Crisp, 2009)
Used with permission

INSTRUCTIONS: The information obtained from this survey is designed to help colleges improve practices and policies for students. Participants may choose to not participate without penalty at any time before, during or after the completion of the questionnaire. Please select the best choice for each of the following statements.

ATTITUDES AND PERCEPTIONS OF MENTORING

While in college I have had someone in my life who....	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I looked up to regarding college related issues					
Helps me work toward achieving my academic inspirations					
Helps me realistically examine my degree or certificate options					
I can talk with openly about social issues related to being in college					
I admire					
Helps me to perform to the best of my abilities in my classes					
Encourages me to consider educational opportunities beyond my current plans					
I want to copy their behavior as they relate to college-being					
Provides ongoing support about the work I do in my classes					
Gives me emotional support					
Encourages me to talk about problems I am having in my social life					
Sets a good example about how to relate to other people					
Helps me to consider the sacrifices associated with my chosen degree					
Expresses confidence in my ability to succeed academically					
Serves as a role model for how to be successful in college					
Discusses the implications of my degree choice					

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Makes me feel that I belong in college					
Encourages me to use him or her as a sounding board to explore what I want					
Shares personal examples of difficulties they have had to overcome to accomplish academic goals					
Helps me carefully examine my degree or certificate options					
I can talk with openly about personal issues related to being in college					
Encourages me to discuss problems I am having with my coursework					
Questions my assumptions by guiding me through realistic appraisal of my skills					
Recognizes my academic accomplishments					
Provides practical suggestions for improving my academic performance					

BACKGROUND INFORMATION

Please answer the following questions. Please mark only one answer to each question.

1. While responding to the above items indicate how important were the following people towards mentoring your success as a student

	Extremely Important	Important	Somewhat Important	Not Important
Friends/Boyfriend/Girlfriend				
Parents/Spouse/Family Member				
Faculty Member				
College Counselor/Staff Member				
Co-worker/Supervisor				

2. Who was the SINGLE most important individual, from the above choices, who mentored you towards your success as a student? _____

3. Were you formally assigned by your college or department to the SINGLE most important individual who mentored you towards your success as a student?
 - a. Yes
 - b. No

4. How many times have you met with the mentor that has most influenced your college experience? _____

5. To what extent do you turn to the mentor that has most influenced your college experience for support and encouragement?
 - a. Not at all
 - b. Little
 - c. Often
 - d. Very often

6. How important is the experience with your mentor for your success as a student?
 - a. Not important
 - b. Somewhat important
 - c. Very important

7. Rank each of the following:

	Always like me	Usually like me	About half the time like me	Seldom like me	Never like me
I see myself continuing from semester to semester					
I see myself experiencing academic failure resulting in remediation					
I see myself involuntarily withdrawing from the program due to multiple academic failures					
I see myself voluntarily withdrawing from the program NOT due to academic failure					

8. What is your age in years? _____

9. At the time of this survey, what is your enrollment status?
 - a. Part-time
 - b. Full-time

10. What is your gender?
 - a. Male
 - b. Female

11. Is English your first language?
 - a. Yes
 - b. No

12. How many dependent children do you have? _____

13. What is your racial/ethnic background (mark the one best response)?
 - a. American Indian or Alaska Native
 - b. Asian or Pacific Islander
 - c. Black or African American
 - d. Hispanic/Latino
 - e. Middle Eastern
 - f. White
 - g. Other _____

14. Regarding high school did you:
 - a. Complete a GED
 - b. Graduate from high school

15. Have you ever failed a nursing course in your program?
 - a. Yes
 - b. No

16. Are you responsible for a parent or another family member, not including children?
 - a. Yes
 - b. No

17. How many hours do you work at a paying job each week?
 - a. I do not work
 - b. Less than 10 hours
 - c. 11 to 20 hours
 - d. 21 to 30 hours
 - e. 31 to 40 hours
 - f. More than 40 hours

18. On the average how many hours per week do you spend on school work or studying?
- None
 - 1 to 2 hours
 - 2 to 5 hours
 - 6 to 10 hours
 - 11 to 15 hours
 - More than 15 hours
19. Have you received any loans to help you finance your education?
- Yes
 - No
20. How far do you have to drive to get to college?
- Less than 5 miles
 - 6 to 10 miles
 - 11 to 20 miles
 - Over 20 miles
21. What is the best estimate of your total income in the past year?
- Less than \$6,000
 - \$6,000 to \$9,999
 - \$10,000 to \$14,999
 - \$15,000 to \$19,999
 - \$20,000 to \$24,999
 - \$25,000 to \$29,999
 - \$30,000 to \$34,999
 - \$35,000 to \$39,999
 - \$40,000 to \$49,999
 - \$50,000 to \$59,999
 - \$60,000 to \$74,999
 - \$75,000 to \$99,999
 - Over \$100,000
22. What is the highest level of formal education completed by your **MOTHER**?
- Unknown
 - No formal education
 - Grammar school or less
 - Some high school
 - High school graduate
 - Some college
 - College graduate
 - Some graduate school
 - Professional degree

23. What is the highest level of formal education completed by your **FATHER**?
- a. Unknown
 - b. No formal education
 - c. Grammar school or less
 - d. Some high school
 - e. High school graduate
 - f. Some college
 - g. College graduate
 - h. Some graduate school
 - i. Professional degree
24. How many grading periods have you completed while enrolled in the nursing program?
- _____