

**ONLINE FACULTY MENTORING AND TRANSITION BALANCE IN FAMILY
NURSE PRACTITIONER STUDENTS**

by

Cathlin B. Poronsky

A Dissertation Submitted in

Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

in Nursing

at

The University of Wisconsin-Milwaukee

December 2011

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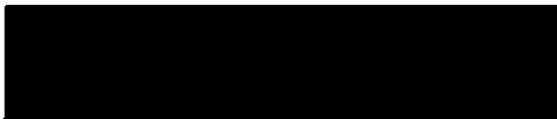
December 2011



Major Professor

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Date



Graduate School Approval

1-19-12

Date

ABSTRACT

ONLINE FACULTY MENTORING AND TRANSITION BALANCE IN FAMILY NURSE PRACTITIONER STUDENTS

by

Cathlin B. Poronsky

The University of Wisconsin-Milwaukee, 2011
Under the Supervision of Dr. Karen H. Morin

The purpose of this study was to examine the effect of online faculty mentoring on Registered Nurse (RN) to Family Nurse Practitioner (FNP) role transition balance during graduate education. Making the transition from RN to an FNP can seem daunting and there is limited information in the literature about RN to FNP role transition during graduate education. Nurse faculty may be in a position to aid graduate students to better balance their transition in role from RN to FNP. However, for faculty who seek to do this, there is little information available on methods that have proven successful. Factors that may be assets or deficits for successful transition balance have not been well researched. One approach that may hold promise is faculty mentoring.

A pre-test post-test design using a nonequivalent comparison group was used for carrying out this study. Transition Theory (Schlossberg, 1981; 1984) was the theoretical framework that underpinned this study. There were four variables, one independent, faculty mentoring, one dependent, transition balance, and two mediator variables, self-efficacy and metacognitive awareness. Transition balance, the primary outcome, was

measured using the *Transition Guide Questionnaire* (TGQ) which included 4 subscales: situation, self, supports, strategies. Regression analysis was used to examine whether online faculty mentoring produced a change in transition balance score. Two potential mediators were included in this study to determine whether generalized self-efficacy or metacognitive awareness mediated the effect of faculty mentoring on transition balance.

The faculty mentoring intervention was a series of questions posted by email approximately every 2 weeks during the semester to guide FNP students in self-reflection about their RN to FNP transition. The mentors provided one-to-one responses within one week that were intended to guide and support participants.

No statistical significant differences were found between groups in change scores from pretest to post test on Transition balance as measured by the TGQ. Neither generalized self-efficacy, as measured by the *Generalized Self-Efficacy Scale* (GSE), nor metacognition as measured by the *Metacognitive Awareness Inventory* (MAI) appeared to mediate the relationship between online faculty mentoring and transition balance in FNP students. The null hypotheses for both research questions were retained.

This study sought to develop a better understanding about transition for FNP students and ways that faculty can aid students in balancing transition. This research could aid faculty in assisting FNP students with role transition. The findings add to the body of knowledge about FNP transition balance and about mentoring in graduate nursing education.


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This dissertation is dedicated to FNP students whose transition generated my interest in undertaking this study. And to my family and friends, classmates and colleagues whose love, support, sacrifice, and understanding have kept me going during this journey.

Thank you!

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CHAPTER ONE

The journey from Registered Nurse (RN) to Family Nurse Practitioner (FNP) requires rigorous graduate level academic preparation, acquisition of new knowledge and skills, and major changes in function and scope of practice. All nurse practitioner (NP) students need to learn advanced clinical judgment and high-level clinical decision-making skills, plus political savvy, in order to take on the role of an advanced practice nurse (Kelly & Matthews, 2001). In addition, family nurse practitioner students face the challenge of learning about the broad range of health problems and family situations that are found in primary care (Steiner, McLaughlin, Hyde, Brown, & Burman, 2008).

While FNP education can be a time of great inspiration and excitement, it is also a time of upheaval and challenge for students as they struggle to meet the demands of graduate school and making the transition from a Registered Nurse to a Family Nurse Practitioner. This transition requires a change in role from providing patient care to prescribing patient care (Forbes & Jessup, 2004). The paradigm shift in role has been portrayed as “moving from the side of the bed to the head of the bed” (Cusson & Viggiano, 2002). The ways in which FNP students balance this process and faculty might aid students in making this transition have not been well-researched and warrant additional study.

The current study was undertaken to learn more about the RN to FNP transition during graduate school. This chapter presents the statement of the problem, purpose of the study, and the research questions. The conceptual framework underpinning the study and the theoretical and operational definitions of the variables are discussed.

Assumptions underlying the study are identified and the significance of the study for nursing practice, education, policy, and research is delineated.

Statement of the Problem

Transitions in life include changes in roles and jobs, as well as in family life and living situations. All transitions, whether positive or negative, produce stress and individuals cope with the stress of transition in varying ways (Schlossberg, 1984). There is limited information in the literature about the transition from RN to FNP (Spoelstra & Robbins, 2010). In one of the few studies that did explore RN to FNP role transition, Heitz, Steiner, and Burman (2004) found that transition takes place in 2 phases. Phase I was a time of learning the FNP role while simultaneously realizing the need to let go of the RN role. This was a big challenge; participants found that “bouncing back and forth between nursing and FNP [roles] was very difficult” (Heitz et al., 2004, p. 417). Phase II, the transition from new graduate to independent FNP, ranged from 6 months to 2 years after graduation. During Phase II, when the new graduate was in his or her first job as an advanced practice nurse, feelings of self-doubt, apprehension, and emotional turmoil with regard to the new independent role responsibilities were common (Heitz et al.). Several other researchers who explored the phase II transition experience of new nurse practitioners described this as a turbulent and stressful period (Barton, 2007; Brown & Olshansky, 1997; Cusson & Viggiano, 2002; Hayes, 2001; Sloand, Feroli, Bearss, & Beecher, 1998).

As limited as the literature is with regard to RN to FNP transition, it is even more so regarding RN to FNP transition during FNP education (Rich, Jorden, & Taylor, 2001;

Steiner et al., 2008). No recent studies were found that included the transition experience of FNP student participants during graduate education. From what little is known about RN to FNP transition, it appears that for both NPs new to practice and NP students, it is a time of stress, challenge, uncertainty, and turmoil.

The process of adults in transition has been studied by Schlossberg (1981; 1984) and Schlossberg, Waters, and Goodman (1995). These authors developed a theory for the adults in transition, aptly named Transition Theory. According to Transition Theory, multiple factors can influence an individual's balance during transition including the situation itself, the individual's personal attributes, available support, and the individual's strategies for coping (Schlossberg et al., 1995). FNP students are all adults experiencing the same situation, graduate school, and a transition in role. However, the factors that influence FNP students' response to transition and balance during graduate school likely vary, but have not been examined. The effect of FNP students' personal attributes on transition balance is not known and, for the purposes of this study, it was possible to study all factors. Therefore two factors were selected for inclusion in this study: generalized self-efficacy and metacognitive awareness.

In Transition Theory, support from other people for the individual in transition is considered an asset and plays a key role in coping and balancing the stress and challenges of the transition (Schlossberg, 1984). As a nurse faculty member the researcher for the current study theorized that nurse faculty may be in a position to provide an additional source of support for graduate students and aid them in balancing their transition in role from RN to FNP. However, a review of the literature revealed that there was little

information available on methods that had proven successful. One approach that appeared promising was mentoring.

Mentoring has been identified in the nursing literature as an effective support method for role transition (Rosser, Rice, Campbell, & Jack, 2004). Mentoring has been shown to aid new nurses with role transition and to enhance undergraduate nursing students' learning in the clinical setting (Andrews & Chilton, 2000; Hodges, 2009; Ousey, 2009; Wilkes, 2006). Mentoring has been identified as a way to assist newcomers transitioning into and advancing in the professions of nursing, education, medicine, pharmacy, and academia (Allen, Eby, O'Brien, & Lentz, 2008; American Academy of Nurse Practitioners, 2006; Barker, 2006; Ehrich, Tennent, & Hansford, 2002; Galbraith, 2003b; Gardiner, Tiggemann, Kearns, & Marshall, 2007; Lee, Anzai & Langlotz, 2006). Several authors and professional organizations have advised new NPs to seek out a supportive mentor following graduation to facilitate professional role development (Brown & Olshansky, 1998; Chitsaz & Kelly, 2003; Hayes, 1998; Kelly & Matthews, 2001; Rauckhorst, 2005).

Although mentoring of undergraduate nursing students has been explored, there is very limited information in the literature about mentoring NP students or new NPs (Barker, 2006). The one exception is Hayes (1998b; 2005) who examined mentoring in the NP student and preceptor relationship. Hayes explored mentoring in the clinical area for her doctoral dissertation and found that NP students who perceived themselves as being mentored by their preceptors had a higher self-efficacy than those who did not perceive themselves as being mentored. Hayes advocated for a mentoring model for NP clinical education based on her findings.

While a discussion of NP clinical education is beyond the scope of this project, it is important to acknowledge that preceptors play an essential role in teaching NP students. Preceptors in the clinical setting work with NP students to refine and hone their clinical decision making skills. Clinical preceptors assist NP students in applying theory to practice, increasing diagnostic reasoning and clinical decision making skills, and integrating the individual into the NP roles (Dumas, 2005). In many NP programs students are precepted by both physicians and NPs. Physicians are valuable partners in NP education; they can and do mentor and serve as role models. However, physicians do not have experience in making the RN to FNP transition and may not be able to assist students with some elements of this challenge. While a master's or doctorally prepared practicing FNP would be better suited for mentoring and guiding students with this transition, the demand and need for preceptors exceeds the number available. Therefore for the foreseeable future both physicians and NPs will most likely continue to precept students. It is simply not feasible to designate preceptors as the sole source of mentoring and support for students transitioning into the FNP role.

In addition, not all preceptors are willing or able to serve as mentors. As it is, matching students with available qualified preceptors is a very time-consuming and costly process (Sobralke & Naegele, 2001). Adding the requirement for practicing physicians and NPs to mentor may not be reasonable or feasible and would be nearly impossible to implement and evaluate.

Mentoring has been defined in the literature and various models of mentoring have been presented. However, the actual process and strategies of how to go about mentoring are not well-described (Morse, 2006). There are no models for faculty who

seek to establish a mentoring program for NP students. There are no successful mentoring programs described in the literature for new NPs (Harrington, 2011). Information regarding successful methods, programs, and models for NP students has not been addressed in the literature (Riley & Fearing, 2009).

Transition Theory provides a systematic framework for exploring and understanding adults in transition (Schlossberg et al., 1995), making it well-suited to examine adult FNP students in transition. Two studies using Transition Theory with groups similar to the population of interest have been done; one in nursing and one in graduate education. Schriener (2004) explored the transition of clinical nurses into a faculty role for her doctoral dissertation using Schlossberg's (1995) Transition Theory. Wisenberg (2001) studied education students enrolled in an online graduate program. In Wisenberg's study, graduate education students, not unlike graduate nursing students, became stressed when they added the role of student to an already busy life with multiple roles. Wisenberg suggested that faculty are in an ideal position "to support students' personal, professional, and academic growth" (p. 55) within their instructional role. Her conclusion was that faculty are in an ideal position to mentor and support graduate students in the online environment.

Both Schriener (2004) and Wisenberg's (2001) work show the applicability of Transition Theory for the examination of transition in nursing and in graduate students. Both of these studies were done with adults and both found that the academic institution at which subjects were enrolled played a role with regard to support or lack of support. Wisenberg's exploration of graduate student transition and recommendations for faculty

to aid students with transition in the online environment is particularly relevant for the group of interest for this study.

Purpose of the Study

The primary purpose of this study was to examine the effect of online mentoring from faculty for FNP students on RN to FNP transition balance (the primary outcome) during graduate education. Two individual personal attributes of participants, self-efficacy and metacognition, were included as mediators to test out whether these psychological characteristics affected the online mentoring relationship outcomes. Information obtained in this study could add to the understanding of the transition process for FNP students and of ways that faculty may be able to aid students in balancing transition.

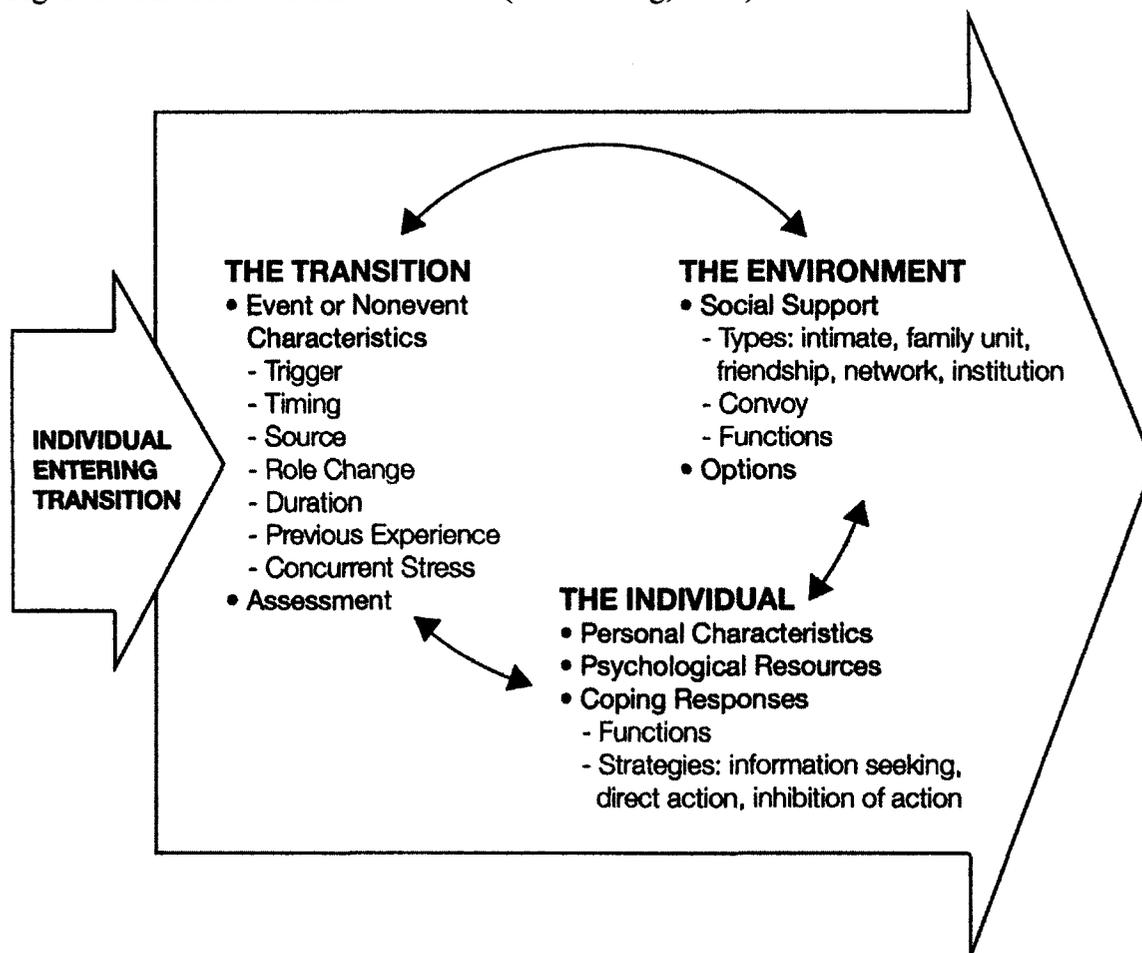
Conceptual Framework

This study was carried out to explore whether enhanced faculty to student support by online mentoring was a way to enhance transition balance during graduate school. Transition Theory (Goodman et al., 2006; Schlossberg, 1981; 1984; Schlossberg et al., 1995) was chosen as the theoretical framework for this research study because it is appropriate for the population at hand, adults in transition, and the concept, RN to FNP transition. Transition Theory offers a model of adult development that emphasizes transition as a process that occurs in stages, and can be applied to various types of transition. This section will present Transition Theory and discuss the concepts and terms used for transition.

Transition theory.

Transition Theory was developed by Schlossberg in 1981 to provide understanding and assistance for helping professionals who work with adults in transition (Summers, 2002). Schlossberg (1981) described the initial model as a vehicle for “analyzing human adaptation to transition” (p. 2). Three years later, in 1984, Schlossberg revised and re-conceptualized the model depicted in Figure 1. Schlossberg’s 1984 model shifted from adaptation-to-transition to response-to-transition based on her growing understanding that adaptation to transition was not always achievable. Permission to reproduce this figure can be found in Appendix A.

Figure 1. The Individual in Transition (Schlossberg, 1994).

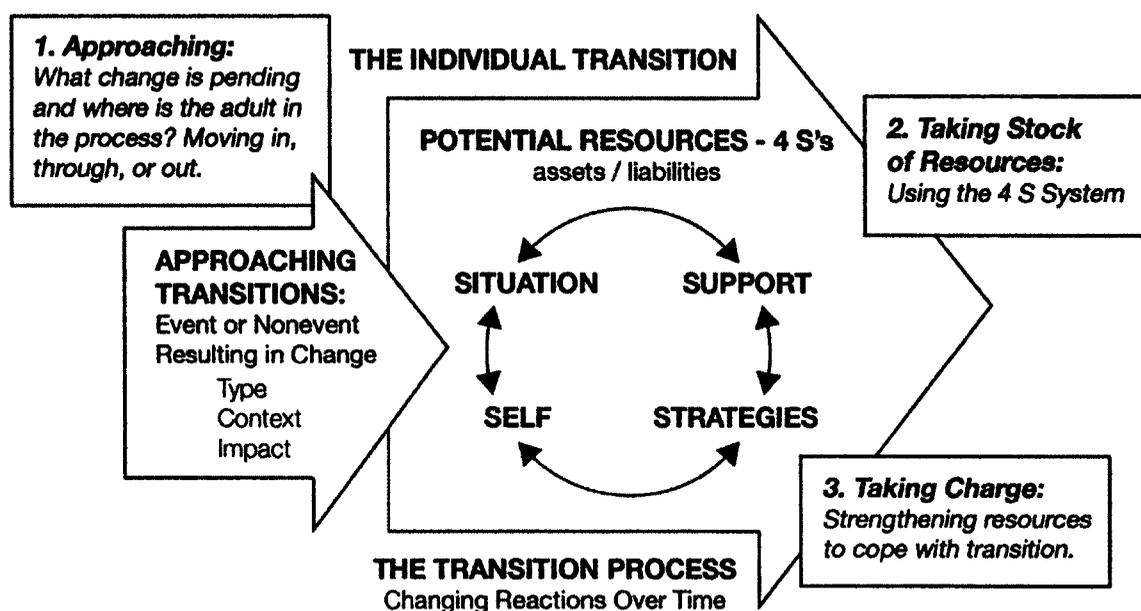


The model in Figure 1 reflects the adaptation-to-transition concept and takes into account the type of supports and resources available for individuals experiencing change (Evans, Forney, & Guido-DiBrito, 1998). The arrow to the left of Figure 1 represents the individual entering into the process of transition. Inside the transition experience, balance and coping depend on three inter-related components: the transition itself, the individual, and the environment. Each component includes multiple factors that affect the individual's ability to balance that particular transition and cope with that particular experience. The arrows between the three components are bi-directional, indicating their inter-related effect on each other.

Schlossberg, Waters, and Goodman (1995) revised the original model to provide a structure for viewing transition and a framework for assessing an individual's ability to cope with and balance transition (Schlossberg et al, 1995). The revised model depicted in Figure 2 expanded the components of the earlier model. In the revised model the transition (depicted in figure 1) has become the situation; the individual (depicted in figure 1) has become the self; and the environment (depicted in figure 1) has become the support. New to figure 2 are the strategies for coping with the transition; in figure 1 these were included under the individual.

Text boxes, labeled 1, 2, and 3 in Figure 2 were taken from the authors' work (Schlossberg, et al., 1995) and added for the current study to aid readers in viewing and using the transition model. Using the transition process model to assess assets and liabilities begins with step 1, which involves approaching transition and reflecting on the type, context and impact of this particular transition.

Figure 2. The Transition Process (Schlossberg, Waters, & Goodman, 1995).



Permission to reproduce this figure can be found in Appendix A.

In step 2, taking stock of coping resources, a self-assessment of the 4 Ss (situation, self, support, strategies) is done in order to determine assets and liabilities for this particular transition. Step 3, taking charge of strengthening resources, is the next component of the working model. This is the action phase; an individual in transition, after identifying assets and liabilities for this transition, can determine where he or she can strengthen available support or develop additional strategies for coping in order to better balance the transition. Each phase of the model in the added text boxes will be discussed in greater detail.

Approaching transition.

In the first step, approaching transition, an individual identifies the type of transition, for example, entering or completing graduate school, beginning a new job or

facing a job loss, and whether this transition was planned, unplanned, or a non-event. Non-events in this model are anticipated milestones not achieved as anticipated, such as not getting married or not having children as planned, and anticipated achievements that were not attained, such as acceptance into graduate school or completing a degree. In the approaching transition stage an individual also identifies the context and the impact of transition on his or her life.

Taking stock.

In the next phase of Figure 2, taking stock of coping resources, an individual uses the 4 S system to inventory his or her assets and liabilities for coping with transition. By evaluating the specifics within each of the 4 Ss, potential resources can be added and deficits removed within each of the 4 categories to better balance the transition (Goodman et al., 2006). Each of the 4 Ss should be analyzed separately to determine the assets and liabilities for coping within each of the 4 areas. However, in order to gauge balance they need to be viewed in total since they are inter-related. The 4 Ss are delineated further in the next section of this chapter.

Taking charge.

The taking charge text box was also added to figure 2 from the work of Schlossberg et al., (1995) to aid the understanding of readers of the current study. The 4 factors depicted in Figure 2, the situation, the self, the support, and the strategies are termed the 4 Ss and make up the core of Transition Theory. Taking charge is an active stage of putting coping strategies and resources into place after using the 4 S system to determine which area(s) need to be strengthened.

The 4S system for viewing the transition process was developed as a working model for an individual in transition to examine his or her situation. By taking inventory

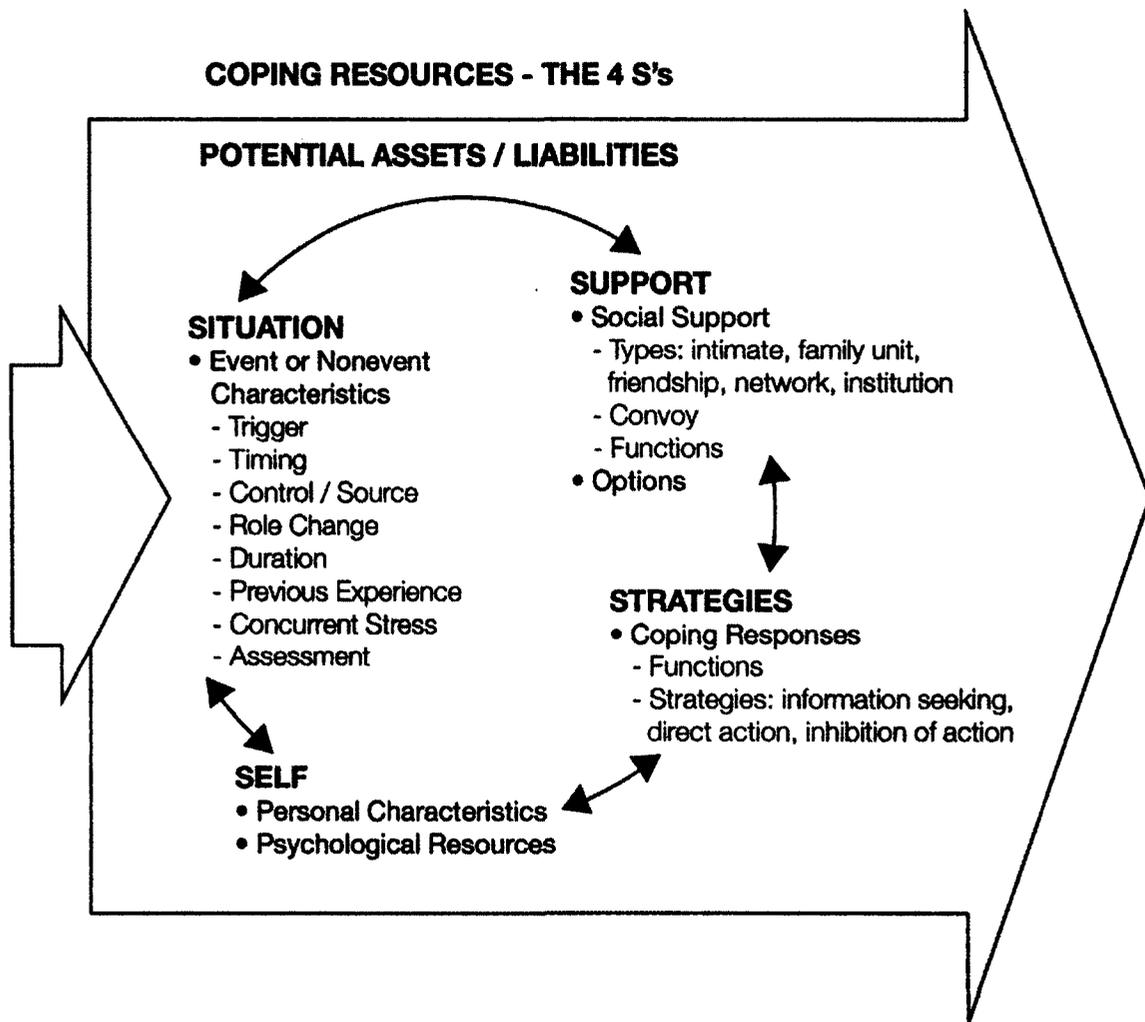
of each of the 4 Ss an individual in transition has a framework to self-assess any potential assets and deficits for coping with and balancing transition (Schlossberg, 1981; 1984; Schlossberg, Waters, & Goodman, 1995). Using the 4 Ss an individual can devise additional internal and external resources and strategies for balancing transition “based on where the low parts are in the 4S’s” (N. K. Schlossberg, personal communication, June 16, 2010). For example, an individual in transition who determined him- or herself to be low on coping resources for his transition due to situation factors such timing or other stressors in life, and/or low on strategies for support, may need to work on enhancing inner strengths of self, seeking additional support from external resources, and add actions (strategies) for coping in order to better balance the transition.

The transition process model (Figure 2) provides a universal paradigm for understanding individuals in transition (Schlossberg et al., 1995). Whatever the transition is, however individuals differ in their responses to transition, and however long it takes to fully move through the transition, the transition model is a prototype for understanding individuals in transition. According to Goodman et al. (2006), after 25 years of using this model in practice with adults in transition, it continues to be “an excellent basis for conceptualizing” (p. xvi) and coping with transition.

Coping resources and transition balance.

Figure 3 builds on Figure 2; in Figure 3 the factors or subcomponents associated with each of the 4 Ss depicted in Figure 2 are delineated. Within each of the 4 Ss (situation, self, support, strategies) are specific areas in which information should be gathered with regard to the transition.

Figure 3. Taking Stock of Coping Resources-The 4 Ss (Schlossberg, Waters, & Goodman, 1995).



Permission to reproduce this figure can be found in Appendix A.

Figure 3 depicts subcomponents for each of the 4 Ss. Taking stock of coping resources gathers information from each S from these subcomponents. As in Figure 1 and Figure 2, each area is related to the other and here again the bidirectional arrows depict this inter-relatedness.

The 4 Ss.

The 4 Ss are described by Schlossberg et al., (1995) as follows. The first S, the *Situation*, refers to what is happening and considers a number following factors to be important:

Trigger: Was there a trigger for this transition, or what set it off?

Timing: Is the transition happening at a good or bad time in the individual's life and is it on-time or off-time in terms of that individual's social clock?

Control: What aspects of the transition does the individual perceive as being controllable?

Role change: Does this transition involve role change?

Duration of the transition: Is this transition seen as temporary, permanent, or is the duration uncertain?

Previous experiences with similar transitions: How did the individual cope with similar transitions? Was that effective and what are the implications for this transition?

Concurrent stress: Are there other stresses this individual is facing now, and if so, what is the extent of those stressors?

Assessment of the transition: Does the individual view the current transition as positive, negative, or neutral?

The second S, the *Self*, refers to the individual to whom the transition is happening. Each individual's personal, cultural, and psychological factors are unique characteristics that comprise what that individual brings to the transition. The authors of Transition Theory identified two categories of factors in their model to describe the self.

The first is personal and demographic characteristics, and included gender, age, ethnicity, socioeconomic status, stage of life, and state of health. The second category is psychological resources and aids to coping that included ego development, outlook, commitment, optimism, and in particular self-efficacy (Evans, Forney, & Guido-DiBrito, 1998; Schlossberg et al., 1995).

Support, the third S, refers to what help is available and is composed of three factors: types, functions, and measurement. Support in this model refers to the types of social support available from the relationships of family, networks of friends, and institutions (Evans et al., 1998; Schlossberg et al., 1995). The functions of support are affection, affirmation, assistance, and honest feedback. Measurement of support takes place by identifying which sources of support are available.

Strategies are the fourth S and refer to the ways in which a person copes. Strategies include tactics that modify the situation, control the meaning of the transition, and aid in managing stress. Strategies employ four modes of coping: seeking information, taking direct action, inhibiting or not taking action, and intra-psychic behavior (Schlossberg et al., 1995). According to Goodman et al. (2006), the first three modes in the model are self-explanatory and the fourth, intra-psychic, refers to mechanisms that enable people to carry on such as denial, wishful thinking, and distortion.

Variables within the context of transition theory

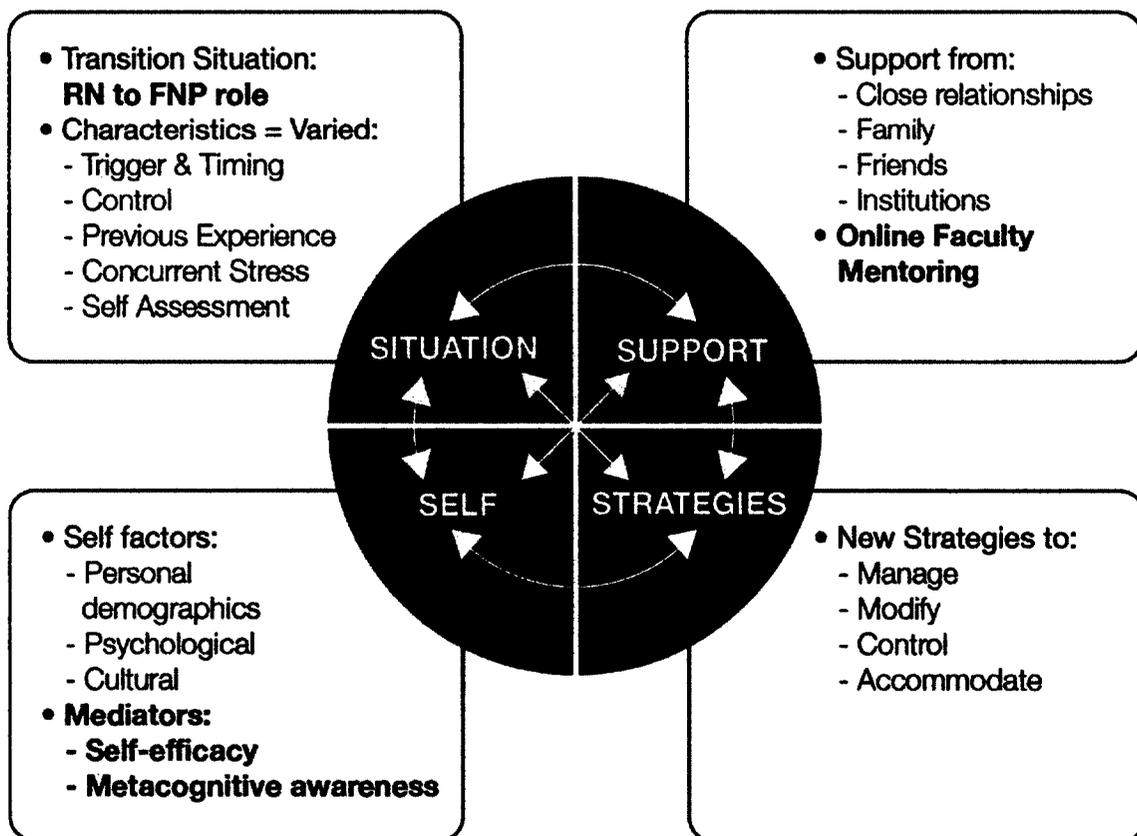
In this study to explore RN to FNP role transition balance, there were four variables: one independent, faculty mentoring; one dependent, transition balance; and two mediators, generalized self efficacy, and metacognitive awareness. Figure 4 is an

adaptation of Schlossberg et al.'s (1995) model that was developed and used with permission (S. Kay, personal communication, September 21, 2010) for this study.

Transition balance.

At the center of Figure 4 are the 4 Ss from Schlossberg et al.'s (1995) model of Transition Theory. Arrows show the bidirectional and cross effect of each component on the whole. Each box in the figure delineates factors within each S that keep the circle at the center turning smoothly in balance.

Figure 4. RN to FNP Transition Balance Theoretical Model



Bold denotes variables

Permission to adapt this figure can be found in Appendix B.

The current study examined the situation of transition for FNP students and tested some of the 4S factors. Although participants were all experiencing the same situation (RN to FNP transition), differences were anticipated with regard to assets and deficits of self (demographics, generalized self-efficacy, and metacognitive awareness) and support (family, friends) that would affect balance.

Each of the 4 Ss, situation, self, support, and strategies, as depicted in Figure 4 will be discussed with regard to the study population. Factors included in the study and how they relate to the model will be described.

Situation.

Starting with the top left box, the transition situation is graduate student RN to FNP role transition. This is a planned situation, rather than an unexpected or non-event for all study participants. According to Transition Theory, the characteristics may be varied due to the trigger and timing of graduate school, how the transition relates to their social clock, what aspects of the transition are controllable, their previous experience with transition, concurrent stresses, and their individual view of whether this is a stressful situation (Goodman et al., 2006).

For this study, the student's progress in the program OR position in the program? was not a factor, as participants were accepted at varying levels of transition. Data about participants' FNP programs, including the university at which students were enrolled, method of course delivery (online, face to face, or a combination), number of completed semesters, and clinical practicum hours were all collected and analyzed.

Self.

The Self factors of personal demographics, gender, ethnicity, and age, which are found in the bottom left box in Figure 4, can have direct bearing on how one perceives

and assesses life situations; marital status and number of children at home may affect coping as assets or liabilities (Goodman et al., 2006). Measurement and analysis of demographic characteristics of self that are consistent with this model, including age, gender, ethnicity, marital status, and children, and years and types of RN experience, which were factors in Heitz al.'s (2004) research, were included in this study in order to evaluate which factors affected coping and transition balance.

Two characteristics of self, one from Transition Theory, self-efficacy, and one with relevance for successful learning, metacognition (Beitz, 1996; Schraw & Dennison, 1994), were included as mediator variables in this study. Both were analyzed to determine if they mediated the effect of the independent variable, online faculty mentoring, with regard to transition balance.

Support.

The top right box, Support for FNP students, includes encouragement and assistance from family members, friends, and other individuals, as well as support from institutions and communities. Lack of support or a limited amount of support can be a deficit for transition balance. In this study, an increase in institutional support in the form of online faculty mentoring was the independent variable; the goal was to explore its effect on transition balance during graduate school. One group received the additional support and the other group did not. A comparison of the two groups for transition balance was an outcome measure for this study.

Strategies.

In the bottom right box is the S of strategies; the coping skills for transition balance. Depending on the current strategies in place for coping with transition, the level

and sources of support and the characteristics of self, participants in this study may or may not have had enough strategies for balancing their transition.

Mediator variables.

This study included 2 mediator variables, self-efficacy and metacognitive awareness. Mediator variables allow for an explanation of how or why the independent and dependent variables are related and may aid in understanding the relationship of these variables (Fairchild & McQuillin, 2010). Failure to consider mediator effect may result in missing a more exact explanation for an outcome (Bennett, 2000). In this study failure to include mediating variables may have led to an incorrect explanation about the affect of online mentoring on transition balance. Therefore, self-efficacy and metacognitive awareness were included as mediators to aid in understanding the relationship of online faculty mentoring and transition balance.

The first mediator variable, self-efficacy, is a key element within Transition Theory. Goodman et al., (2006) made use of Bandura's (1982) definition as "the belief that one can make a difference in one's own life and have an impact on one's environment" (Bandura, 1982 p. 104). In this model, the need to assess self-efficacy of adults in transition is based on a "commonsense understanding of the relationship of self-efficacy to helping adults in transition set goals and plan their futures" (Goodman et al., p. 192). In this study, self-efficacy was made operational by measuring FNP students' general self-efficacy.

The second mediator variable in this study was metacognition. Although metacognition was not explicitly incorporated in Transition Theory (Goodman et al., 2006), it was included as a mediator based on the connection between self-efficacy and

metacognition (Kleitman & Stankov, 2007) and the possibility that metacognition could influence transition balance. In this study, metacognition was made operational by measuring metacognitive awareness.

Independent variable.

Online faculty mentoring was the independent variable for this research. It was hypothesized that increasing support during graduate school would enhance transition balance. The online environment was selected for several reasons. Electronic mentoring (e-mentoring) provides opportunities not available in face-to-face mentoring programs, notably an environment that is flexible and unconstrained by time and space (Kalisch, Falzetta, & Cooke, 2005). Lack of time to participate in mentoring has been noted by several authors (Ehrich et al, 2002; Goran, 2001; Vance, 2002) as impediments to mentoring relationships. Asynchronous interaction, however, allows ample opportunity for both the faculty mentors and mentees to participate in the relationship at their convenience. The online environment is also well suited to include participants from varying geographic regions in a research study.

Outcome variable.

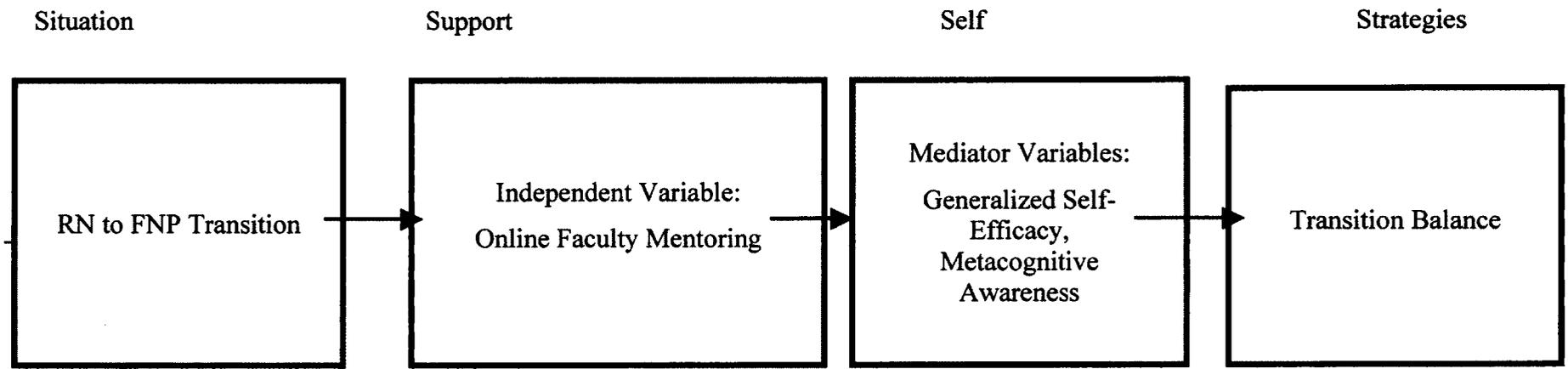
In Transition Theory, transition balance or imbalance is determined by the interplay of the 4 Ss' in Transition Theory. Regardless of the situation, balance requires support from family, friends, and/or institutions (in this study support was increased for some participants from faculty mentoring); adequate self factors including cultural factors (ethnicity was included in this study); personal demographics (gender, age, marital status, children at home, and RN experience was included in this study); psychological factors, such as identity, autonomy, spirituality, and self-efficacy (the latter was included in this

study, along with an additional self-factor, metacognitive awareness); and a variety of Strategies to manage, modify, control or accommodate the situation. An imbalance can occur if the deficits for balancing the situation exceed the assets.

The research variables for the current study are depicted in Figure 5. For the purposes of the current study select components of the 4S model were included. Although the model includes a number of components within each S, the scope of the current study did not allow for measurement of each sub-factor within the theoretical model.

Each box in Figure 5 represents one component of the 4S model that was examined in this study. The first box is the situation, which in this study is RN to FNP transition. The second box represents support; in this study the independent variable (online faculty mentoring) was an additional support for the intervention group. The third box represents the self; two self factors were included as mediators for the current study generalized self-efficacy and metacognitive awareness. The dependent variable, transition balance, is the fourth and final box; conceptually this fits within the strategies component of the 4S framework.

Figure 5. Research Variables within 4S Theoretical Model



Research Questions

Research Question 1

1. After controlling for RN, graduate program, and student demographics, and potential mediators at time 1, does generalized self-efficacy mediate the relationship between online faculty mentoring and transition balance?

Research Question 2

2. After controlling for RN, graduate program, and student demographics, and potential mediators at time 1, does metacognitive awareness mediate the relationship between online faculty mentoring and transition balance?

Theoretical and Operational Definitions of Terms

Family Nurse Practitioner (FNP) Student: a nursing student enrolled in an accredited graduate level formal educational program of advanced education and clinical training. Master's level Registered Nurse FNP students at any point (beginning, middle, end) in their education were eligible for participation in this research.

Mentee: a novice or less experienced person in a relationship with a mentor. FNP students were the mentees in this study.

Metacognition: "the ability to reflect upon, understand, and control one's learning" (Schraw, & Dennison, 1994, p. 460). In this study, metacognition was made operational by metacognitive awareness and was measured by a total score on the Metacognitive Awareness Inventory (MAI) instrument (Schraw & Dennison, 1994) (Appendix D).

Online Faculty Mentor: an experienced, proficient individual who is a successful leader in his or her professional field. The mentor interacts with the mentee as an adviser, teacher, supporter, coach, and role model (Grossman, 2007; Rauckhorst, 2005). Two experienced FNP faculty members were the mentors in this study. Mentoring actions in this study were carried out electronically and focused on two mentoring actions: 1) guiding student mentees in self-reflection by posting questions to which mentees posted responses; and 2) supporting students by posting positive encouraging responses to their written responses to the self-reflection questions.

Self-efficacy: based on Bandura's (1982) description of "the belief that one can make a difference in one's own life and have an impact on one's environment" (Goodman et al., 2006, p. 104). In this study, generalized self-efficacy was measured by a total score on the General Self-Efficacy (GES) scale (Schwarzer & Jerusalem, 1995) (Appendix C).

Transition: "Any event or non-event that results in a change in relationships, health status, routines, assumptions, or role" (Schlossberg et al., 1995, p. 27). In this study transition is the change from RN to FNP role and was made operational by transition balance.

Transition balance: Transition balance was measured using the Transition Guide Questionnaire© (Schlossberg & Kay, 2007) (Appendix E). Scores on each of the 4 S subscales (situation, self, supports, strategies) and a total score were summed. A change score was calculated by subtracting the pretest score from the posttest score for each participant.

Study Assumptions

Assumptions for this study were made in several different areas:

Theoretical framework: That Transition Theory's conceptualization of transition as a process that occurs in stages, with assets and deficits for transition balance that are unique for individuals, can be applied to examine RN to FNP transition during graduate school.

Instruments: That the instruments selected for this study accurately assessed the outcome and mediator variables.

Questionnaire responses: That FNP student participants from different universities and at different stages of the transition process responded honestly and accurately to the both sets of questionnaires.

Significance

Nursing practice

FNPs have become important players in the health care system of the 21st century (Cronenwett & Dzau, 2010; Rich, Jorden & Taylor, 2001). There is a need for many more nurse practitioners in order to increase the number of primary care providers necessary to provide health care in the United States (Cronenwett & Dzau; Harrington, 2011). The 2010 passage of the Patient Protection and Affordable Care Act is expected to increase access to primary care for 32 million more Americans (Stokowski, 2010). Neal (2008) found that FNP graduates who did not begin the role transition process during graduate education were unlikely to transition into practice, thereby not helping to address this societal need. This research could aid faculty in assisting FNP students with

role transition, thus facilitating their entry into practice and perhaps decreasing the post-graduate time required to transition into practice and assume the role of primary care providers.

Nursing education

This research may assist nurse educators in developing practices to enhance FNP student learning. In nurse practitioner education, clinical preceptors play an important role, however nurse faculty are the major source of educating students and thus play a critical role in their transition process (Steiner et al., 2008). Faculty members are employed by educational institutions to prepare FNP students to become nurse practitioners. They have consistent access to students, whether it is over one semester as a course instructor or over the entire graduate program as a program advisor. Faculty members who have an interest in mentoring could enhance the transition process for students. This would require institutional support in the form of preparation for the role and time to carry out the relationship

Mentees need to have an awareness of the transition process before they can become actively engaged in it. According to Kralik, Vistenin, and van Loon (2006), awareness precedes engagement in which the individual becomes “immersed in the transition process and undertakes activities such as seeking information or support, modifying former activities, and making sense of the circumstances” (p 323). FNP students may not have an awareness of the transition process and or know how to incorporate the changes and disruptions that RN to FNP transition entails in their personal and professional lives during graduate school. Mentoring from faculty could aid

FNP students by opening their eyes to the transition process and guiding them on how to balance the transition.

This research may increase FNP students' awareness of the transition process. Graduate nursing students in other programs that prepare students to become advanced practice nurses could potentially benefit from faculty mentoring. Formal mentoring programs as a component of graduate education may be considered. Other teaching learning strategies may also be warranted to aid FNP students in role transition and methods to enhance transition balance.

Nursing and education policy

There are policy implications of this research with regard to academic issues. Nursing faculties who teach at the graduate level have reported heavier workloads than nursing faculty who teach exclusively in pre-licensure RN programs (Kaufman, 2007). In addition, FNP faculties juggle the requirement of clinical practice with their teaching load. Adding mentoring on top of the existing responsibilities of teaching, scholarship, research, and service is not likely to lead to a successful program (Ramani, Gruppen, & Kachur, 2006). Faculty members would need sufficient time to mentor students in order to perform as effective mentors. A potential benefit could be increased satisfaction in mentored students. Schlossberg, Lynch, and Chickering (1989) noted that student retention, increased enrollment, and alumni satisfaction are some of the positive outcomes that may result from institutional and faculty support for adult learners in transition. Satisfied students could become ambassadors for an institution's graduate nursing program, leading to increased enrollment in programs and additional revenue for the institution.

Faculty may also find satisfaction in mentoring and guiding students with transition balance and into practice. A high level of faculty satisfaction could be useful for faculty recruitment and retention (Horton, 2003). This could be significant for the current nurse faculty shortage.

Nurse practitioners play a key role in providing care and have demonstrated their ability to increase access to cost-effective, comprehensive, and high-quality care (American Academy of Nurse Practitioners, 2009). Fewer aspiring physicians in the US are preparing for careers in primary care. In fact, in 2008 less than 10 percent of medical school graduates chose careers in primary care (AANP, 2009). Nationally, there is a 30% shortage of primary care providers and the shortage is growing (Pear, 2009).

The shortage of providers and recent changes in the health care delivery system indicate a need for more nurse practitioners to provide primary care (Pohl, 2010). The increased demand requires that NP students be able to function effectively in the NP role after graduation. The role of NP programs in preparing students for practice was highlighted well before the healthcare reform measures of 2009 were enacted. According to Black, Dooley, Hersh, O'Keefe, and Patrick, (1998) "In order to support the current health care trend toward an emphasis on primary care, it is essential that NP programs graduate competent autonomous and innovative health care providers" (p. 59). This quote is over ten years old, and the concern is even greater in 2011 due to the increased demand for and growing shortage of primary care providers (Cronenwett, & Dzau, 2010).

Nursing research

This study has implications for research. The findings will add to the body of knowledge about FNP transition balance and about mentoring in graduate nursing

education. This research was carried out using Transition Theory (Goodman, et al., 2006; Schlossberg, 1981; 1984; Schlossberg, et al., 1995) as the framework, a model that has not been used in nursing research, but may provide new information. This study explored Transition Theory as a framework for examining FNP role transition and evaluating transition balance.

There is very limited information in the literature about mentoring in graduate nursing education (Riley & Fearing, 2009). Mentoring relationships between clinical preceptors and FNP students have been examined (Hayes, 1998a; Neal, 2008), but formal mentoring relationships between nurse faculty and FNP students have not been reported in the literature. This study provides new information and may set the stage for additional research about mentoring in nursing and faculty mentoring in graduate education.

Summary of the Chapter

This chapter provided an introduction to the research study. In determining the problem with which this study is concerned, limited data revealed that RN to FNP role transition is difficult for new graduates, but there has been almost no research about role transition during graduate education. No research was found that investigated how FNP students balanced the challenges of transition or ways that faculty might assist students with transition balance during graduate school. This study explored the effect of additional support from faculty to a group of FNP students via online mentoring

There is also a lack of information in the literature about FNP students' belief in their ability to succeed (generalized self-efficacy) or how they regulated learning

(metacognitive skills) and how these two factors affect transition balance. In order to learn more about how these two factors may affect FNP students' transition balance they were included in this study.

In review of the literature seeking an appropriate framework to underpin this study, Transition Theory (Goodman, et al., 2006; Schlossberg, 1981; 1984; Schlossberg, et al., 1995) was determined to be an appropriate model to guide this inquiry. This theory provides a structure for understanding individuals in transition and a tool to measure transition balance.

In this chapter, two research questions were presented, the independent variable, mentoring, and the outcome variables of interest to be measured, transition balance, generalized self-efficacy, and metacognitive awareness, were discussed. The conceptual and operational definitions were presented. The instruments to be used for data collection were introduced; these will be discussed further in Chapter 3. The significance of this research to nursing practice, education, policy, and research was discussed.

CHAPTER TWO

REVIEW OF THE LITERATURE

The purpose of this study is to examine the effect of faculty mentoring on RN to FNP role transition balance during graduate education. Transition Theory (Goodman, Schlossberg, & Waters, 2006; Schlossberg, 1981; 1984; Schlossberg, Waters, & Goodman, 1995) is the theoretical framework for this study. In this chapter, Transition Theory will be described and the theoretical and research literature pertinent to transition balance, the independent variable of mentoring, and the two mediator variables, generalized self-efficacy (Schwarzer, 2009; Schwarzer & Jerusalem, 1995), and metacognitive awareness (Schraw, 1998; Schraw & Dennison, 1994) will be discussed.

This review of the literature included theses, dissertations, reviewed articles and books, and personal and electronic communications with experts in Transition Theory, generalized self-efficacy, and metacognitive awareness, in order to provide a comprehensive review. Using the key words mentoring, nurse practitioner students, graduate nursing education, family nurse practitioner role transition, transition theory, self-efficacy, and metacognition, the following electronic databases were searched: the Cumulative Index to Nursing and Applied Health Literature (CINAHL), Educational Resources Information Center (ERIC), the medical index (Medline), ProQuest database of theses and dissertations, the Psychological Literature (Psych Lit), and World Catalog (WordCat) from 1988 through 2010.

Literature Related to the Theoretical Framework

Transition Theoretical Literature

Theorists have described transitions in adulthood as turning points or interludes between two periods of stability (Bridges, 1988; Goodman et al., 2006; Levinson, 1986).

Adults experience various types of transitions over the course of their lives including developmental, situational, and health-related transitions (Meleis, 2007). This literature review focused on the situational transition of adults and Schlossberg's (Goodman et al., 2006; Schlossberg, 1981; 1984; Schlossberg et al., 1995) Transition Theory with the intention of better understanding how Family Nurse Practitioner (FNP) students can balance transition and how nursing faculty in the academic environment may affect that balance.

Change is a part of life and the capacity to balance the transitions that are brought about by change is dependent on multiple factors including personality, available resources, supports, and the nature of the transition itself (Thompson, 2005). Regardless of the type of the transition, it is a process that takes place in stages, occurs over time, and involves movement or flow from one state to another (Chick & Meleis, 1986; Sargent & Schlossberg, 1988).

Theoretically the process of transition requires an individual to let go of former roles, disconnect from previous social links and support, experience a loss of familiar reference points (objects or persons), integrate new knowledge, alter behavior, learn new roles, deal with new needs and/or the inability to meet old needs in familiar ways, make adjustments between former sets of expectations and those that exist in the new situation, and ultimately change their definition of self (Bridges, 2004; Meleis, Sawyer, Im, Messias, & Schumacher, 2000; Schlossberg et al., 1995). The transition process can be frightening or traumatic (Goodman et al., 2006) and the ensuing changes in patterns of behavior can include disorientation, distress, and anxiety, as well as elation and happiness (Chick & Meleis, 1986). Transition Theory (Goodman et al., 2006; Schlossberg, 1981;

1984; Schlossberg et al., 1995) provides a framework to study the transition process of adults.

Transition theory.

Schlossberg's Transition Theory (Schlossberg, 1981; 1984; Schlossberg et al., 1995) describes transition "as an integral aspect of human development and as a challenge to personal transformation and growth" (Goodman et al., 2006, p. 49). This model includes both anticipated transitions, those events that are likely to occur and can be planned for, such as starting a new job or beginning graduate school, and unanticipated, unscheduled events that are not predictable, such as job loss or death of a spouse (Goodman et al.). This model also includes non-events, those anticipated life events that do not take place, such as not getting married or not getting accepted into graduate school, or events that fail to take place as anticipated, such as becoming a parent, or earning a degree by a certain age (Schlossberg et al., 1995). Transition Theory views transition as having no end point; adults are continuously experiencing transitions and in the process they leave behind one set of roles, relationships, routines, and assumptions and establish new ones (Goodman et al.).

Development of model.

Schlossberg's (Goodman et al., 2006; Schlossberg et al., 1995) model integrates the work of several theorists. These include Frederick Hudson (1991, 1999) who conceptualized transitions as a normal and inevitable part of living; Arnold Van Gennep (1960), an anthropologist who identified rites of passage as a process common to all societies; Helen Rose Ebaugh (1988), a sociologist who concentrated on endings, or the process of leaving a role; Bloch and Richmond (1998) who focused on energy and hope

used in situations of change or transition; and most notably William Bridges (1980; 1988; 2004) whose three phase transition process will be described further.

William Bridges' (1988; 2004) three phase transition process of endings, neutral zones, and beginnings is a cornerstone of Schlossberg's Transition Theory (Goodman et al., 2006). In Bridges' model every transition begins with an ending. There is a need to disengage and let go in order to leave behind roles and relationships to start the transition. Disengagement includes a need to dis-identify with one's previous role. The individual in transition must recognize the significance of de-identifying with the previous role in order to make the transition toward a new identity. Bridges' second phase, the neutral zone, is a time of confusion and stress for the individual in transition. This is a period of in-betweens; old roles, routines, and relationships are in the past, but the new roles, routines, and relationships are not yet established. According to Goodman et al., (2006) the neutral zone is a period of uncertainty and "is like being in a rudderless boat" (p. 44). The in-between period is distressing and challenging for all individuals in transition.

In Bridges' (1980) model the third phase is beginnings, which occurs when the endings and time of neutrality are finished. Every beginning starts with an ending and includes the challenges of breaking up habits, patterns, routines, and roles. According to Bridges career changes are the most common type of beginnings. Bridges' model conceptualizes transition and "shows how everyone goes through endings, neutral zones, and beginnings" (Goodman et al, p. 44) making it applicable to adults in transition in all fields and professions. Bridges' theory to practice model forms the theoretical base of Transition Theory.

Components of the model.

The development of Schlossberg's (1981; 1984) Transition Theory incorporated knowledge of adult development and the work of some of the theorists presented above. The model was designed to provide a structural approach that incorporated the notion of individual variability for counselors to aid adults in transition. The model was designed to portray "the extraordinarily complex reality that accompanies and defines the human capacity to cope with change" (Goodman et al., 2006, p. 55). Transition Theory provides a systematic framework for exploring and understanding adults in transition (Schlossberg et al., 1995). Like Bridges' (1980) model, Transition Theory is a three-stage model for adults in transition (Goodman et al., 2006; Schlossberg et al.). These stages are: 1) approaching transition; 2) taking stock of coping resources; and 3) taking charge of strengthening resources.

In the first stage, *approaching transition*, an individual identifies the type of transition and defines it as a situational, relational, or personal transition. A situational transition may be related to a job change such as new job or a job loss; a relational transition may be related to family relationships, such as the birth of a new baby, a child entering kindergarten or going off to college, a marriage, or a divorce; a personal transition may be entering graduate school, completing graduate school, or taking on a new job. Identifying the type of transition and whether the transition is a planned, unplanned, or a non-event for that individual at the time of transition is important in order to determine the degree to which the transition affects or will affect the individual's life.

The context of transition for each individual will differ depending on his or her unique roles, relationships, routines, and assumptions. There is an overlap between an

individual's personal life and work life; each affects and impacts the individual and the transition. The degree of impact for the same transition can vary widely between individuals due to factors in other aspects of her/his life. For example, two individuals facing a job loss share the same transition situation, but the impact may be different depending on her/his personal life and supports for coping. Balancing transition requires an assessment of the individual as a whole with regard to the situation, self, support, and strategies for coping. A job loss for a 55-year old man with a chronically ill wife will alter life in a different way than a job loss for a 23-year old single woman living with her parents.

The significance and impact of the transition will vary over time, depending on where the adult is in the transition. Transition Theory uses the terms *moving in*, *moving through*, or *moving out* of the transition to identify the 3 stages of the transition process. These terms are discussed further in the following section.

As the individual begins to assess transition, he or she makes a determination about which stage he or she is in (Goodman et. al., 2006). If at the *moving in* stage, then balance requires becoming familiar with new rules, regulations, expectations, and norms of behavior to make the transition. Examples cited by the authors include transition in a new marriage, job, or educational environment. As adults in the new situation begin to learn the ropes they are *moving through* transition and deal with issues such as how to better balance the new situation with other parts of their lives and to feel supported and challenged during their new journey (Goodman et al). *Moving out* is an ending of one series of transitions and an exploration of what comes next; this stage may be accompanied by grief. Schlossberg et al. (1995) cited changing jobs and returning to

school as examples of “transitions in which adults mourn the loss of former goals, friends and structure” (p. 45).

So, for example, in graduate school transition, the impact will in part depend on the unique roles, relationships, and routines of each student, his or her assumptions about graduate school, and whether he or she has just begun classes (*moving in*), finished several semesters (*moving through*), or is nearing completion of the program (*moving out*).

In the second stage of the Transition Theory model, an individual is *Taking Stock* of the transition by assessing four major sets of factors, called the 4 Ss, which are referred to situation, self, supports, and strategies, and can influence an individual’s ability to cope during transition. By assessing each of the 4 Ss an individual takes an account of his or her assets and deficits for coping with the current transition. According to Transition Theory, “No matter where one is in the transition process, no matter what the transition is, one deals with it differently depending on these 4 S’s” (Schlossberg et al., 1995, p. 27). The 4 Ss are designed to assess assets and deficits for coping with situational transitions, relationship transitions, and personal transitions. Each subscale is summed separately, but all four (situation, self, support, strategies) are inter-related and should be viewed together for determining overall transition balance (Goodman et al. 2006).

Following *Taking Stock* is the third stage in the Transition Theory model, *Taking Charge*. In this stage, the individual seeks to reduce deficits with “interventions [that] are put together based on where the low parts are in the 4Ss” (N. K. Schlossberg, personal

communication, June 16, 2010). Reducing deficits identified in the *Taking Stock* stage and enhancing assets can lessen the stress of transition and strengthen transition balance.

Each individual's transition, even if it is the same kind of transition, will differ, and individuals will move through transitions differently. Transition Theory and the three stages of the model provide a solid structure for understanding the transition process in adults. This model has been used in a wide variety of adult transition situations for over 25 years and has been a useful framework for developing a better conceptualization of individuals who are in transition (Goodman et al., 2006).

Transition research studies.

The review of the research literature on transition focused on studies of nurse practitioner role transition and studies that were carried out with Transition Theory as the theoretical framework. There was a limited amount of information found on these topics. All of the studies reviewed employed qualitative research methods. After an extensive review of the literature no quantitative research studies were found.

Schlossberg began qualitative research in support of her theory development in the 1980s. These early studies examined the transition of men who lost their jobs at NASA ($N=53$) (Schlossberg & Leibowitz, 1980), individuals in transition related to geographic mobility (Schlossberg, 1981)¹ and of clerical workers ($N=50$) going through personal and work-related transitions (Charner & Schlossberg, 1986).

Inspection of the findings of these early studies showed that individuals experiencing the same situation had variations in balancing transition. Participants in these studies used different strategies for coping depending on the type of transition, i.e. work/career related or family related. For those going through work transitions,

¹ The number of participants were not reported

including job loss, both internal and external types of support were sought. External support, particularly from institutions, was found to be essential for managing and balancing work related transitions (Schlossberg & Leibowitz, 1980). In contrast, individuals experiencing transition in their personal lives were less likely to use support from family, friends, institutions or any form of external support (Charner & Schlossberg, 1986).

Of note is that all of the participants in the NASA ($N=53$) (Schlossberg & Leibowitz, 1980) study of job loss were men whereas the majority of participants ($N=50$) in the clerical worker transition study were women ($n=38$). Gender may have been a factor in the use of coping strategies; however, this was not addressed in either study. Age was not reported in the NASA study; the age range of clerical workers was from the 27 to mid 65. Whether age was a factor in the use of coping strategies was not evaluated, or at least not reported. However, in Transition Theory, the ability to navigate the transition and maintain balance is not based solely on age or gender. Rather it is the impact of how much the transition alters roles, routines, assumptions and how capable one feels coping with the transition (Schlossberg, 2008). So while reporting this information would add credibility to these studies, theoretically the model accommodates for age and gender differences in balancing transition.

Schlossberg, Lynch and Chickering (1989)² explored the use of Transition Theory and its application to support higher education experiences of adult learners. This study confirmed earlier findings regarding the uniqueness of transitions and that individuals have differing assets and deficits for coping during transition that affect transition balance. Schlossberg et al. (1989) highlighted the diversity of adult learners and the

² The number of participants and sample demographics was not reported

varying need of support for coping with the transition of returning to school. Participants in this 1989 study used both internal and external supports to balance their transition. Institutional support, this time from the university where the students were enrolled, was again found to play an important role. Schlossberg et al. recommended that academic institutions develop ways to better accommodate the transition needs of adult learners, such as encouraging personal, professional, and academic skills and developing a sense of community for learners. Schlossberg et al. listed enhanced student satisfaction, retention, involvement, and alumni support as payoffs for institutions that assist adult students with transition balance.

Schlossberg and her colleagues' early qualitative studies (Charner & Schlossberg, 1986; Schlossberg, 1981; Schlossberg & Leibowitz, 1980) established important information about how adults deal with life's transitions. Their research showed that transition is not merely a good or bad phase of life, rather that individuals respond and cope with transition in varying ways. Adult transitions have both positive and negative components and balance varies depending upon the individual's ratio of assets and deficits for coping. These authors also uncovered the important role of institutional support for adults in transition. However validity information for the instruments used was lacking and two studies (Schlossberg, 1981; Schlossberg et al., 1989) did not report the sample size or demographics.

Two additional qualitative studies that used Schlossberg's Transition Theory were found in the literature, one in nursing (Schriner 2004) and one in graduate education (Wisenberg, 2001). Schriner examined the transition of experienced expert clinician nurses ($N=10$) moving from a clinical role to a faculty role as part of her doctoral

dissertation research. She found that all participants shared similarities in their approaching transition phase; each nurse had planned for and anticipated the transition from a clinical practice role to a faculty role. Moreover, each of these new nurse faculty members struggled with making the transition. Demographics of age, gender, ethnicity, marital status, and number of children were not reported in this study.

In Schriener's (2004) study, participants reported dissonance between what they expected in their new faculty role and what they experienced, which created a very stressful transition. They found that the new institution's academic culture and reward system was vastly different from clinical practice. This group of new nurse faculty perceived a low level of support from the academic institution. The academic institution was a deficit for transition balance in this study, an opposite finding from Schlossberg and her colleagues' studies (Charner & Schlossberg, 1986; Schlossberg, 1981; Schlossberg & Leibowitz, 1980) where the institution acted as a source of support and aided transition balance.

Participants in Schriener's study (2004) differed in their deficits and their assets for coping, which affected the impact of their transition. Several new faculty members in Schriener's study were not successful in making the transition and ultimately returned to clinical practice. This is a finding consistent with Transition Theory, in that the assets and deficits for coping are unique for each individual, even when the trigger for the transition is the same. In this case each individual also shared a common deficit in the institutional culture of the academy. Schriener's was the single study in nursing using Transition Theory that was found during this literature review.

Wisenberg (2001) used Transition Theory as the theoretical framework to explore the transition process of education students ($N=15$) at the beginning, middle, and end of their online graduate program, a time span of 3 to 5 years. The participants included 12 women and 3 men ranging in age from their mid 20s to mid 40s. Additional demographic information included that 11 (73%) of the participants were married/cohabiting and 4 (26%) were single; no information was provided about children living at home. All were employed either full-time (9, or 60%) or part-time (6, or 40%) throughout the duration of the study. Each completed the Transition Coping Questionnaire (TCQ)³ (Personnel Decisions, 1993; Schlossberg et al., 1995) to assess their assets and liabilities for coping with graduate school at three separate times. An initial measure was done at the beginning of the 1st year, a second measure at the start of the 2nd year, and a final measure at completion of the program. The 3rd measure was done anywhere from 1 to 3 years later, depending on when the student completed the program.

Wisenberg (2001) found that as graduate education students moved into, through, and out of their master's program, they used different strategies for coping and balance. At the beginning of graduate school participants used coping strategies to balance stress, rather than strategies aimed at changing the meaning of the situation. Coping strategies to manage stress and balance the entering into phase of transition were feeling-focused such as "counting their blessings or comparing their situation to those less fortunate" (p. 41). At this stage of transition, most felt that their personal resources (such as emotional energy) were low, and that their support system was weaker than they desired.

As the graduate student participants moved through their transition during the 2nd year, their resources (personal and external) became stronger. Wisenberg (2001) found

³ TCQ is an earlier version of the TGQ used for this study

that there was an increase in participants' sense of control over the situation; however their coping strategies were still primarily focused on managing stress. During this middle phase of their graduate program, participants reported a significantly decreased level of emotional energy, coupled with a decrease in emotional support from family members. In order to cope, participants sought out non-family sources of support, notably from their classmates and university faculty and staff. Here as in Schlossberg and her colleagues' studies (Charner & Schlossberg, 1986; Schlossberg, 1981; Schlossberg & Leibowitz, 1980) institutional support was a key asset for coping and transition balance.

As Wisenberg's (2001) participants completed their graduate education and moved out of their programs, the amount of stress and disruption of other life relationships and roles lessened. At this point coping strategies were no longer focused on managing stress; rather, there was a shift to problem solving and taking steps to reduce or eliminate stress altogether. In this study participants underwent significant shifts in their assets and deficits for coping with transition (22.5% of TCQ items).

Wisenberg (2001) found that institutional support from the university was a key asset for transition balance at all stages of transition. The graduate students in her study were better able to cope and maintain balance when "the university administration acknowledged the competing demands on their time and the extent to which it acted as a resource, rather than a barrier, to their end goal of successful program completion" (Wisenberg, 2001, p. 54). Here institutional support was an asset for transition balance, in contrast to Schriener (2004) who found institutional support lacking which created a deficit for balance. Based on her findings Wisenberg (2001) recommended that educators

and administrators seek more ways to support students in distance-delivery education formats and to acknowledge the multiple-life role demands on students.

Inspection of the findings of Schriener (2004) and Wisenberg's (2001) studies demonstrate the applicability of Transition Theory for the examination of transition in nursing and in graduate students. However, both of these studies were implemented using very small sample sizes and in each study participants came from only one institution, making their findings less generalizable.

Transition from RN to FNP.

There are some studies that explored the transition of new NPs entering into practice. However studies that examined the stage of transition that takes place during graduate education are very limited in number (Spoelstra & Robbins, 2010). All studies investigating RN to FNP role transition are qualitative in nature. Those studies that examined role transition for nurse practitioners during their first years of practice and nurse practitioner students (Brown & Olshansky, 1997; Heitz, Steiner, & Burman, 2004; Holt, 2008; Hupcey, 1990; Kelly & Matthews, 2001) are included in this discussion.

Hupcey (1990) utilized concepts of role theory and socialization as described by Biddle (1964, 1979) and Biddle and Thomas (1966) for the framework to explore role socialization of adult nurse practitioner students during their final semester of graduate school. The instrument for this study was a researcher designed questionnaire. The questionnaires were mailed to students from 13 schools. The total sample yielded 94 participants ranging in age from 25 to 60; 93% of the participations were women. Other demographics, including race, marital status, number of children, and mean years of RN

experience, were not reported. Hupcey concluded that NP students were not being adequately socialized into the NP role during graduate school.

Hupcey's study took place in 1987; these findings may not be very relevant in 2011. Although instrument validity was established prior to the study by a panel of 10 master's prepared nurse practitioners, reliability and additional psychometric properties were not reported. The effect that each of the 13 universities' curricula may have had were not examined. This was a limitation acknowledged by Hupcey (1990). However, in spite of these shortcomings, Hupcey's research provided new information about inadequate role socialization for NP students during graduate nurse education. This finding was cited by other authors in their studies, including Brown and Olshansky, (1997), Hayes, (1998a) and Rich et al., (2001) which are included in this literature review

Brown and Olshansky's (1997) study was undertaken to describe the experiences of new nurse practitioner graduates ($N=33$) during their first year of primary care practice. Participants were recruited from 6 primary care specialties: family, adult, geriatrics, women's health, obstetrics-gynecology, and pediatrics. Women made up 94% of this sample; 94% were white, 6% were Asian; the age range was from 29 to 48 years; the majority had 10 years of RN experience. Other demographics, including marital status and number of children, were not reported. The Dreyfus model of skill acquisition as expanded by Benner, Tanner, and Chesla (1996) was the theoretical framework for Brown and Olshansky's (1997) longitudinal qualitative study. Transition was described with Bridges' (1980) definition of transition as a "key time in the natural process of self-renewal" (p.46). Grounded theory methodology was used to code responses.

Participants in the study were interviewed at 1 month, 6 months, and 12 months after graduation over a period of 2 years and asked the question “What’s it like for you in regard to your work as an NP?” (Brown & Olshansky, 1997, p. 47). Data analysis revealed that transition into the new role was a process that unfolded in steps over the 1st years of practice. Brown and Olshansky termed this as a theoretical model of “From Limbo to Legitimacy.” Their model had 4 major categories: “Laying the Foundation,” “Launching,” “Meeting the Challenge,” and “Broadening the Perspective” (p. 48).

Brown and Olshansky’s (1997) research supports the concept of RN to NP transition as a process that takes place in stages and occurs over time. This is consistent with Schlossberg’s (1984) Transition Theory. New NP participants identified a need to let go of the RN role and shed the student NP self as they simultaneously began to take on their new NP identity. The recently graduated NPs in this study described a period of identity confusion as they learned their new role and made adjustments between former sets of expectations and those in their new situation. Brown and Olshansky noted that their findings were in agreement with Schlossberg (1984) with regard to transitional experiences as a period of “considerable anxiety and a generalized sense of disequilibrium” (p. 50).

Although the transition experience of new NPs was the focus of Brown and Olshansky’s (1997) research, participants also shared graduate school reflections. These new NPs expressed a need for “mental, emotional, and physical healing” from the heavy toll of graduate school. This need to recuperate from school was universal; a sense of putting life on hold while in school was expressed. In addition, NP students who juggled the role of parent along with student and registered nurse expressed feelings of guilt over

neglecting their families. The need for recuperation post-graduate school likely indicates an imbalance during the time of graduate school education. Assets and deficits for coping and maintaining balance were not included in this study. Perhaps with additional support the stress of completing graduate school could be lessened.

This 1997 study laid the groundwork for research about NP role transition. RN to NP transition as a multi-stage process was first described here. Later researchers (Steiner et al., 2008) determined that RN to FNP transition is more complex than the novice to expert framework. Following Brown and Olshansky's research (1997) 3 more recent studies offer a retrospective perspective on the graduate school transition experience from NPs new to practice.

Kelly and Matthews (2001) explored the transition to first position as a nurse practitioner using focus groups ($N=21$) of recent⁴ NP graduates. Kelly and Matthews defined transition using Chick and Meleis's (1986) concept that it is "a dynamic movement between two relatively stable states with phases of entry, passage, and exit, requiring life pattern changes" (p. 157). Participants in Kelly and Matthews (2001) study ranged in age from 33 to 52 years and had a mean of 18.9 years of RN experience. Twenty (95%) were married and 1 (5%) was single. Other demographics, including race, gender, and information about children, were not included in the published study. These practicing NPs were asked to share their perceptions of preparation for transition into the NP role, the losses and gains in the transition, and barriers to and facilitators for the transition process. Transition themes that emerged in this study included loss of control of time, a sense of isolation, relationship changes and losses of relationships, role ambiguity, and the need for a network of support.

⁴ $n=11$ within 1 yr. ; $n= 10$ ranging from 3-7 yrs

Just as in Brown and Olshansky's (1997) study, participants in Kelly and Matthews' (2001) study described their transition into the NP role as stressful with losses and changes in relationships. The new NPs in Kelly and Matthews' study also described a period of aloneness and isolation as they dealt with uncertainty in developing their new NP role. Brown and Olshansky's participants described themselves during this time as "pretenders in their new role" (p. 49) which they said was the most painful period of their first year of practice. Both of these studies support the period of an in-between time in the transition process. Bridges (1988; 2004) termed this the neutral zone; a time of confusion and stress for the individual in transition.

Kelly and Matthews (2001) conducted a small study that was limited to graduates from 1 university practicing in central Illinois, a limitation that the authors acknowledged. Their study lends support to the importance of support from multiple sources as assets for coping and balancing transition. They concluded that mentoring support is essential for making the transition into NP practice. Kelly and Matthews brought to light the need for nurse faculty members to facilitate the transition process experience during NP education. They recommended further studies to investigate how faculty can aid in influencing RN to NP role transition during graduate school.

Heitz, Steiner, and Burman (2004) also looked retrospectively at FNP transition during graduate school. They focused on role development from the perspective of recent FNP graduates. Heitz et al. carried out a descriptive study using grounded theory methodology to examine role transition in a convenience sample ($N=9$) of practicing FNPs who had graduated within the past 5 years from a Master's degree program located in the western United States. The participants were white, female, and ranged in age

from 25 to 58 and had a mean of 11.8 years of RN experience. Seven (78%) worked as RNs while attending graduate school. Other demographic information was not included.

Heitz et al.'s (2004) study generated a conceptual model for role transition from RN to FNP. They used the term phases, rather than stages, the term used by Schlossberg et al. (1995) to describe the process of transition. Heitz et al. determined that RN to FNP transition takes place in 2 phases, a new finding. The 1st phase occurs during graduate school; the second phase begins when the FNP graduate enters the work force. The 2nd phase can last anywhere from 6 months to 2 years after beginning practice.

Heitz et al.'s (2004) study participants ($N=9$), all women, reflected back on their FNP student days, a time from 1 to 5 years in the past. Their student days were a time of self-doubt, fear, and insecurity, to the extent that these self-perceptions became an obstacle for role transition. Participants provided new information about both deficits and assets for coping, which were broken down into internal and external forces. External deficits were noted in two areas: in the clinical site due to negative preceptor style, staff resistance, or lack of mentoring; and in their personal lives juggling additional roles of wife, mother, and employee. Internal deficits included negative self-perception and role confusion. Role confusion occurred due to problems separating the RN role from the FNP role; findings which are similar to both Brown and Olshansky (1998) and Kelly and Matthews (2001). A new finding in this study was that experienced RNs expressed a greater challenge in separating from the RN role than the one study participant who went straight from undergraduate education into the FNP graduate program.

Heitz et al.'s (2004) study included new information about positive assets for role transition, also broken down into internal and external sources. External assets included faculty nurturance, preceptor guidance, and a personal support system. Positive internal assets were life experiences, optimistic self-talk, acceptance of responsibility, and independence. Heitz et al. also concluded that although role socialization during graduate school seemed to be adequate, which is a different finding than Hupcey (1990) described, role transition does not always occur. This finding in particular has implications for nursing practice. In order to provide healthcare as an FNP a transition in role is required. An RN who fails to begin role transition during graduate school may not make the transition at all and ultimately not practice as an FNP (Neal, 2008).

A limitation to Heitz et al.'s (2004) study is that the data were collected from a very small sample size ($N=9$) of graduates from 1 university. However, this study added to the body of knowledge about RN to FNP transition. New findings from this study include that transition is a 2-phase process which begins in graduate school, requires separation from the RN role, and continues through the first 6 months to 2 years of practice. Personal commitments may be external deficits for coping with transition and affect the ability of an individual to balance the transition process.

Steiner, McLaughlin, Hyde, Brown, and Burman (2008) built on and expanded the work of Heitz et al. (2004). Their study used the two-stage conceptual model of transition developed by Heitz et al., (2004) and transformational learning theory (Mezirow, 1981; Steiner & Burman, 2000) as the framework for this qualitative study. Their study to examine RN to FNP transition during graduate education was carried out by surveying practicing FNPs in Idaho and Wyoming. As in Heitz et al.'s study,

participants were asked to reflect back on their transition from RN to FNP, including their graduate education experience, and respond to a questionnaire about assets and deficits during their transition. All 412 FNPs in both states were asked to participate; 208 agreed to do so and 117 ultimately returned a completed questionnaire. The sample was comprised of 87.5% women and 12.5% men ranging in age from 25-60; race was not reported. The majority of participants in this study were women between the ages of 40-60, slightly older than participants in the prior studies (Brown & Olshansky, 1997; Kelly & Matthews, 2001; Heitz et al., 2004). More in-depth demographic information was included in Steiner et al.'s (2008) study. The majority of participants in this study were married (73%) and had children at home (54%) while in graduate school; of those with children at home 68% were school-aged and 26% ranged in age from infant to preschool. Nursing practice spanned from 0 to more than 18 years, with most practicing between 1-8 years prior to beginning their FNP education. During graduate school most FNP students were employed as RNs, 43% at full-time and 47% part-time. Graduate school class delivery method was also included: the majority of programs (57%) were onsite; 25% of programs were a combination of onsite and online course delivery; 18% were considered distance learning or online programs.

Assets for transition identified in Steiner et al.'s (2008) study included support from personal relationships (family and friends) and from health professionals (MDs, NPs, and RNs). Deficits for maintaining balance during the transition included: negative reception by physicians and graduate curricular issues such as poor preceptors and inadequate clinical time. Steiner et al. also found that those who had children at home reported this as a higher degree of stress and an obstacle for coping with transition than

those without children at home. These researchers' confirmed Heitz et al.'s (2004) finding that transition occurs over time and that separation from the RN role is part of the process.

Overall, participants in Steiner et al.'s 2008 study who had a personal support system were better able to balance their transition. The personal support system outweighed the deficits to the degree that these were no longer an obstacle for transition balance. For example, an FNP who recalled her graduate school days as stressful due to a negative preceptor or clinical site also recalled that adequate support, notably faculty nurturance and guidance, was enough to balance the stress of her transition. The authors acknowledged that at the time study participants were completing the questionnaires they had most likely already completed both phases of role transition (as identified by Heitz et al., 2004) and therefore time and experience may have faded their memory for both deficits and assets.

Although Steiner et al.'s 2008 study was limited to FNPs from two rural western states and was a retrospective look at transition during graduate school, this study brought to light several important findings. Notably that fostering assets is of greater significance than decreasing deficits for achieving transition balance. Steiner et al. had recommendations for nurse faculty to aid FNP students with the transition process. One was with regard to role separation, namely that faculty needs to be aware of the potential role separation difficulty and that this is harder for experienced RNs. Second, that the transition in role takes time; faculty can help students realize this and also that graduate school will not teach them how to handle every possible clinical situation; rather, graduate school will teach knowing how to learn which is infinitely more important.

Holt (2008) examined role transition of advanced practice nurses ($N=11$) transitioning into new roles in primary care and community health settings in the United Kingdom. Holt used grounded theory to analyze observational and interview data from a purposive sample. Participants in his study were all women, aged 25-40+ years. The range of RN experience was from 0 to 20 years with an average of 10 years. Participants were NPs, but were RNs making the transition into advanced practice.

Holt found that role change is “a constant dynamic of being a healthcare professional” (p. 117) and that role transition is a process. Nurses in his study went through stages during their role transition. Again, nurses reported a letting go and sense of loss in leaving their RN role as they moved towards a change in identity as an advanced practice nurse. This is consistent with the findings of other researchers, including Heitz et al., (2004) and Steiner et al., (2008) that making the transition from RN to NP is a challenging process that takes places in stages, requires letting go and loss, and ultimately leads to a new identity.

Holt (2008) also found that nurses who felt inadequately supported during their transition experienced more stress than those who felt adequately supported. Holt concluded that nursing practice could be enhanced by “recognizing the identity of the person going through role transition” (Holt, 2008, p. 124) and supporting and advising the individual in managing and shaping their new role. The role of personal support for the individual in transition again was seen to contribute to balancing the challenges of the transition process.

Limited studies of NP role transition have been carried out over the past 20 years with qualitative methods including questionnaires (Hupcey, 1990; Steiner et al, 2008),

interviews (Brown & Olshansky, 1997; Heitz et al., 2004; Holt, 2008) and a focus group (Kelly & Matthews, 2001). With the exception of Hupcey (1990) and Steiner et al. (2008) all were done with a small convenience sample of recently graduated NPs new to practice. Despite the limitations of these studies, they have provided important information about the transition into practice for NPs, in particular that this is a stressful, multi-phase process. Transition into the NP role involves personal commitment, sacrifice, losses, relationship changes, letting go, and separation from the RN role. Inadequate support during transition can lead to an increased level of stress for new advanced practice nurses. Mentors were noted to be “critical to success” in making the transition to advanced practice nursing (Brown & Olshansky, 1998, p. 62). Kelly and Matthews (2001) recommended that future studies be carried out to examine role transition during NP education.

Summary of Transition Theoretical Literature and Research Review

A review of the literature on transition, with an emphasis on Schlossberg’s (Goodman et al., 2006; Schlossberg 1981; 1984; Schlossberg et al., 1995) Transition Theory, was presented to describe transition and its relationship to nurses during graduate school moving from the RN to FNP role. In all of the literature reviewed, transition was described as a process that takes place in stages or phases. Schlossberg’s model focuses on transition as a series of complex processes that occur over time and in stages. Heitz et al. (2004) and Steiner et al. (2008) studied NPs new to practice and also found that the transition from RN to FNP is a complex process that occurs over time and in stages.

In the literature reviewed, the RN to FNP transition process was described as challenging and stressful. The transition required letting go of the RN role with a loss of

relationships and familiar ways of doing things in order to become an FNP. This matches the concept of transition in Transition Theory. According to Goodman et al. (2006), “a transition requires letting go of aspects of the self, letting go of former roles, and learning new roles” (p. 23). New FNPs described a period of in between-ness, or a neutral zone in the letting go process, which was accompanied by a sense of aloneness and isolation. In Transition Theory this is the moving through period, a time “almost like being suspended between the old life and the new life” (Goodman et al., p. 44). This can be a time of great personal growth or confusion and paralysis. Individuals in transition may be challenged with how to balance the process with other parts of their lives and ways to feel supported during this time.

Coping with transition and maintaining balance during transition are processes that are unique to each individual depending on that individual’s mix of assets and liabilities. The research on RN to FNP transition is in the early stages; studies reviewed for this paper did uncover some preliminary information about assets and deficits. Assets included both external, or support, contributors, including a network of support, faculty nurturance and guidance, role modeling, and mentoring; and internal, or self-based assets, which are life experiences and role separation (both part of Transition Theory), and optimistic self-talk. Situational and Support deficits included negativity in the clinical setting, lack of mentoring, and the need to juggle additional roles and responsibilities. Self-factor deficits of note were challenges with separating from the RN role and negative self-perception. Use of the 4S system for assessing assets and liabilities was presented as a method for further exploring individuals’ assets and deficits for coping with RN to FNP transition.

Research studies that were carried out with Schlossberg's (Goodman et al., 2006; Schlossberg 1981; 1984; Schlossberg et al., 1995) Transition Theory and of RN to FNP role transition were discussed. All of the research studies found in the literature pertinent to transition and reviewed here were carried out using qualitative methods. Inspection of findings from research studies showed that although adults may share a common trigger for transition, each individual experiences it uniquely with different assets and deficits. Individuals in transition require multiple coping strategies to effectively move through transition, and institutional support can play an important role in these strategies. Although there were some limitations to the research studies reviewed, as discussed above, the research studies did demonstrate that the transition model is effective in aiding individuals in the development of a ratio of assets and liabilities for successful transition management.

Several studies that explored the RN to FNP transition process were presented. One used Chick and Meleis's (1986) concept of transition as the conceptual framework (Kelly & Matthews, 2000); the others used a conceptual framework of transition developed by the researchers (Heitz et al., 2004; Steiner et al., 2008). These studies demonstrated that transition is a process that occurs in stages and over time. There were other commonalities in the literature reviewed with regard to the process of transition: It was described as a time of upheaval and challenge; individuals in transition use differing assets and deficits for maintaining balance; there is a need to let go of established patterns and roles in order to complete the transition.

Two studies were presented that used Transition Theory with a population similar to the one of interest for this study (Schriner, 2004; Wisenberg, 2001). Schriner

concluded that Schlossberg's (Schlossberg et al., 1995) model of adult transition was a well-suited theoretical framework for examining the transition from expert RN clinician to novice faculty. Wisenberg's study was carried out over 3 years and explored the stages of Transition Theory (moving in, moving through, and moving out) in depth. She recommended the use of Schlossberg's (Schlossberg et al., 1995) transition framework to further examine the transition of graduate school and for faculty to use the increased knowledge to aid adult learners in balancing transition. Based on the review of the literature and the concepts presented in Schlossberg's model of transition as a multi-staged process that requires individuals to utilize multiple coping strategies to maintain balance based on their unique mix of assets and deficits, the research questions and mentoring intervention for this study were developed.

Literature Related to the Independent Variable: Mentoring

Theoretical Literature

Sources from the disciplines of nursing, medicine, education, and psychology were examined for the review of the literature on mentoring. This section will present theoretical definitions of mentoring, examples of mentoring acts, and models of mentoring.

Definitions of mentoring in the nursing, education, medicine, and psychology literature share some commonalities, namely that mentoring is a personal relationship between individuals or within a small group that is established for the purpose of professional development, role socialization, and career advancement (Ali, 2008; Eby, Allen, Evans, Ng, & DuBois, 2008; Ehrich, Tennant & Hansford, 2002). Mentoring in

nursing has been defined as a non-evaluated experience that empowers the mentor and mentee to develop both personally and professionally within the auspices of a caring, collaborative and respectful environment (Goran, 2001; Rosser, Rice, Campbell & Jack, 2004). The mentoring relationship is interactive, confidential, dynamic, and social.

Mentoring relationships are between the mentor, a more skilled, experienced expert, and the protégé or mentee, an individual or group of individuals who are less skilled or are newer in their professional role (Allen, Eby, O'Brien, & Lentz, 2008; Goran, 2001; Lee, Anzai & Langlotz, 2006). Mentors function as sponsors, guides, and role models, and by virtue of their professional experience support, guide, encourage, challenge, and assist mentees with their transition into a new role or profession (Goran, 2001; Rosser et al., 2004). By providing a supportive learning environment, mentors aid their protégés and enhance their development towards their true potential (Ali, 2008; Dracup & Bryan-Brown, 2004; Pololi & Knight, 2005; Ramani, Gruppen & Kachur, 2006). Mentoring can be a reciprocal relationship between mentor and protégé (Yoder, 1990). The relationship is fluid. Long-term mentoring relationships can change over a professional career life span as an individual advances in his or her career and personal growth (Maxey-Gibbs, 2005; NLN, 2006, 2008; Talley, 2008). Two key career stages during which mentoring is particularly important are the early years and transitions or "crucial turning points" (Daloz, 1999, p. 2) in professional lives. At these stages of professional growth individuals may be in greater need of support, encouragement, and guidance to aid in balancing their transition.

It may be beneficial to individuals seeking to grow professionally to work with multiple mentors across the span of a career or more than one mentor for different areas

of professional development, i.e., research, writing, teaching, or role socialization (AANP, 2006; Lee, et al., 2006). Mentoring can benefit the profession of nursing as mentored nurses in turn mentor other nurses for socialization into the profession and scholarship for increasing the body of nursing knowledge (Stewart & Krueger, 1996).

Mentoring can be a teaching-learning process; that is, mentoring can serve as a bridge between conceptual knowledge and practical learning, and can also facilitate socialization of doctoral students as scholars and scientists (Ardery, 1990; Grossman, 2007; Stewart & Krueger, 1996; Talley, 2008). According to Ousey (2009) who explored socialization of pre-licensure nursing students, mentors can aid students with learning professional socialization through faculty-student interactions. This includes guiding the student in self-assessment and reflection on their learning needs.

Mentoring models vary within and across disciplines, including nursing. There is no single universally accepted model for mentoring (Galbraith, 2003). According to Andrews and Wallis (1999), “no one model is seen as more appropriate than another” (p. 201). A 2011 literature review by Harrington revealed that there were no formal models of mentoring for nurse practitioners. The mentoring relationship can be informally established or initiated voluntarily between the mentor and mentee; or formally established, initiated within an institution or academic setting by an administrator or senior manager (Vance, 2002).

Informal mentoring is a classic dyadic relationship between two individuals (Greene & Puetzer, 2002). In an informal mentoring model, a voluntary one-to-one relationship is created between two people based on a spoken or unspoken commitment to the relationship and to each other (Goran, 2001). This model is a top-down type of

relationship between an experienced individual member who guides and supports the career development of a new or early-career individual. The relationship historically develops spontaneously, i.e. it is not assigned within an organization (Greene & Puetzer; Sorcinelli & Yun, 2007).

Formal mentoring takes place in a structured program in which the mentor and protégé are assigned to one another, typically for a specified amount of time. In a formal mentoring relationship, an administrator assigns a protégé to a mentor for participation in a mentoring relationship (Vance, 2002). The relationship may be either a one-to-one dyad with an individual mentor, or a group mentoring situation.

The mentoring relationship, whether it is structurally informal or formal, unfolds as an apprenticeship, competency, or reflective prototype (Oliver & Aggleton, 2002). In the apprenticeship model the mentor offers “guided supervision” (Oliver & Aggleton, p. 88) to the mentee. In the competency model the mentor acts as a coach who monitors and evaluates practice of a defined set of behaviors or competencies. In the reflective model, the mentor guides the mentee to develop professional identity; this goes beyond mastery of a task or achieving professional competency (Harrington, 2011).

Definitions of mentoring relationships from four disciplines, nursing, medicine, education, and psychology, are further described in Table 1 (Appendix L). These definitions are consistent across disciplines and with Johnson, Rose, and Schlosser’s (2007) definition that included distinctive components of mentoring relationships:

- a) mentorships are enduring personal relationships, b) mentorships are increasingly reciprocal and mutual, c) compared to protégés, mentors demonstrate greater achievement and experience, d) mentors provide direct career assistance,

e) mentors provide social and emotional support, f) mentors serve as models, g) mentoring results in an identity transformation in the protégé, h) mentorships offer a safe environment for self exploration, i) mentorships generally produce positive career and personal outcomes (p.51).

Summary of Theoretical Literature Review

The literature reviewed included information about mentoring for newly graduated RNs transitioning into hospital practice, mentoring for new nursing faculty, mentoring as a teaching strategy, and mentoring as a factor in recruitment and retention of nurses and nurse educators (Andrews & Chilton, 2000; Brown, 1999; Faut-Callahan, 2001; Goran, 2001; Greene & Puetzer, 2002; Horton, 2003; Morin & Ashton, 2004).

Also included in the literature were ways that mentoring can enhance career and psychosocial growth (Leslie, Lingard, & Whyte, 2005; Peluchette, Van Eck & Jeanquart, 2000). Benefits of mentoring for career and professional development include assisting newcomers into the profession in education, nursing, and medicine by enhancing role socialization and facilitating career advancement (Pololi & Knight, 2005; Ramani et al., 2006; Thorpe & Kalischuk, 2003) via guiding, challenging, and providing emotional support (Ali, 2008; Gardiner et al., 2007; Goran, 2001; Ramani et al., 2008) and advancing professional growth (Talley, 2008; The National Organization of Nurse Practitioner Faculties, 2005). Mentoring was put forth as a means of paving the way for a successful transition into the Nurse Practitioner role in newly graduated FNP's (Brown & Olshansky, 1997). Personal psychosocial growth benefits of successful mentoring include "the development of confidence, self-worth, and ability to undertake situations that promotes career advancement" (Noe, Greenberger & Wang, 2002, p. 130). Mentoring

has been recognized as an integral component of adult human development and lifelong learning relevant for professionals at all stages of their career (Levinson, Darrow, Klein, Levinson & McKee, 1978).

Mentoring and mentoring actions were defined and described in the literature reviewed. Mentoring was presented as a practice that leads to positive results for both mentors and mentees in terms of personal and professional growth. However, there was very little information in the literature regarding which mentoring actions lead to which outcomes. Furthermore, there is no information about mentoring outcome studies about in order to demonstrate the value (Grossman, 2007). Multiple models were presented, there seemed to be greater use of the dyadic model. However, little information was found that discussed how to select an appropriate model. In the literature reviewed no formal mentoring programs were found. This finding was confirmed by Harrington (2011) who found no information about formal mentoring programs for NPs entering into practice in her recent review of the literature.

Research Literature

Mentoring as a concept in nursing first appeared in the nursing literature in the late 1970s. Initially there was a lack of conceptual clarity in the nursing literature and the research that followed during the 1970s and 1980s focused on defining mentoring (Vance, 1977). According to Stewart and Krueger's (1996) concept analysis, in the mentoring literature prior to 1987, "few authors defined the concept, [but] there was agreement that mentoring in nursing was a shared concept with other disciplines, such as business" (p. 316). Beginning in 1987 changes in mentoring conceptualization occurred and mentoring in nursing began to be viewed as a teaching-learning process and as a way

to socialize doctoral students as scholars and scientists (Ardery, 1990; Fitzpatrick & Abraham, 1987).

However, there continued to be a lack of clarity in the literature regarding the concept of mentoring and Yoder (1990) set out to rectify this. She carried out a concept analysis of mentoring across the disciplines of nursing, education, and business that has now become a seminal work. Yoder's concept analysis was an appropriate methodology to clarify the concepts and attributes of mentoring. According to Walker and Avant (1995) concept analysis helps distinguish "the likeness and unlikeness between concepts" (p. 64). Yoder's work helped to clear up the confusion between mentoring, role modeling, sponsorship, precepting, peer strategizing, collaborating, and coaching.

Yoder (1990) determined that mentoring consists of two dimensions: career functions and psychosocial functions. Career functions are those aspects of the mentoring relationship that enhance career development. These functions include coaching, taking on challenging assignments, protection, sponsorship, enhancing exposure, and professional visibility. According to Yoder (1990), "psychosocial functions primarily promote a sense of competence, clarity of identity, and effectiveness in role acquisition" (p. 11). Psychosocial functions include counseling, acceptance, role modeling, and friendship. For this research study mentoring included both career and psychosocial functions.

The mentor role and functions carried out in the current study were developed from the definition of mentoring by Johnson et al., (2007) and Yoder's (1990) functions. These definitions recognize that the mentor had a greater degree of achievement and experience as an FNP, that the mentor provided social and emotional support, counseling,

and a safe environment online for self exploration. The intended outcome was to enhance positive transition balance for the NP student moving into a new career.

Stewart and Krueger (1996) built on Yoder's work to further explore and define the concept of mentoring in nursing. A random sample of 82 journal articles and research abstracts were selected for review. Using Rodger's (1993) method of evolutionary concept analysis these researchers sought to define the concept of mentoring in nursing and determine the attributes of mentoring. They found that mentoring in nursing included "a teaching-learning process, a reciprocal role, a career development relationship, a knowledge or competence differential between participants, a duration of several years, and a resonating phenomenon" (p. 311). According to Stewart and Krueger these six essential attributes formed the theoretical definition of mentoring in nursing.

The method of random selection for Stewart and Krueger's (1996) concept analysis was presumably used to include a broad sample of the available literature at that time. The authors included 26% of the available literature on mentoring in nursing for their review. As with Yoder (1990), this concept analysis helped to clarify the definition of mentoring in nursing and aid in developing its theoretical definition. The work of Yoder, as previously discussed, and Stewart and Krueger helped to form the mentoring role and actions for this study, namely teaching-learning, career development, and knowledge differential between participants. However, there were also some differences. Due to time constraints for carrying out this study, the relationship spanned one academic semester, not several years, and the reciprocity of the relationship was not included in measurement in the outcome variables.

As the 21st century approached, lack of conceptual clarity still abounded and the literature focused on defining the concept of mentoring, the nature of the mentoring role, and the search for an agreement about the role and functions of mentors (Andrews & Wallis, 1999). Some researchers began to look at mentoring outcomes. Ehrich, Tennent, and Hansford (2002) carried out a literature review in the discipline of education in order to identify key outcomes of mentoring and share implications for nursing. Ehrich et al., (2002) reviewed 159 pieces of empirical literature on mentoring in educational settings. Data were analyzed for patterns or trends in the demographics (country in which the study took place, the publication category, i.e. book chapter, journal, or conference presentation) and thematic analysis to identify themes and categories related to mentoring outcomes. Nearly two-thirds of the studies included in their literature review focused on mentoring of student or beginning teachers; other types of mentoring included school principals and administrators, higher education staff, mentoring of school students and mentoring among peers.

In the studies reviewed by Ehrich et al. (2002), both mentors and mentees reported positive and negative outcomes of the mentoring relationship. Positive outcomes for mentors were reported in 76 (47.8%) of the studies, including collegiality, collaboration, networking and sharing of ideas; reflection, particularly on teaching; facilitation of professional development; personal satisfaction; interpersonal skill development, such as enhanced communication and listening skills; and an enjoyment of the stimulation and challenge the mentoring relationship brought. In 131 (82.4%) of the studies reviewed by Ehrich et al. (2002), mentees reported positive outcomes, considerably more than the mentors. The mentees cited different positive outcomes than

the mentors, most notably support, empathy and encouragement; help with teaching strategies; discussion and sharing of ideas and problems; feedback and positive reinforcement from the mentor; an increase in self-confidence; and assistance with career advancement and self-affirmation.

Problems with mentoring were also seen in 96 (60.4%) of the articles reviewed by Ehrich et al. (2002). Mentor problems were reported in 77 (48.4%) of the studies; 14 categories emerged from the responses. These included lack of time, personality mismatch, and lack of training or understanding the program goals; frustration with mentee's performance or attitude; feeling that mentoring created an extra burden; and a conflict for the mentor who provided advice and was also required to evaluate the mentee's job performance. Mentees reported problems in 68 (42.8%) of the studies. As with the mentors, lack of time was the most frequently cited problem, and personality mismatch was the second most frequently cited problem. Other problems arose from mentors that were critical, stifling, defensive, or out of touch; scheduling mutually convenient times to meet was also an issue for mentees. Lack of support, guidance and feedback from mentors was problematic, and lack of training or understanding the goals of the mentoring program was also problematic for the mentees.

Overall, in the 159 articles reviewed by Ehrich et al., (2002), the positive effects of mentoring outweighed the problems. Their literature review focused on formal mentoring programs and the authors pointed out that since formal mentoring programs are planned, their potential risks could be appraised and addressed. Successful mentoring relationships and mentoring programs require planning, preparation, and ongoing evaluation. Recommendations from Ehrich et al., (2002) for successful mentoring

programs include clarification of goals and roles up front, careful attention to the matching process between mentor and mentee, and training for both participants in order to facilitate understanding of their roles and increase their benefits from the relationship. In addition, these researchers stressed that assessment and evaluation of the program, including the sharing of feedback, is essential in order to maximize the potential benefits of mentoring. This study, which provided valuable information about mentoring roles, preparation for mentoring, mentoring models, and recommendations for successful mentoring relationships, piqued this researcher's interest to the point that a secondary analysis of the research articles was considered. However, when contacted, the authors declined to provide a reference list of the sources used for their review.

Barker (2006) reviewed research studies in nursing, vocational behavior, management, psychology, guidance counseling, and ethics to provide recommendations for the formulation, implementation, and termination of mentoring advanced practice nurses. The number of reviewed articles was not stated. She concluded that mentoring relationships that prepare the mentor and mentee to understand the nature of the relationship, set realistic expectations, and monitor the progress of the relationship between compatible mentors and mentees can improve professional growth, productivity and competence. These findings are similar to Ehrich et al.'s (2002) review of the literature in education and both authors' recommendations regarding the establishment of successful mentoring relationships concur. Barker's (2006) review noted that impediments to a successful mentoring relationship included poor patterns of communication, poorly defined limits, and inappropriate objectives.

In the first decade of the 21st century, several mentoring programs for new RNs and student nurses were reported in the literature (Pulsford, Boit & Owen, 2002), including several studies in the United Kingdom (Andrews & Chilton, 2000; Rosser, Rice, Campbell & Jack, 2004; Stewart & Krueger, 1996). In these studies, the mentoring relationship was assigned with positive results reported by both mentors and mentees. However, there were limitations with applicability for these studies. All were studies of pre-licensure and new RNs. However, these studies provided new information so they will be discussed further.

Andrews and Chilton (2000) carried out a pilot study in the United Kingdom ($N=33$) to evaluate staff nurses' perceptions of their aptitude for mentoring and ascertain students' perceptions of their mentors' mentoring ability. In this study student nurses were assigned to an RN mentor for a 3-month period. According to Andrews and Chilton, assigning mentees is the more common practice for establishing mentoring relationships, despite the literature identifying mutual selection as a more favorable tradition. Overall the RN mentors and student nurse mentees in this study reported the mentoring relationship as a positive experience. Three factors of Andrews and Chilton's study stand out: the relationship was assigned, not self-selected by the protégé or mentor; the time period of 3 months was far less than the mentoring relationships previously described in the literature as spanning several years (Stewart & Krueger, 1996); and this study supported the premise that being a mentor requires teaching skills. Nurses who had completed a teaching preparation course rated themselves higher for teaching and problem solving and felt more prepared for these elements of the mentor role than those who did not.

Rosser, Rice, Campbell and Jack (2004) carried out an evaluation of a mentor program established for nurses transitioning from general practice into specialty practice as clinical nurse specialists (CNSs) in the United Kingdom. The mentoring program was a formal 12-month structured contractual mentorship in which mentors ($N = 26$) self-selected to support an administrator-designated mentee ($N = 26$) to facilitate effective role transition. Mentors were prepared for their role in a 2-day workshop and mentees attended 1 of those days to obtain an overview of the program and to meet their mentors. The evaluation used a formative approach and self-reported questionnaires to obtain perceptions of the mentoring program from both mentors and mentees. Most of the mentors, 95%, ($n = 22$) reported feeling well-prepared for their role; 95% of mentors reported an increase in confidence, knowledge and skills over the 12 months of the program. The RN mentors acknowledged the importance of the formal preparation and education provided prior to beginning the program as a significant factor in their positive evaluation of the program. These findings confirm Andrews and Chilton's (2000) conclusion that mentor preparation and teaching skills are essential for mentors to succeed.

Riley and Fearing (2009) examined mentoring as a teaching learning strategy in undergraduate nursing students using an assigned mentor-mentee relationship. Their descriptive study was done with a convenience sample ($N = 36$) of master's degree nurse educator students in a Midwestern university to examine the effectiveness of using nurse educator graduate students to mentor undergraduate nursing students with academic problems over the course of 1 semester. Undergraduate students were assigned one-to-one to a graduate student mentor. The mentors assessed the undergraduate students'

learning needs and identified the following eight areas for mentoring: writing skills, correct use of APA format, resume development, study skills to better manage large reading assignments, test-taking skills, time management skills, and preparation for clinical assignments. The mentoring intervention was carried out in person, online via a web-based course site, and via email. Both the mentors and the mentees carried out an evaluation of the program at the end of the semester; 16 of the 18 mentees completed the evaluation tool, and overall 89% of the scored items were in the “strongly agree” or “agree” categories. Mentors evaluated the program positively and commented that the use of online communication enhanced communication and interaction with their mentees and faculty in their graduate education course. Riley and Fearing’s study demonstrated that “online tools such as email can facilitate communication in the mentoring relationship and lead to positive outcomes for all levels of students” (p. 233). The nurse educator student mentors in this study found that online communication facilitated implementation of mentoring interactions with their undergraduate student protégés. This study used mentoring as a teaching learning strategy in an assigned relationship and although the participants were a small convenience sample, these outcomes hold promise for further research using online tools for mentoring.

Mentoring and nurse practitioners.

There have been several studies that explored mentoring and NPs. Freeman (2004) carried out a large study ($N = 565$) of post graduate NPs to explore their expectations as protégés for a mentoring relationship. This sample included adult, family, women’s health, pediatric, and gerontological nurse practitioners. The participants identified qualifications as essential for a mentor: an authority in the field in

question, an educator, a counselor, a sponsor, and a person willing to develop a personal commitment to the relationship. There was limited information available about this study; results were not published and no further information was available to include in this review.

Hayes (1998a; 1998b; 2001; 2001; 2005) studied mentoring of nurse practitioner students. Her doctoral research was carried out with nurse practitioners students in 10 graduate programs in the Northeastern United States ($N=238$) in order to define the concept of mentoring; explore factors that may affect mentoring, including age, gender, education, experience, clinical setting, length of time in the relationship, formal assignment of the student by faculty to or informal arrangement by the student; and to determine if there was a correlation between preceptor mentoring and NP student self-efficacy for physical assessment. Hayes (1998a) was an FNP and taught FNP students; her research may have included other types of NP students (adult, women's health, pediatric, gerontology), but this is not clearly stated in the articles reviewed.

Hayes (1998a) reviewed the mentoring literature in several disciplines. She found agreement in the nursing, education, and business literature on the definitions of mentor and protégé that the purpose of the mentoring relationship is to promote career advancement, and that mentoring is accomplished through the functions of socializing, teaching, sponsoring, coaching, guiding, encouraging, protecting, advising, inspiring, challenging, role modeling, and counseling.

Hayes (1998a) used a descriptive correlational design to investigate the relationship between NP students' perceptions of mentoring by their clinical preceptor and their self-efficacy for physical assessment. Hayes (1998a) measured mentoring

perceptions of the NP students with two instruments, Freeman's Mentoring Survey (FMS), and Caine's Quality of Mentoring Tool (CQM), and combined the scores. The combined mentoring score mean was 4.30 (range 1.0 to 5.0). She measured self-efficacy with the Self-Efficacy Scale (SES) and the Confidence Scale (CS) and combined the scores. The combined mentoring score mean was 4.15 (range 1.0 to 5.0).

In Hayes' (1998a) study participants reported a moderately high perception of being mentored and for self-efficacy for physical assessment. However, regression and correlation analysis showed only a modest positive correlation ($r=.37$) between NP students who perceived themselves as highly mentored with their self-efficacy. Hayes carried out an analysis of variance on the aforementioned factors that could affect mentoring and found no significant differences in mentoring scores, with one exception. NP students who chose their own preceptor had higher mentoring scores, particularly if they knew their preceptor prior to choosing him or her ($p < .04$). In this group of 27 students, mean mentoring scores were 4.50 versus 4.23 (range 1.0 to 5.0) for other students in the group. It could be that measuring self-efficacy for a specific task was not the best mentoring outcome to evaluate. Further work by Neal (2008) showed that self-efficacy for physical exam was not correlated with perceptions of mentoring.

Hayes (1998a) also carried out multiple regression analysis to determine how all the factors could affect mentoring and, considered together, might predict increments in mentoring scores. The length of time of the practicum ($\beta = .150$) and nurse practitioner experience as a preceptor ($\beta = .136$) were the most predictive factors of increasing mentoring scores. Hayes acknowledged several weaknesses in the study, including the lack of a control group or comparison group, lack of confirming information regarding

the NP students' perceptions of either mentoring or self-efficacy from faculty or preceptors, and a lack of examination of perceptions other than NP students. Hayes' study contributed to the body of knowledge about NP student mentoring and also pointed out the challenges researchers are faced with in trying to measure mentoring outcomes.

Neal (2008) carried out a modified replication of Hayes' (1998a) study for her dissertation research. She used a descriptive correlational design to explore the relationship between mentoring and self-efficacy in the FNP student-preceptor relationship in a convenience sample ($N=93$) of NP students from 7 institutions in Indiana. Using the same instrument as in Hayes' (1998a) study, Neal (2008) reported 21 statistically significant correlations between participants' scores on the Freeman Mentoring Scale and the Self-Efficacy Scale, although she reported this at $p < 0.01$ with $r = 0.271$ (p. 63). Her findings were similar to Hayes (1998a); many of the attributes of mentoring as identified by students were associated with high rankings of self-efficacy.

However, unlike Hayes (1998), Neal (2008) did not find a significant relationship between confidence in the skill of performing physical assessment and mentoring⁵. Nor did Neal find that NP students who perceived themselves as highly mentored had an increase in their self-confidence scores greater than those students who did not perceive themselves as highly mentored. Neal postulated that the NP students may have already been highly skilled in physical assessment based on their years of experience as RNs.

Online environment for mentoring.

Advancements in technology have expanded the boundaries of education beyond the traditional brick and mortar environment of college campuses. During the first decade of the 21st century opportunities for online learning expanded rapidly. In fact, according

⁵ Pearson correlation coefficient value was not reported

to the U. S. Department of Education (2010), online learning has become one of the fastest growing trends in educational uses of technology. Students have embraced the online learning environment; in the fall of 2004 there were 2.35 million higher education students enrolled in online courses across the U. S (Kim & Bonk, 2006). More than three-quarters of higher education institutions offer at least one online course, a number that is expected to grow (Yick, Patrick & Costin, 2005).

Advancements in technology have also expanded the boundaries of mentoring beyond the traditional face-to-face dyad. Electronic mentoring (e-mentoring), also termed computer –mediated-communication (CMC), uses the internet to provide mentoring relationship opportunities (Ensher, Heun & Blanchard, 2003; Kalisch, Falzetta & Cooke, 2005). The context of electronic mentoring offers a flexible communication environment that is independent of geography, time, and space. There is greater access and convenience online and less cost than there is in face-to-face mentoring (Ensher et al.). Email is inexpensive and easy to use. It is asynchronous, allowing for those with different schedules to communicate without wasting valuable time arranging logistics for meetings or traveling to meetings (Muller, 2003). Another advantage of e-mentoring over face-to-face mentoring is that it provides a medium that reduces status differences, allowing for easier direct communication between protégés and mentors (Muller, 2003). The online environment can create a more level playing field between mentors and protégés. It allows protégés to take their time in relating and responding to the mentor and removes the pressure and anxiety that a face-to-face situation can sometimes create.

E-mentoring establishes a written record of communication, and this record becomes an important part of the reflective learning process (Muller, 2003). This is

particularly relevant for the group of interest in this study, graduate nursing students transitioning into the FNP role. Reflection and thinking through situations and actions is one of the ways in which individuals learn from experience. According to Merriam, Caffarella and Baumgartner (2007) reflective practices may include “analysis, synthesis, and metacognition” (p. 173) that can lead to an openness and new understanding. FNP students using reflective practice may be able to gain deeper insights about their transition, which may aid in enhancing their balance. Faculty mentoring via e-mail may help to guide FNP students to engage in reflective practice.

Two mentoring functions, counseling support and coaching, have used the online environment successfully. Counseling and psychotherapy offered via the internet is a growing form of the therapeutic relationship. There are close to 200 online therapy sites that provide access to approximately 350 online counselors (Segall, 2000). According to Ensher et al., (2003) since counseling exists online for psychotherapy, it seems likely that mentors can support and counsel protégés online as well. However there are several key differences between counseling relationships and mentoring relationships. Counseling goes one way, the therapist is the neutral expert and the client self divulges issues of concern. Whereas mentors and mentees interact; both share and both self-disclose. While confidentiality between therapists and clients is protected by professional and legal convention, information exchanged between mentors and protégés are not. Should there be miscommunication or misunderstanding in the emails, the mentoring relationship may turn sour. At that point the written emails which were protected only by the participants’ mutual trust may become documents in a lawsuit Ensher et al.

Electronic coaching, in particular business coaching, using email has become very popular. The International Coach Federation has set standards and ethical codes for business coach members and maintains a list of accredited schools for those seeking to be coaches (International Coach Federation, 2002). According to Ensher et al. (2003) individuals in business coaching relationships highly value the convenience of email communication over leaving their place of work to meet in person with their coach. In addition, some business protégés expressed a belief that never meeting with their coach face-to-face allows for a more honest and objective relationship (Harrington, 1998). Online coaches can provide an impartial, third party perspective in a confidential format. One drawback to the information from Ensher was a lack of empirical data on the outcomes of online business coaching.

One very successful e-mentoring program is Mentor Net, a nonprofit organization initially funded by grants from AT&T and Intel foundations. The purpose of Mentor Net is to advance women's progress in scientific and technical fields by partnering undergraduate and graduate females one-on-one with industry professionals in math, science, and engineering. The mentoring program is entirely by email and brings students and scientific and technical professionals working in industry and government together for 1 year in structured, mentoring relationships. Since it began in 1998, nearly 10,000 undergraduate and graduate women studying engineering and related sciences at more than 100 colleges and universities across the US have participated in Mentor Net (Ensher et al., 2003; Muller, 2003). Both mentees and mentors reported high levels of satisfaction with this mentoring program. Although outcome measurements are limited, Muller (2003) reported that there had been retention of women in the sciences. Mentor Net has

provided mentoring opportunities that otherwise would not exist for women in engineering and science.

Electronic mentoring has been employed in nursing. A U.S. Department of Labor (USDOL/WB) pilot project was developed to help address the shortage of registered nurses. The Group Electronic Mentoring in Nursing (GEM-Nursing) was started in 2003 at the University of Michigan. This purpose of this group mentoring project, modeled in part on the successful Mentor Net model discussed above, was to increase student awareness about the benefits of a career in nursing and to increase the number of people between the ages of 15-21 years who would select nursing as a career (Kalisch et al., 2005). This was a structured online program that used email and web pages to connect students with nursing mentors. Students were recruited from high schools or colleges by the USDOL/WB from 6 regions across the US. Nursing mentors included staff nurses, advanced practice nurses, and nurse managers from a variety of clinical practice settings.

Both mentors and student mentees in the GEM-Nursing mentoring program reported a high degree of satisfaction. Students indicated that they liked getting information about nursing careers online and appreciated the quality of the mentors' answers to their questions. The mentors described GEM-Nursing as "a wonderful, innovative program" (Kalisch et al., 2003, p. 203). On the average mentors spent between 20 minutes to 2 hours per week reading and answering mentees questions. Summative data were not reported; anecdotal data indicated that some participants reported an intent to pursue a career in nursing. One clear outcome from this pilot project was the ability of mentors to interact with many more students than would be possible in a face-to-face setting. Kalisch et al. (2003) also found that e-mentoring allowed for

reflective and thoughtful responses from student mentees, a finding noted by Muller (2003) and discussed above. Kalisch et al. concluded that additional research was needed to compare e-mentoring to other approaches of recruitment into nursing. The benefits of e-mentoring, including ease of use, less time invested, and lower cost, could be readily applied to other aspects of nursing including higher education and the transition of new graduates into “the ‘real’ world of nursing (practice) and supporting nurses in their jobs so that they remain in nursing” (Kalisch et al., 2003, p. 204). While e-mentoring is in its infancy, this new model offers many possibilities. Clearly there is potential for expanding the use of electronic mentoring, including with graduate nursing students.

There are some caveats for e-mentoring. First, in order for individuals to participate in e-mentoring, good written communication skills and basic computer literacy are essential. The inability to express oneself in writing can inhibit formation of the mentoring relationship. Technology problems such as computer malfunction or limited internet access can also detract from the momentum of the relationship and create lapses of communication. There are also issues of privacy and confidentiality about information provided online. Online mentoring has a written record of communications. While this can be a strength it can also be a limitation should the relationship fall apart. Ground rules should be established at the start of the relationship: Protégés and mentors should make an agreement regarding what is and is not appropriate to share with others regarding their correspondence and relationship (Ensher et al, 2003).

Little is known about the successes and unique challenges of e-mentoring. There are no published academic studies found in the review of the literature that examined the feasibility or effectiveness of the online environment as an appropriate context for

mentoring (Ensher et al, 2003; Kalisch et al, 2003; Miller et al, 2008). So while e-mentoring may hold promise, there is a need for careful planning and evaluating of outcomes. This dissertation study tested a structured e-mentoring relationship between FNP students and two faculty mentors. The cyberspace environment was selected based on the positive aspects reported in the literature, namely convenience, expeditious use of time, low cost and lack of geographic boundary constraints. Use of email communication allowed the mentors and protégés to share message and then reflect and respond at their convenience.

Summary of research literature.

A wide range of research literature on mentoring was reviewed; all of the studies were qualitative in design. No quantitative studies were found. Mentoring models include both informal mentoring experiences initiated by individuals and formal ones initiated by institutions or organizations. Mentoring relationships varied in length from several years to 3 months. Benefits of mentoring included socialization into a profession, career advancement, and transition into new roles. Problems for mentoring relationships included lack of preparation for the role and lack of time to engage in mentoring. There is very limited information regarding mentoring for NP students. There were no models of nurse faculty mentoring presented; no mentoring programs with outcomes were described in the literature. There is gap in the literature about mentoring and mentoring programs for new NPs (Harrington, 2011) and for NP students with the exception of Hayes (1998).

Several researchers have examined the concept of mentoring, as well as relevant definitions and terms (Stewart & Krueger, 1996; Yoder, 1990); other studies were carried

out to determine the components of effective mentoring programs (Barker, 2006; Ehrich et al., 2002; Freeman, 2004). Also included were studies of mentoring student nurses and nurses transitioning to advanced practice roles in hospital settings (Andrews & Chilton, 2000; Rosser, et al., 2004), mentoring as a teaching learning strategy in undergraduate nursing education (Riley & Fearing, 2008), and mentoring of NP students by clinical preceptors (Hayes, 1998a; Neal, 2008). E-mentoring was introduced and a discussion of application in business, counseling, the sciences and nursing was presented, however there is very limited information with regard to outcomes of e-mentoring (Ensher et al., 2003; Kalisch et al., 2003; Miller et al., 2008).

The research literature on mentoring has been limited to qualitative studies. These studies have provided rich sources of information about mentoring and laid the foundation for additional research. Areas for additional research include mentoring of graduate nursing students and mentoring outcomes for FNP students.

Summary of the Mentoring Theoretical Literature and Research Review

The purpose of this review of the theoretical and research mentoring literature was to present definitions of mentoring, examples of mentoring actions, and models of mentoring with a focus on mentoring in nursing; and to examine previous research of mentoring in nursing. Mentoring first appeared in the nursing literature in the late 1970s (Vance, 1977). The early research studies on mentoring were qualitative descriptive and designed to clarify mentoring concepts, terms, and operational definitions (Stewart & Krueger, 1996; Yoder, 1990). Yoder concluded from her concept review that mentoring consists of two dimensions: career functions and psychosocial functions. Stewart and Krueger further defined six essential attributes of mentoring in nursing: “a teaching

learning process, a reciprocal role, a career development relationship, a knowledge differential between participants, a duration of several years, and a resonating phenomenon” (p. 311). As additional research was published, the duration for mentoring relationships decreased from years (Yoder; Stewart & Krueger) to 3 months (Andrews & Chilton, 2000; Riley & Fearing, 2009).

Some researchers began to look at mentoring outcomes and to make recommendations for successful mentoring programs (Ehrich et al., 2002) including training for both participants and clarification of goals. A discussion of mentoring program structures was included in the research literature reviewed (Andrews & Chilton, 2000; Rosser et al., 2004) and mentoring as a teaching learning for undergraduate nursing students was presented (Riley & Fearing, 2009).

There is a gap in the literature about mentoring of graduate nursing students and nurse practitioner students. One exception is Hayes (1998a) who studied NP students ($N= 238$) for her doctoral research and published one of the few studies of mentoring graduate nursing students. Preceptors, rather than faculty, were the mentors in her study. Hayes found a modest positive correlation ($r=.37$) between NP students who perceived themselves as highly mentored and their self-efficacy for a specific skill, physical assessment.

Research about mentoring nurse practitioner students is in its early stages and there is little published information available. What is known is based on research that was done when FNP education was delivered in an onsite classroom format. Currently many graduate nursing education programs are delivered online or in a hybrid format (Neal, 2008), a trend that is burgeoning. There is a need to explore new models and

methods of mentoring including online mentoring programs. This review supports the need for additional research to identify the role of mentoring for FNP students and the role faculty mentors can play to aid in their transitions between roles.

Literature Related to the Mediating Variables

Self-Efficacy Theoretical Literature

Self-efficacy is defined by psychologist Albert Bandura (1995) as “the belief in one’s capabilities to organize and execute the courses of action required to manage prospective situations” (p. 2). Put another way, self-efficacy is a person’s belief in his or her ability to succeed in a particular situation. Bandura (1994) described this belief as a determinant of how people think, behave, and feel. According to Bandura, people can learn to minimize stress and improve their mood when facing difficult or challenging tasks, master the experience, and improve their sense of self-efficacy. Individuals who feel capable of accomplishing a task are more likely to attempt it and to successfully accomplish that task. People with high self-efficacy in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. They rebound quickly after failures or setbacks. These individuals attribute failure to insufficient effort or deficient knowledge and skills, things that in their view can be acquired. They view challenging situations as events over which they can exercise control and subsequently master. An efficacious outlook can lead to success and personal accomplishments, and reduce stress (Bandura, 1994, 1995).

Conversely, people who doubt their capabilities tend to avoid difficult tasks, which they often view as personal threats. Individuals lacking self-efficacy view

inadequate performance as deficient ability, something that is not in their control or ability to master. When faced with difficult tasks, they tend to dwell on their personal deficiencies, the obstacles they will encounter, and the possible adverse outcomes, rather than concentrating on successful mastery of the challenge. Instead of viewing difficult tasks as challenges to be mastered, individuals lacking self-efficacy may give up when faced with difficulties. They may be slow to recover their sense of efficacy following failure or setbacks, and may lose faith in their abilities after multiple failures (Bandura, 1994, 1995).

In some of the sources retrieved for this literature review self-efficacy was presented as domain-specific or task-specific (Bosscher & Smit, 1998). However, several researchers conceptualized self-efficacy as a more generalized sense of competency, rather than as domain-specific (Schwarzer, & Jerusalem, 1995; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982). Generalized self-efficacy (GSE) has been conceptualized as global confidence in one's ability across a wide range of demanding or novel situations (Sherer et al.). Evaluating GSE can give insight into how efficacious people judge they are across multiple domains of functioning (Schwarzer & Jerusalem, 1995). GSE points toward an individual's "broad and stable sense of personal competence to deal effectively with a variety of stressful situations" (Schwarzer, 1992). According to Luszczynska, Scholz, and Schwarzer (2005), "GSE may help to explain a broader range of human behaviors and coping outcomes when the context is less specific and it might be useful when focusing on multiple behaviors simultaneously" (p. 440). Generalized self-efficacy as a broad sense of personal competence will be measured in the proposed study.

Self-Efficacy research.

Domain specific self-efficacy in nurse practitioner students was examined by Hayes (1998a) and Neal (2008) as part their dissertation research. Hayes' (1998a) 238 NP student participants had a modest positive correlation ($r=0.37$) between their perceived degree of mentoring and self-efficacy scores for physical exam. Neal found a weak positive correction ($r = 0.27$) in her sample of 93 NP students between perceived degree of mentoring and domain specific self-efficacy scores for physical exam.

Heitz et al. (2004) did not directly measure domain specific or generalized self-efficacy in their qualitative study. However, participants reported that lack of self-efficacy for the FNP role led to feelings of fear, apprehension and insecurity, which became obstacles in making the transition to the independent FNP role. Both Heitz et al. and Neal's (2008) studies concluded that in order to become a practicing FNP, students and new graduates need to have self-efficacy and psychologically believe in their abilities to practice as health care providers.

Instruments have been developed to measure both generalized and domain specific self-efficacy (Schwarzer, & Jerusalem, 1995). For this study, the Generalized Self-Efficacy Scale (Schwarzer, & Jerusalem, 1995) (Appendix C) was used to measure generalized self-efficacy. This will be discussed in detail in Chapter 3.

Summary of self-efficacy literature.

This literature review presented Albert Bandura's (1995) definition of self-efficacy and ways to enhance self-efficacy. Generalized self-efficacy (GSE), which reflects an overview of how efficacious people judge their abilities to function across multiple domains, was discussed (Schwarzer, & Jerusalem, 1995; Sherer et al., 1982).

Exploration of domain specific self-efficacy in nurse practitioner students (Hayes, 1998a; Neal, 2008) was presented.

Based on this literature review GSE reflects an individual's "broad and stable sense of personal competence to deal effectively with a variety of stressful situations" (Schwarzer, 1992). FNP students in graduate school are in a variety of situations that could be viewed as stressful: attending graduate school, learning to implement new knowledge and use prior knowledge in new ways, learning new ways of clinical practice, making the transition from an RN role to an advanced practice FNP role, and meeting personal, family, and work commitments. Authors presented generalized self-efficacy (GSE) as a global confidence in one's ability across a wide range of demanding or novel situations (Sherer et al., 1982). In the current research study GSE was examined to determine FNP students' global sense of confidence while dealing with the demands of graduate school and transitioning into the FNP role. The effect of GSE on RN to FNP role transition has not been reported in the literature.

Metacognition theoretical literature.

Metacognition is knowledge of one's own thoughts and the factors that influence one's thinking (Derry & Murphy, 1986; Peters, 2000). This awareness of one's own thinking processes was first described in 1977. In the current study metacognition was made operational by metacognitive awareness. Defining metacognition is not simple and many researchers have contributed to the process (August-Brady, 2005; Peters, 2000). According to Derry and Murphy, (1986), Flavell (1979) is regarded as a foundational researcher in metacognition. Flavell defined metacognition as the monitoring of one's own memory, comprehension, and cognitive enterprises. He established the significance

of metacognition in a wide range of applications including reading, oral skills, writing, language acquisition, memory, attention, social interactions, self-instruction, personality development, and education. Flavell developed a model of cognitive monitoring that describes metacognition as taking place in the actions and interactions of four components: metacognitive knowledge, metacognitive experiences, goals (or tasks), and actions (or strategies).

Metacognitive knowledge is one's own stored knowledge and beliefs about learning. Metacognitive knowledge may lead to metacognitive experiences, which are "any conscious cognitive or affective experiences that accompany and pertain to any intellectual enterprise" (Flavell, 1979, p. 906). Goals, the third component of Flavell's model, are the objectives of a cognitive enterprise or the acquisition of new knowledge or learning; and actions, the fourth component, refer to the cognitions and processes (or other behaviors) used to achieve those goals.

Hacker (1998) expanded on Flavell's (1979) work and described both metacognition and metacognitive activities. Metacognition is higher-order thinking and includes knowledge of one's own cognitive and affective processes. Metacognitive activities regulate the cognitive processes engaged in learning and include planning how to approach a given learning task, active conscious and deliberate monitoring of comprehension, and evaluating progress toward the completion of a task.

Derry and Murphy (1986) defined metacognition as "learners' awareness and knowledge of their own learning processes, as well as their abilities and tendencies to control these processes during learning" (p. 9). Learners who are cognizant of how they learn are better equipped to learn than those who are unaware of their learning process.

Derry and Murphy, both college educators, put forth a four-step model to enhance learning based on the Flavell (1979) four-phase model. Derry and Murphy's model begins with helping learners to build a store of learning strategies (actions), training students to recognize what they need to learn (goals), enhancing the frequency and quality of experiences in order to lead to insights about learning (metacognitive experiences), and finally "helping learners build a store of information about the utility of learning tactics, including when and how to use them (metacognitive knowledge)" (p. 10). Enhancing metacognitive knowledge can lead to an improved ability of transferring trained learning tactics to additional learning situations.

Peters (2000) argued for changes in nursing education that would enhance metacognitive development in undergraduate nursing students. He described metacognition as "knowing about knowing or thinking about thinking" (p. 168). According to Peters, metacognition is closely linked to the concept of "learning to learn" and enhanced metacognitive development "empowers a student with problem-solving, reflecting, and evaluating skills" (p. 169). He illustrated the differences between cognitive strategies, which are used to help an individual achieve a particular goal (e.g., understanding a reading assignment) and metacognitive strategies, which are used to ensure that the goal has been reached (e.g., quizzing oneself to evaluate whether the reading assignment was understood).

Schraw and Dennison (1994) defined metacognition as "the ability to reflect upon, understand, and control one's learning" (p. 460). These authors noted that metacognition is generally reported in the literature as having two major components, knowledge about cognition and regulation of cognition. Schraw and Dennison's research

further explored metacognition's two major components and provided the following sub-concepts about each. Knowledge about cognition includes three sub-processes that facilitate the reflective component of metacognition: "declarative knowledge" (knowledge about self and about strategies), procedural knowledge (knowledge about how to use strategies), and conditional knowledge (knowledge about when and why to use strategies)" (p. 460). Regulation of cognition includes the sub-processes that aid the control aspect of learning. According to Schraw and Dennison, the skills of regulation most often discussed in the literature are: planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation.

According to Rivers (2001), knowledge about cognition and self-assessment of learning are more critical skills than self-management or regulation of cognition. This was confirmed by Schraw and Dennison (1994), who offered the explanation that "metacognitively aware learners are more strategic and perform better than unaware learners" (p. 460). Metacognitive awareness was measured in the proposed research study with the MAI (Appendix D); this will be discussed further in Chapter 3.

Metacognitive awareness.

In the literature metacognitive awareness is discussed as the need for learners to assess their knowledge, abilities, feelings, and experiences while engaging in cognitive processes (Perfect & Schwartz, 2002). Metacognitively aware learners of varying ages outperformed their less-aware peers; several studies from the literature follow.

Rivers (2001) noted that, in studies of language learning and reading strategies in grammar school students, those with metacognitive awareness were able to accurately assess their knowledge and abilities and then became more successful in managing their

learning. Fifth-graders with greater metacognitive awareness and self-monitoring ability performed better in self-regulated language learning. Fourth- and second-graders with metacognitive awareness and self-monitoring ability exceeded their peers without these skills in reading. The students in these studies demonstrated that self-monitoring of learning how to learn precedes self-management of learning. The sample size and statistical data were not reported in the article.

Schraw and Dennison (1994) measured metacognitive awareness in college students ($N= 197$). They found that students lacking metacognitive awareness had poor self-monitoring skills, were less able to manage their learning, and did not perform as well in reading comprehension when compared to students who were aware of their own learning processes. Schraw and Dennison noted the need to assess for metacognitive awareness in college students and were challenged to readily and reliably identify learners who were metacognitively aware. These researchers generated an instrument to measure metacognitive awareness in adults and adolescents, the Metacognitive Awareness Inventory (MAI). The MAI instrument and psychometric properties are discussed in Chapter 3.

Schraw (1998) did additional work and offered three proposals regarding metacognition: it is a multidimensional phenomenon, it is domain-general in nature, and it can be improved both in terms of knowledge and regulation. Schraw suggested four ways to increase metacognition in students: promote awareness about the importance of metacognition, improve knowledge of cognition, improve regulation of cognition, and foster environments that promote metacognitive awareness. Schraw encouraged the practice of reflection and advised that students be provided regular opportunities to

reflect, both individually and as a group. Reflection on successes and failures can play a key role in the construction of metacognitive knowledge and skills.

The rationale for increasing metacognitive awareness is to build those skills and empower students to direct their own learning processes (Peters, 2000). In order to develop these skills, students and learners need to be aware “that metacognition exists, differs from cognition, and increases academic success” (Schraw, 1998, p. 123). Beitz (1996) offered insight regarding the use of metacognition in undergraduate nursing clinical education. She recommended that nursing faculty facilitate metacognitive awareness in nursing students in order to aid them in planning and monitoring their own understanding about how to approach a problem when caring for patients in the clinical setting.

Peters (2000) discussed the need to increase metacognitive awareness in undergraduate nursing students based on the premise that students who understand their own thinking and learning are better equipped to acquire new skills and new knowledge. Peters further elaborated that learners who understand how they construct their knowledge will become more independent in their learning and problem solving abilities, which are essential skills for nursing students and nurses. There were no studies found in the literature that discussed metacognitive awareness in graduate nursing students.

Summary of Metacognition Literature

Definitions of metacognition and metacognitive awareness were presented in this literature review (Derry & Murphy, 1986; Flavell, 1979; Peters, 2000; Schraw, 1998; Schraw & Dennison, 1994). The ability of metacognitive awareness to enhance learning was presented (Schraw & Dennison, 1994) and recommendations for enhancing

metacognitive activities in college students (Schraw, 1998) and undergraduate nursing students (Beitz, 1996; Peters, 2000) were also included.

There were no studies of metacognition in graduate nursing education or nurse practitioner education found in the search of the literature for this review. FNP students may benefit from an enhancement in metacognitive awareness. In this study faculty mentors guided FNP students in self-reflection about their assets and deficits for transition, as well as successful coping strategies for transition during one semester of graduate school.

Peters (2000) noted that when learners understand how they construct their knowledge they can become more independent in their learning and enhance their problem-solving ability. As an FNP the advanced practice nurse needs to function in an independent role. Aiding FNP students to understand the ways in which they construct knowledge may enhance their ability to problem solve and to build new knowledge independently, which may in turn may make these students feel more confident about implementing the FNP role. Increased confidence may also be a factor in self-efficacy for eventual independent practice.

Chapter Summary

This literature review was undertaken in order to more fully understand the factors affecting transition balance during graduate nursing education for Registered Nurses moving into the Family Nurse Practitioner role and to establish Transition Theory (Schlossberg, 1981; 1984) as a theoretical framework for this transition. The research on RN to FNP transition is in the early stages. This chapter developed the foundation for the

variables under investigation for this study, namely, mentoring, transition balance, self-efficacy, and metacognition. The purpose of this review of the theoretical and research literature was also to examine and evaluate the existing research with regard to each of these variables.

The review of the literature began with defining Transition Theory (Goodman et al., 2006; Schlossberg, 1981; 1984; Schlossberg et al., 1995), which was the guiding force behind the variables under investigation. Transition Theory has been used in the counseling of adults and to explore the transition process in adults. There have been a limited number of research studies that used Transition Theory as the theoretical framework. Schlossberg (1984) and her colleagues carried out studies in the 1980s that were used to establish the tenets and concepts of this theory, namely, that transition occurs in three stages: approaching transition, taking stock of coping resources, and taking charge or strengthening resources. Transition Theory uses the 4S system for individuals to take stock of coping resources. These concepts were fully described in this chapter.

Two research studies that used Transition Theory in groups that were similar to those for this study were included in the review of literature. Schriener (2004) used Transition Theory for her dissertation research of nurse clinicians making the transition to nurse faculty. Wisenberg (2001) used Transition Theory to study graduate education students in an online master's degree program. These authors' studies were the only two found that used Transition Theory for the study of graduate students or nurses in transition. The limited studies of NP role transition that have been carried out over the

past 20 years with qualitative methods were included in the discussion (Heitz et al, 2004; Steiner et al, 2008).

Literature was presented about the independent variable mentoring, both theoretical and research literature were included. The early research literature of mentoring in nursing focused on conceptual clarification. Later studies discussed the application of mentoring in nursing and nursing education. No single universally accepted model of mentoring was found in the nursing, medicine, education, or psychology literature. There were no mentoring models for NPs or NP students described in the literature reviewed for this paper. Faculty mentoring of FNP students was absent from the literature. E-mentoring was described and its application in business, counseling, and nursing were included.

Literature on the two mediating variables, self-efficacy and metacognition, was discussed. Generalized self-efficacy, which reflects an overview of how efficacious people judge their abilities to function across multiple domains, was presented. Exploration of self-efficacy in nurse practitioner students for a specific function, physical assessment (Hayes, 1998a; Neal, 2008) was also presented.

Metacognition was presented as higher-order thinking. Metacognitive awareness, the reflecting and thinking about how one learns was discussed. Metacognitive awareness in undergraduate nursing students was included in the literature; it was cited as a factor for acquiring new skills and new knowledge (Peters (2000). No information about metacognitive awareness and NPs or NP students was found in the literature reviewed for this study.

The preceding review of the literature showed that there is very little information about RN to FNP transition, and that there is an overall lack of research focused on the RN to FNP role transition phase that occurs during graduate education. The ways in which faculty may aid students in achieving successful transition balance was missing from the literature. Factors of self that may impact FNP students' successful transition balance, such as generalized self-efficacy and metacognitive awareness, were not found in the literature.

Based on the information discovered through the preceding review of the literature additional research is needed to explore more fully how graduate nurse students' transition to the FNP role during graduate school and to identify ways that faculty may assist with this transition. The effect of mentoring for this transition may be beneficial, but it has not been studied. Whether generalized self-efficacy and metacognitive awareness mediate FNP students' role transition balance is not known. This study sought to examine the effect of faculty mentoring on role transition balance whether generalized self-efficacy or metacognitive awareness mediated the effect of mentoring on role transition balance.

CHAPTER 3

METHODS

The purpose of this study is to examine the effect of faculty mentoring on RN to FNP role transition balance during graduate education. There were 2 research questions:

1. After controlling for RN, graduate program, and student demographics, and potential mediators at time 1, does generalized self-efficacy mediate the relationship between online faculty mentoring and transition balance? And 2. After controlling for RN, graduate program, and student demographics, and potential mediators at time 1, does metacognitive awareness mediate the relationship between online faculty mentoring and transition balance?

The research design, sample selection and size, the instruments for data collection relative to the study variables and demographics, the procedures for data collection, and plans for statistical analyses of data will be discussed in this chapter. Also included in this chapter is discussion of a pilot study conducted prior to the dissertation study.

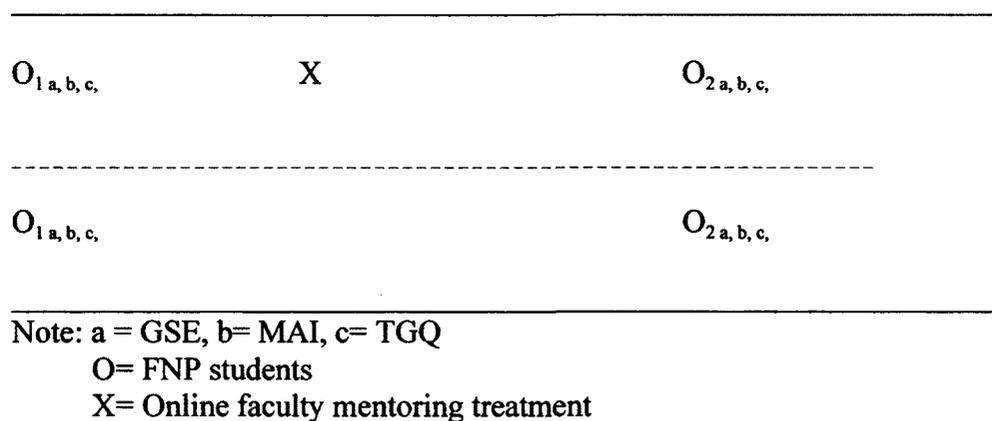
Research Design

This study, to examine the effect of online faculty mentoring, the independent variable, on FNP role transition balance, the dependent variable, was carried out with a pre-test post-test design using a nonequivalent comparison group (Shadish, Cook & Campbell, 2002). This research design is the most widely used experimental design by nurse researchers (Polit & Beck, 2008).

FNP students who participated in this study did so as individual members of a group where group assignment was based on academic institution. The researcher randomly assigned participating FNP programs by academic institution to either an

intervention group or a standard comparison group. All participating FNP students from the same institution were assigned to the same group. The dependent variable, transition balance, and two mediator variables, generalized self-efficacy and metacognitive awareness, were measured twice in both groups, before and after the intervention. The research design is depicted in Figure 6.

Figure 6. Non-equivalent control group with pretest-posttest design



Sample

In research studies, a sample size that is sufficient to obtain a level of robust statistical power should be established a priori (Cohen, 1992). In order to do that a power analysis based on the statistical method of data analysis, the power of the test (probability of rejecting a false null hypothesis), the effect size (estimate of how strong the relationship is between the independent variable and dependent variable in the population), and the level of significance should be used to calculate sample size (Polit & Beck, 2008).

Answers to the research questions in this study required both multiple regression and mediation analyses. Of these, the multiple regression analysis with two predictors required the most stringent sample size to achieve empirical validity. G*Power 3.1.2 (Faul, Erdfelder, Buchner, & Lang, 2008) was used to calculate sample size for a small, medium, and large effect using a generally accepted power of .80 and a significance level of .05. The desired sample size to achieve empirical validity for a multiple regression with two predictors for a small effect size of .02 was a total of 485 participants, for a medium effect size of .15 a total of 68 participants, and for a large effect size of .35 a total of 31 participants (Faul et al.).

For this study a sample size of 68 participants was the recruitment goal based on a medium effect size of .15. According to Polit and Beck (2008) a medium effect size fits within the most common range for nursing studies. Although Transition Theory (Schlossberg, 1981, 1984; Schlossberg et al., 1995) has not been used in nursing research, a sample of 485 participants for a small effect was beyond the scope of this study.

A convenience sample of ninety-four (94) FNP students was recruited from 8 institutions (Lewis University [LU], Loyola University Chicago [LUC], Saginaw Valley State University [SVSC], Saint Xavier University [SXU], Thomas Jefferson University [TJU], University of Illinois at Chicago [UIC], University of St. Francis [USF], and the University of Wisconsin-Milwaukee [UWM]). Each of these institutions has a well-established Master's degree FNP program accredited by the Commission on Collegiate Nursing Education (CCNE). Two of the institutions are large, state-funded universities (UIC, UWM) and the other six institutions are smaller private universities (LU, LUC, SVSU, SXU, TJU, USF). Table 2 (Appendix M) contains additional information about

each institution, including number of graduate nurse students, FNP students, semester hours, clinical practicum hours, and method of course delivery (face-to-face, online, or combination). A mix of public and private universities was selected in order to obtain a cross sample of FNP students. Data analysis included Chi-square testing to assess for differences in participant demographics between public and private institutions.

Although 94 participants were recruited into the study and 72 began the study, some participants did not complete both sets of questionnaires. At the conclusion of the study there were 49 sets of completed pretest and posttest questionnaires for data analyses.

Instrumentation

The three variables of interest (transition balance, generalized self-efficacy, and metacognitive awareness) for this study and participant demographics were assessed using four instruments: The dependent variable, transition balance, was measured by The Transition Guide and Questionnaire © (TGQ) (Schlossberg & Kay, 2007) (Appendix E). The first mediator variable, generalized self-efficacy was measured by the General Self Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995) (Appendix C), and the second mediator variable, metacognitive awareness, by the Metacognitive Awareness Inventory (MAI) (Schraw & Dennison, 1994) (Appendix D). These are presented in Table 3 and each are discussed further in this chapter.

Table 3

Variables and Instruments

Variable	Instrument	Number of Items
Transition Balance ¹	The Transition Guide (TGQ) ©	56
Self Efficacy ²	The (GES)	10
Metacognitive Awareness ²	The (MAI)	52
Student Data Questionnaire ³	SDQ	12
TOTAL	Four Instruments	130

Independent Variable¹
 Mediator Variables²
 Demographic Variables³

The Transition Guide and Questionnaire © (Appendix E)**Description**

The Transition Guide and Questionnaire© (TGQ) (2007) (Appendix E) was developed by Schlossberg and Kay as a counselor-practitioner tool based on Schlossberg's (Schlossberg et al., 1995) theory of adult transitions and the 4S framework: Situation, self, supports, and strategies. The TGQ was written at a 12th grade level and is described by the authors as “developed by experts on coping strategies,” and “an instrument specifically designed for those who face change in their career, their relationships, and other aspects of their life” (Schlossberg & Kay, 2009, p. 1). The 56 item TGQ© questionnaire (Table 4) is intended for use in a variety of adult transitions, particularly for those experiencing job changes (Schlossberg & Kay, 2007).

Table 4

The TGQ© Subscales, Score Range and Number of Items per Scale

Subscale	Score Range	Items
Situation	10-50	10 items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Self	5-50	10 items 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Support	9-45	9 items 21, 22, 23, 24, 25, 26, 27, 28, 29
Strategies	27-135	27 items 30, 31, 32, 33, 34, 35, 36, 37, 38 39, 40, 41, 42, 43, 44, 45, 46, 47 48, 49, 50, 51, 52, 53, 54, 55, 56

The TGQ© instrument allows participants to determine their profile of assets and liabilities regarding transition using the 4S framework (Sargent & Schlossberg, 1988). The TGQ© uses a 5-item Likert-like scale of responses and takes 10-15 minutes to complete. There are 4 subscales, one for each of the 4 Ss; each subscale contains a varying number of items. The situation subscale has 10 items; its purpose is to obtain an overall picture surrounding a transition, or how an individual views the transition. The

self subscale has 10 items; its purpose is to assess the inner strengths that one brings to a transition or assesses “who you are” (Schlossberg & Kay, 2007, p. 6). The supports subscale scale has 9 items; its purpose is to name external resources available for dealing with transition, or the assistance available from others. The strategies subscale has 27 items; its purpose is to list actions to cope with transition and look at how effective the individual is in using those skills, or how one copes.

After an individual in transition has identified where he or she is in the transition process (beginning, middle or end) and assessed the 4 Ss of resources for managing change, he or she can move to taking charge of the transition. The Transition Guide and Questionnaire© includes suggestions for managing resources for coping and concludes with space for the individual to develop an action plan to raise low or medium scores. Participants in the treatment group were asked at the end of the study to identify ways to strengthen their resources for managing the next phase of RN to FNP transition and to write down at least 3 strategies for coping.

Validity

There is limited information available about validity. According to Schlossberg (1981), content validity for the TGQ© was established by selecting topics to be measured from a review of the literature and from the model of human adaptation to transition, and a preliminary version was piloted to establish the appropriateness of the questionnaire. In a personal communication (June 16, 2010) Schlossberg stated that she did not keep validity and reliability statistics on the TGQ©. Kay stated that they did some initial validity testing and the instrument was found to be valid; however the findings were not recorded (personal communication, June 20, 2010). Schlossberg also related that the

TGQ© has been used in research studies, but since she retired she no longer maintained those files (personal communication, June 16, 2010).

Reliability.

There is also limited information about reliability. Searching the literature for psychometric testing on the TGQ© surfaced an article by Lavellee (2006), who used the TGQ© to examine career transition among athletic coaches. Lavellee used the TGQ© to assess the 4Ss and transition balance in retired university faculty members, retired athletes, distance learning students, adults with decreased physical abilities, and families in the transition of geographical relocation. In these studies there was a strong internal consistency reliability for the TGQ© questionnaire, with alpha coefficients ranging from .74 to .88. This source was the only published information available on reliability of the TGQ©.

Bundy (2004) used Schlossberg's Transition Theory for her dissertation research examining rural women ($N=125$) in career transition and carried out reliability testing on the TGQ©. This is an unpublished work. She found that instrument had a high reliability of $\alpha = .94$ in the pilot and $\alpha = .95$ in the study.

Bundy (2004) carried out additional reliability testing on each of the subscales using Cronbach's alpha. In her pilot study, she found a moderately low reliability with the situation subscale, $\alpha = .48$; and high reliability with the others subscales, self $\alpha = .86$; supports $\alpha = .82$; and, strategies $\alpha = .93$. In her dissertation study, the situation factor, $\alpha = .73$; self factor $\alpha = .90$; supports factor $\alpha = .87$; and, strategies factor $\alpha = .91$.

There is limited published information available about the validity and reliability of this instrument. However, conceptually Transition Theory and the instrument fit with

the population and concepts of interest for this research. Therefore, based on Bundy's (2004) psychometric statistics, Lavalley's (2006) citation, and a discussion with the author (N. Schlossberg, personal communication, June 16, 2010) a decision was made to use the TGQ© for the current study to measure the transition balance of FNP students during graduate school. Cronbach's alpha coefficient for the current study was .89 at a pretest of the instruments prior to beginning the study. An alpha of .93 was obtained at the start and of .95 at the end of the current study.

Scoring.

The questionnaire is self-scored using a 5-point Likert scale (range 1-5) with descriptors ranging in meaning from one (1) "not at all" or "seldom" to five (5) meaning "completely" or "always." Each of the four S scales is summed separately with differing ranges of possible total scores; higher scores are indicative of greater assets for transition balance. The individual's summed scores are then plotted on a Transition Coping Resource chart by each of the 4 S scales. The chart (Appendix I) ranks the individual's coping resources by scale as high, medium, or low based on the total score for that scale.

The situation scale's 10 subscales have a possible score range from 10 to 50; according to Schlossberg and Kay (2007) scores from 38-50 are considered high; from 23-37 moderate; and from 10-22 low in terms of coping resources for this individual's situation. The self scale's 10 subscales have a possible score range from 5 to 50; according to Schlossberg and Kay (2007) scores from 38-50 are considered high; from 23-37 moderate; and from 10-22 low in terms of this individual's inner strength to deal with change. The Supports scale's 9 subscales have a possible score range from 9 to 45; according to Schlossberg and Kay (2007) scores from 34-45 are considered high; from

21-33 moderate; and from 9-20 low in terms of this individual's external support to deal with change. The strategies scale's 27 subscales have a possible score range from 27 to 135; according to Schlossberg and Kay (2007) scores from 99-135 are considered high; from 63-98 moderate; and from 62-27 low in terms of this individual's actions to cope with transition. Each of the 4 Ss, though scored individually, should be viewed overall to assess a balance score that will indicate whether or not the individual has many or few resources in place to cope with transition (Goodman et al., 2006).

Resources were sought for appropriate methods of scoring the TGQ© for transition balance including consultation with the researchers (S. Kay, personal communication, June 22, 2010) and two statisticians. It was determined that the score for each of the 4 Ss should be calculated and totaled to determine transition balance. For this study a total score for each subscale was calculated and added together to obtain a total score at pretest and at posttest. To answer the research questions, a change score was calculated by subtracting the total pretest score from the total posttest score for each participant.

General Self Efficacy Scale (Appendix C)

Description.

The General Self Efficacy (GSE) scale (Schwarzer & Jerusalem, 1995) was used in this study to measure self-efficacy. The GSE was created to assess a general sense of perceived self-efficacy in the adult population. Self-efficacy levels can enhance or hinder motivation. According to Bandura (1977), individuals with high self-efficacy choose to perform more challenging tasks. Self-efficacy beliefs influence the level of effort individuals spend and the level of their perseverance in the face of difficulties (Bosscher

& Smit, 1998). An individual who believes that he or she is capable of attaining a goal or producing a desired effect can in fact lead a more active and self-determined life (Luszczynska, Scholz & Schwarzer, 2005). Higher self-efficacy is accompanied by a sense of control over one's environment; when the environment poses challenges, the self-efficacious individual takes action to adapt.

The German version of the GSE was originally developed by Jerusalem and Schwarzer in 1979 and contained 20 items (Scholz, Gutiérrez –Doña, Sud & Schwarzer, 2002). The instrument was revised in 1981 and reduced to 10 items and subsequently translated to 28 languages by bilingual native speakers based on the German and English versions of the GSE (Schwarzer & Jerusalem, 1995). Responses to the GSE are on a 4-point Likert-like scale ranging from 1, or “not at all true” to 4, which means “exactly true.”

Each item of the GSE refers to successful management and resourcefulness that implies an internal-stable attribution of success. The scale was designed to predict the ability to handle small daily hassles as well as larger-scale, stressful life events. The GSE has been used successfully for 2 decades, and according to Schwarzer (2009), it is suitable for a broad range of applications. The scale norms for the US-American Adult Population were derived from a sample of 1,594 US American adults. In the U.S. sample the mean was found to be 29.48 (range 10-40), with standard deviation of 5.13; gender was equally distributed, male 50.9%, female 49.1% (Schwarzer, 2009).

Validity.

According to Schwarzer (2009), criterion-related validity has been documented in numerous correlation studies; positive coefficients were found with favorable emotions,

dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints.

Scholz, Gutiérrez–Doña, Sud and Schwarzer (2002) examined the psychometric properties of the GSE in 25 samples representing 19,120 people from 25 countries (Belgium, Canada, Costa Rica, Denmark, Finland, France, Germany, Great Britain, Greece, Hong Kong, Hungary, India, Indonesia, Iran, Italy, Japan, Korea, Netherlands, Peru, Poland, Portugal, Russia, Spain, Syria, and the US). The internal consistency for the total sample was $\alpha = .86$. For the US sample of 1,633 $\alpha = .87$.

In Scholz et al.'s (2002) study of the psychometric properties of the GSE, item analysis was carried out separately for each language adaptation. These researchers found that “all item-total correlations, with the exception of Item 1 (‘I can always manage to solve difficult problems if I try hard enough’) for Costa Ricans and Indians; Item 2 (‘If someone opposes me, I can find the means and ways to get what I want’) for Greeks and Indonesians; and Item 3 (‘It is easy for me to stick to my aims and accomplish my goals’) for Belgians and Greeks, turned out to be satisfactory” (p. 246). They determined that no improvement to the instrument was possible by eliminating critical items from the scale.

Scholz et al. (2002) sought to confirm that the GSE was unidimensional. Principal component analysis (PCA) and confirmatory factor analyses (CFA) were carried out on the total sample and on each of the 25 subsamples collected for their psychometric properties study. PCA revealed the following loadings for a 1-factor solution: .74, .71, .70, .70, .70, .68, .63, .63, .56, and .54. Eigenvalues were computed as: 4.39, .83, .80, .69 and indicated one-factor solutions for the sample. CFA using LISREL

Version 8.12a was performed to determine whether a 1-factor or multifactor solution fit the data. A path diagram was included in their findings that indicated an excellent fit of the data with a unidimensional model. Scholz et al. concluded from their study that this instrument is unidimensional and meets the criteria for multicultural assessment of GSE.

Reliability.

The scale has been used in several longitudinal studies including cardiac surgery patients, teachers, and students (Schwarzer & Jerusalem, 1995). Reliability was determined by test-retest in these groups. In 246 cardiac surgery patients who completed the GSE preoperatively, retest reliability was $r = .67$ 1 year and 6 months later. In a sample of teachers ($N=140$) teachers and students ($N=2846$) test-retest reliability after one year was $r = .75$ and $r = .55$ respectively (Scholz et al., 2002). Schwarzer and Renner (2001) also evaluated reliability after 2 years in a group of men and women who had fled East Germany as refugees; for men $r = .47$ and for women $r = .63$.

Cronbach's alpha coefficient for the current study was .85 at a pretest of the instruments prior to beginning the study. Cronbach's alphas of .81 and .79 were obtained at the start and the end of the current study, respectively.

Scoring.

The questionnaire is answered using a 4-point Likert-like scale with descriptors ranging from 1 meaning "not at all true"; 2, "hardly true"; 3, "moderately true," to 4 meaning "exactly true." The GSE instrument is scored by adding up all responses to a sum score with a range for the ten items from 10 to 40 points. For missing responses, the authors recommend calculating a score as long as no more than three items on the ten-item scale are missing. A higher score indicates a higher degree of generalized self-

efficacy; a lower score indicates a lesser degree of self-efficacy. There is no cutoff score. In this study a total score was calculated at pretest and at posttest; a change score was calculated by subtracting the pretest score from the posttest score for each participant.

Metacognitive Awareness Inventory (Appendix D)

Description.

The Metacognitive Awareness Inventory (MAI) was developed by Schraw and Dennison (1994) to measure adults' metacognitive awareness. The MAI was designed to measure the 2 major factors of metacognition, knowledge about cognition and regulation of cognition, and sub-processes about each factor. The questionnaire has 52 items with 2 main scales and 8 subscales: 1) knowledge of cognition, with the 3 subscales of declarative knowledge, procedural knowledge, and conditional knowledge; and 2) regulation of cognition, with 5 subscales including planning, organizing, monitoring, debugging, and evaluation.

An initial pool of 120 items was written, including 8 items in each of the 8 above subscales. Items were piloted on a group of 70 college students; items with extreme mean scores and an unusually high degree of variability were dropped. Also some highly inter-correlated items were dropped so that only 1 of these remained on the scale. The final version was a 52-item inventory distributed across the 8 scales with at least 4 items per scale (Schraw & Dennison, 1994). Individuals participating in their study completed the instrument in approximately 10 minutes.

Validity.

The MAI has been evaluated with unrestricted and restricted (forced) factor analyses. Both produced 6 factor solutions with eigenvalues greater than 1; factor

loadings were nearly identical for each of the orthogonal and oblique solutions.

Declarative, procedural, and conditional knowledge loaded on the first factor, knowledge of cognition. Planning, information management strategies, monitoring, debugging strategies, and evaluation loaded on the second factor, regulation of cognition. Achieved by using both oblique and orthogonal solutions, results were very close to the initial testing with 2 factors accounting for 58% of the sample variance.

Reliability.

Schraw and Dennison (1994) conducted a second experiment “to validate the MAI using empirically derived measures of metacognitive knowledge, test performance and metacognitive regulation” (p. 466). The alpha coefficient for Factor 1 knowledge of cognition was .88; for Factor 2 regulation of cognition $\alpha = .88$. The coefficient α for the entire instrument was .93. These researchers hypothesized that if the MAI measured metacognitive awareness in adults, then it should be correlated with test performance and empirical measures of metacognition. They divided 110 undergraduate students into three groups; these students participated in the study as part of their course requirement in educational psychology. Each group completed the MAI as part of this testing. Based on their research Schraw and Dennison (1994) concluded that the MAI is a valid and reliable test of metacognitive awareness in adult students.

Cronbach’s alpha coefficients for the current study were .86 at a pretest of the instruments prior to beginning the study, .88 at the start and .84 at the end of the study.

Scoring.

The MAI instrument was initially scored on a continuous 100 mm. scale. Subjects were instructed to draw a slash at the point on the rating scale (0-100) that best

corresponded to how true or false the statement was about them (Schraw & Dennison, 1994). Scoring of the MAI is used to interpret which factors (knowledge of cognition and regulation of cognition) and sub-processes an individual may have for metacognitive awareness. The Subscales and item scoring for the MAI are listed in Table 5.

Questions of the MAI evaluate for awareness of both knowledge and regulation of cognition. To determine awareness about knowledge of cognition the first 3 lines in Table 5 are scored. These are the sub-processes that facilitate the reflective component of metacognition (declarative knowledge, procedural knowledge, and conditional knowledge). The last 5 lines in Table 5 are to evaluate for awareness about regulation of cognition. These are the sub-processes that aid in the control of learning and include the subscales of planning, information management strategies, comprehension monitoring, debugging (strategies that are used to correct comprehension and performance errors) and evaluation (an analysis of performance and strategy effectiveness after a learning experience).

A revised MAI Scoring Guide (Appendix K) was developed by Franks as part of a project for her Master's degree at Kent State University and published by the Ohio Literacy Resource Center (OLRC, 2004). In a personal communication, Franks explained that the original constructs were not changed; instead, the answer format was converted to a true-false format "to keep it as simple as possible" (J. Franks, personal communication, June 29, 2010). It is divided into sections for each subscale as shown in Appendix K. In the current study the total MAI score was measured at the start of the study and again at the conclusion of the study. A change score was calculated by subtracting the pretest score from the posttest score for each participant.

Table 5

Scoring for the MAI

Subscale	Score Range	Items
Declarative knowledge	0, 1 (0-8)	8 items 5, 10, 12, 16, 17, 20, 32, 46
Procedural knowledge	0, 1 (0-4)	4 items 3, 14, 27, 33
Conditional knowledge	0, 1 (0-5)	5 items 15, 18, 26, 29, 35
Planning	0, 1 (0-7)	7 items 4, 6, 8, 22, 23, 42, 45
Information Management Strategies	0, 1 (0-10)	10 Items 9, 13, 30, 31, 37, 39, 41, 43, 47, 48
Comprehension Monitoring	0, 1 (0-7)	7 Items 1, 2, 11, 21, 28, 34, 49
Debugging	0, 1 (0-5)	5 Items 25, 40, 44, 51, 52
Evaluation	0, 1 (0-6)	6 Items 7, 19, 24, 36, 38, 50

Reliability Testing of Instruments for Current Study

In order to assess reliability, Cronbach's alpha correlation coefficients were obtained for each instrument at each measurement. Cronbach's alpha, also known as the coefficient alpha, provides the mean correlation between each pair of items and the number of items in a scale (Brace, Kemp & Snelgar, 2006).

Pretest of Instruments.

Prior to beginning the full study, a pretest to assess for internal consistency reliability of the instruments was carried out by the researcher using a sample ($N= 29$) of graduate nursing students with characteristics similar to the target population.

Cronbach's alpha correlation coefficients were obtained for the *General Self-Efficacy Scale* (GES) (Appendix C), the *Metacognitive Awareness Inventory* (MAI) (Appendix D), and the *Transition Guide* (TGQ) (Appendix E) to assess internal consistency reliability.

After receiving approval from the University of Wisconsin-Milwaukee Institutional Review Board, a convenience sample for the instrument pretest was recruited from among non-FNP graduate nursing students in 3 different advanced practice (CNS and NP) programs: where the researcher is a doctoral student, where she teaches, and from one additional institution. Students in these programs share some of same curriculum as FNP students and differ only in their specialty courses and clinical experience. Based on the similarities of the coursework and advanced practice role, students from these 3 programs should have provided an appropriate sample for pre-testing of the instruments. Data collected during pre-testing was not included in data analysis for the full study. Advanced practice graduate nurse students enrolled in Adult

NP or Clinical Nurse Specialist programs at UWM, Loyola University, and Thomas Jefferson University were recruited to complete a pretest of the instruments.

Cronbach's alpha coefficients were evaluated using the guidelines suggested by George and Mallery (2003) where $> .9$ Excellent, $> .8$ Good, $> .7$ Acceptable, $> .6$ Questionable, $> .5$ Poor, $< .5$ Unacceptable. Results of the instrument pilot were: GSE $\alpha = 0.85$, MAI $\alpha = 0.86$, and TGQ $\alpha = 0.89$ indicating that these were reliable instruments, no changes were made. Cronbach's alphas for the instrument pretest are contained in Table 6.

The Student Data Questionnaire (Appendix F)

Description.

A researcher-developed questionnaire to include demographic variables and FNP program characteristics was based on the review of the literature (Hayes, 1998a; Steiner et al., 2004). The Student Data Questionnaire (Appendix F) assessed a number of different factors: (a) age, (b) gender, (c) ethnicity, (d) marital status, (e) number of children less than 18 years of age at home, (f) the primary method of course delivery for the FNP graduate program, (g) total number of clinical hours completed as an FNP student at the beginning of the current semester, (h) total number of semester hours completed as an FNP student at the beginning of the current semester, (i) total number of years of RN experience, (j) main setting of RN clinical experience, (k) types of RN clinical nursing practice and (l) name of the university where the FNP student is enrolled. The demographic and program data were gathered to provide a description of the sample and because analyses of literature reviewed indicated that some of the demographic variables may play a role in study findings.

Table 6

Cronbach's Alphas for GSE, MAI, and TGQ at Instrument Pretest

Instrument	Number of items	Instrument Pretest $N = 29$ α
GSE	10	0.85
MAI	52	0.86
TGQ	56	0.89

Procedures for Data Collection**Human Subjects Protection.**

Permission to conduct the study was obtained from the Institutional Review Board at the University of Wisconsin-Milwaukee (UWM) through a formal request and review of the study for the protection of human subjects. At each of the 7 additional institutions at which the research was carried out (Lewis University, Loyola University, Chicago, Saginaw Valley State University, St. Xavier University, Thomas Jefferson University, the University of Illinois at Chicago, and University of St. Francis) permission to conduct the study was sought through a formal request. At 4 of the institutions, some type of IRB review process was required. Appendix U contains the IRB approval letters from UWM and those institutions that required additional IRB review. The other 3 universities did not require a separate IRB review (Lewis, Saginaw Valley, and Jefferson).

Recruitment.

Recruitment took place at the end of fall semester 2010 with data collections during the spring semester 2011. The recruitment process was comprised of several steps. First, an email inquiry was sent to the Dean or Associate Dean for graduate programs at the 8 pre-selected institutions to gauge their interest in participating. Each responded affirmatively. Once permission to conduct the proposed study was obtained from the University of Wisconsin-Milwaukee Institutional Review Board (IRB), letters were sent by email to the FNP program directors or graduate deans at these institutions explaining the study and formally inviting the school to participate (Appendix R). The director was asked to respond with the name, telephone number, and email address of an interested faculty member who could assist with recruitment of FNP students and to provide the number of eligible FNP students in that institution for potential participation.

Recruitment incentives were planned for FNP student participants and for faculty from each institution who assisted with recruitment. For FNP student participants, \$50 Amazon.com gift cards were offered and awarded through a raffle drawing by random selection of students' names. All students eligible for participation in this study were able to enter the prize raffle drawing for one of 10 gift cards. Students who chose not to complete the questionnaires or declined to participate in the study, but wished participate in the raffle had an opportunity to enter their name to join the raffle.⁶ For faculty who assisted with recruitment, (one per institution) a \$25 Amazon.com gift card⁷ was given. These incentives were awarded following completion of the study.

⁶In accordance with UWM Financial Administration Prizes, Awards and Gifts (F46) policy: Prizes may be awarded as incentives to encourage responses to customer questionnaires and other types of surveys <http://www.uwsa.edu/fadmin/fppp/fppp46.htm>

⁷ Ibid

Procedure.

After receiving an affirmative response from the FNP program director at the proposed participating institution, the designated faculty member was contacted by email to confirm his or her willingness to participate as a recruiter. The researcher answered faculty members' questions and provided email and telephone information in order to maintain communication.

The next step involved active recruitment at each institution. A letter explaining the study (Appendix S) and the enrollment procedure (Appendix U) for the faculty recruiter, along with a recruitment flyer (Appendix T), and written explanation of the study for students (Appendix V), was sent by email to the faculty recruiter at each institution. Included in the letter and study explanation was a link to a web-based narrated power-point recruitment presentation made by the researcher which provided a brief explanation of the study. Participating faculty were asked to arrange for 15 minutes of time at the beginning of the semester for students in face-to-face settings to see and hear the presentation informing them about the opportunity to participate in the research study and to circulate a sign-up sheet to obtain participants' email addresses. A self-addressed mailing envelope was provided to return the participant sign-up sheets to the researcher.

In order to include as many FNP students as possible, particularly those in online programs, the recruitment procedure was designed so that it could also take place entirely online. The flyer and study explanation were posted electronically or sent by mail from the faculty recruiter to potential participants who were able to access the presentation by

via a web based link: FNP students were able to enroll by contacting the researcher via email.

Enrollment procedures.

Enrollment was a 2-step process, institutional into a treatment or control group and individual by email address. First, FNP student participants were enrolled by institution into an intervention or standard treatment group based on random institutional assignment by the researcher. There were several factors to consider for institutional and intervener assignment which will be discussed further. With these considerations in mind, the slips of paper for randomized drawing were set up with 4 possible pairs with LUC and UWM or UIC, as depicted in Table 7.

Table 7

Possible Pairs for Institutional Assignment to Treatment and Control Group

Possible Pairs*	Treatment	Control
1. UIC (t) & LUC (c)	UIC	LUC
2. LUC (t) & UIC (c)	LUC	UIC
3. UWM (t) & LUC (c)	UWM	LUC
4. LUC (t) & UWM (c)	LUC	UWM

* Legend: UIC = University of Illinois at Chicago, LUC = Loyola University Chicago, UWM = University of Wisconsin-Milwaukee

Factors for assignment included size of the institution and avoiding conflict of interest. The drawing resulted in assignment of institutions to groups as depicted in Table 8.

Table 8

Institutional Assignment to Groups

University*	Number of Participants	Group and Folder	Mentor
Treatment			
LUC	35	1	2
LU	7	2	1
USF	10	2	1
UWM	11	2	1
Control			N/A
SVSU	8	3	
SXU	16	3	
TJU	2	3	
UIC	6	3	

*Legend: Lewis= Lewis University, LUC = Loyola University Chicago, SVSU = Saginaw Valley State University, SXU = Saint Xavier University, TJU = Thomas Jefferson University, UIC = University of Illinois at Chicago, USF = University of St. Francis, UWM = University of Wisconsin-Milwaukee

Two of the 8 participating institutions differed from the other 6 in that they are large state-funded universities while the others are smaller private schools. It was not

known if size of institution would be a factor, so a decision was made to include only 1 large university in each group. In order to avoid a conflict of interest; each mentor needed to abstain from participation with students from the institutions where she had a current or former faculty affiliation. In each pair 1 institution was the treatment group, denoted by (t) and 1 institution was the control group, denoted by (c).

Each pair was written on a slip of paper with the treatment group listed first, followed by the control group. The paper was folded and placed into a hat. The first paper drawn determined those two institutions' assignments; LUC (t) paired with UIC (c) was the first slip drawn. By default that placed UWM in the treatment group and the remaining 3 slips of paper were removed from the hat. The other 5 institutions were each written on separate the slips of paper twice, once with a (t) and again with a (c). These 10 slips were pulled one at a time and the results were that LU and USF were in the treatment group, along with LUC and UWM. The control group included: UIC, TJU, SVSU, and SXU.

An unexpected outcome was the uneven numbers of participants per group (treatment vs. control) due to the differences in number recruited from each institution. The treatment group ($N=63$) turned out to be twice as large as the control group ($N=31$).

Once the institutional assignment to treatment or control group was in place, the mentors looked at dividing the treatment group into two. Since the primary researcher had a potential conflict of interest with treatment group 1 (LUC), mentor 2 took that group and she took treatment group 2 (LU, USF, UWM). Group 3, the control group, consisted of UIC, TJU, SVSU, and SXU. Each participant was then enrolled by email

address into the appropriate Google group and Survey Monkey™ folder by the researcher as depicted in Table 8.

Administration of questionnaires.

All study questionnaires were administered and collected electronically via Survey Monkey,™ which is a web-based tool for creating online surveys. The questionnaires were loaded by the researcher into the Survey Monkey™ questionnaire format exactly as written by the instrument developers. Different folders were set up on Survey Monkey™, 1 for each intervention group and 1 for the control group, for a total of 3. Each folder contained 2 sets of questionnaires, one labeled Time 1 and the other labeled Time 2. The Survey Monkey™ Email Invitation Collector feature was used to email a unique link to each participant. This prevented anyone other than the recipient of the email from completing the questionnaire or submitting multiple questionnaires. A study data collector was employed to monitor responses to the questionnaires and collect them. The interventionists did not have access to the completed questionnaires during the active phase of the study.

Online Faculty Mentoring Intervention

There were 2 groups of FNP students, recruited from 8 universities, for this dissertation study: a treatment group ($n = 63$) and a control group ($n = 31$). The intervention was carried out online via email by 2 faculty mentors, the primary researcher and a second doctorally prepared advanced practice nurse who was recruited to participate as a mentor in this study. Both mentors were experienced practicing FNPs and faculty members who have directed and taught in Master's level FNP programs. A

study data collector was recruited to monitor responses to the questionnaires and collect and store the pretest set of questionnaires until the study concluded. She did not interact with study participants directly.

Intervention Fidelity.

The primary researcher worked with the second mentor to prepare her for participating in this study. She received copies of the study instruments and provided feedback on the Demographic Questionnaire (Appendix D). Several phone discussions took place to go over the instruments and clarify questions. Several face-to-face meetings were held in advance to discuss the background for the study and review some of the literature about the study variables. A lengthy meeting took place 1 month before the study began to carefully go over the protocol manual (Appendix O) and finalize plans for institutional enrollment and the study timeline. A planned check-in for mid-March during the active phase of the study was carried out to assess progress, discuss responses and address concerns. No changes were made following this discussion. A second check-in was planned for late April and prior to posting the final reflective question for participants was also carried out. The study concluded as planned.

The primary researcher also met with the study data collector. The protocol manual was reviewed, and the timeline for monitoring responses and sending the reminder emails was emphasized. The study data collector was advised to watch for the emails indicating that the study was beginning and to send an email to the primary researcher when she sent the reminder message and subsequently closed the link to Survey Monkey™ and the instruments that were used for this study.

Intervention

The intervention for the current study was developed by the researcher using Transition Theory (Schlossberg et al., 1995) and the TGQ (Schlossberg & Kay, 2007). The 5 questions (Appendix Q) were intended to guide participants' self-reflection on the transition process from RN to FNP in order to assist them in the work of transition. The interventionists' responses to participants were intended to offer mentoring support and guidance.

Over the course of the current study, FNP students in the intervention were guided one-on-one via email by the faculty mentors, to reflect on the intervention questions and list their assets and deficits for transition balance. According to Huffstutler and Varnell (2006) engaging in self-reflection assists FNPs with the work of transition and FNPs who engage in self-reflection move more effectively into the FNP role. Huffstutler and Varnell strongly recommended using a mentor to facilitate the self-reflection process. This study sought to enhance participants' transition into the FNP role through mentor guided self-reflection and to add additional support for transition balance through the mentor-participant relationship.

A pilot study using a quasi-experimental repeated measures design to explore differences in nurse practitioner student outcomes based on degree of online faculty to-student interaction was carried out in the fall of 2009, prior to conducting the dissertation study. Based on these results a number of strategies were undertaken: 1. an additional search of the literature which led to measuring transition balance as the dependent variable, 2. a rephrased research question to better address the problem, 3. the adoption

of a change score to measure the outcomes as a better way to capture the effect of online faculty mentoring.

Two groups were planned for the intervention, one for each mentor. Participants randomized by institution to the intervention group were then split into two groups, one for each mentor. The primary researcher also took the control group. The primary researcher sent a welcome email message to each participant. The message included what to expect regarding participation in the study, and a link to Survey Monkey™ to complete the initial questionnaires (Appendices P). The mentors provided the intervention to FNP students via email communication.

The timetable for the intervention is displayed in Table 9. The intervention (Appendix (Q)) began with question 1, which asked participants to identify sources of stress and strategies for balancing transition. They were asked to reflect on their transition into the FNP role during the current semester and to identify other roles that may cause stress. A typical participant response was “Other roles include Mom, homeschooling, wife, and teacher.” The mentors provided support by sending an individual email reply to each student’s responses within 7 days. These messages were intended to support and affirm students’ experiences and reflections. The response sent to the above participant was “It sounds like you are juggling multiple roles, how long have you been homeschooling?” This participant did not reply further, in other cases if the participant chose to respond, then the intervener sent a message in reply.

The second part of the initial intervention question asked participants to identify strategies for coping with the stress of transition. One participant said that: “Strategies I use to cope are trying to prioritize, for example, if I don’t have time to do the dishes, I

don't stress about it.” The intervener responded: “Great coping mechanism.” The participant went on to say that: “My child and schoolwork are more important.” To which the mentor replied: “This is so true, you are a wise FNP student!”

Table 9

Timeline for Intervention

	Start Date	Complete Date
Research Study	2.19.11	5.16.11
Question 1	2.18.11	3.14.11
Question 2	3. 16.11	3.28.11
Question 3	3.29.11	4.11.11
Question 4	4.12.11	4.24.11
Question 5	4.26.11	5.6.11

A new question was posted electronically approximately every 2 weeks, as shown in Table 9, during the research study using Google Groups and email. Question 2 asked participants to reflect on their transition into the FNP role and assess their assets and supports. Question 3 asked participants to reflect on their transition into the FNP role so far into their semester and rate their level of physical and emotional energy on a scale of 1-5; they were also asked to evaluate their strategies for balance and if necessary make revisions. Question 4 asked participants to rate their level of support from family, spouse, friends, and others on a scale of 1-5.

The fifth and final question asked participants to review the roles and strategies that helped with transition during the semester. Towards the end of the study a number of participants shared their reflections in greater detail than at the beginning of the study. One individual shared that “Having a study plan helped me stay on track, staying positive and keeping my eye on the goal, having personal objectives for clinical, and remembering that although I am a master clinician as an RN I will be a novice FNP and will require mentoring and guidance for the first year” were all strategies that helped her maintain balance during this semester. The mentor responded “A-you are a wise woman! In particular developing personal objectives for clinical is an excellent strategy for success. How did you do with meeting those goals? The transition from expert back to novice clinician is a big challenge! The first step in meeting this challenge is to recognize that’s where you are, good for you to include mentoring for your first years in practice.” The final question of the intervention also guided participants to seek ways of strengthening their resources for managing the next phase of RN to FNP transition.

FNP student participants in the non-treatment group did not receive the mentoring intervention. This group participated in the study by completing the questionnaires on 2 occasions. This group received a mid-semester email message from the data collector (Appendices W). This group did not receive the self-reflection questions, nor participate in any additional interaction with the faculty mentors.

All study participants in both groups were sent a second email with the link to the final questionnaires on Survey Monkey™ by the researcher on May 5, 2011. The study data collector sent a reminder message on May 13th to those participants who had not yet completed the questionnaires. The link closed on May 16, 2011 at 5 pm, after which no

participant was able to access the questionnaires and no additional questionnaires could be completed. The data collector downloaded and transferred the files to the primary researcher. The study completion date was based on the academic calendars for the majority of institutions' 7 of the 8 institutions had ended their semester and held graduation by May 16th, so extending the completion deadline further was deemed unlikely to obtain additional responses.

Data Analysis

Preliminary Screening of Data

Preliminary screening.

Prior to conducting the analyses, preliminary screening of the data was conducted using SPSS 19.0. First, data were screened for missing items and assessed to determine if the data points were missing at random or in patterns (Kline, 2005; Rubin, 1976; West, 2001). There did not appear to be any pattern of missing data. It was not necessary to use the expectation-maximization procedure in SPSS 19 as planned for imputing missing values.

Participant responses were screened for missing questionnaires. If a participant was missing either the pretest or posttest questionnaire then the participant was removed from the analyses. This resulted in 21 participants being removed from the data analyses.

Data were screened for univariate outliers and those with more than 3.29 standard deviation units from the mean were removed. Two participants were removed from the study by this method. One had a MAI total score (14 points) which was 3.47 standard

deviations from the mean. The second participant was removed due to an outlier in the TGQ change score that was 3.69 standard deviations from the mean.

Multivariate outliers were assessed by requesting Mahalanobis Distance values (Tabachnick and Fidell, 2007). None of the data contained multivariate outliers. Since there were no multivariate outliers and univariate outliers were removed, univariate normality was obtained, and multivariate normality was not considered a problem (Kline, 2005; Tabachnick & Fidell, 2007).

Descriptive statistics.

Data were entered into SPSS 19.0 for Windows for analysis. Descriptive statistics were conducted on the sample demographics obtained from the Student Data Questionnaire (Appendix F). This included the frequencies and percentages, means and standard deviations. For categorical or nominal data (gender, marital status, race, main setting, and past RN clinical experience, academic institution, and method of program delivery) frequencies and percentages were calculated. Means and standard deviations were carried out on interval/ratio data (age, number of children living at home, years of nursing experience, number of different types of clinical practice, number of clinical practicum hours, and number of completed semester hours) (Howell, 2010).

Bivariate analyses.

Next, bivariate relations among main study variables were examined. These analyses were conducted for all variables and potential covariates (i.e., number of years as a nurse, number of semester hours, etc.). The purpose of these correlations was to identify potential covariates that could have had significant relations with study variables.

When a significant relationship existed, the variable was included in analyses described below to control for the potential influence of the covariate.

Inferential statistics.

The research questions and data analyses plans follow:

Research Question 1

After controlling for RN, graduate program, and student demographics, and potential mediators at time 1, does generalized self-efficacy mediate the relationship between online faculty mentoring and transition balance?

To examine research question 1, after controlling for RN, Program, and Students demographics, does Generalized Self-efficacy gain scores (Generalized Self-efficacy at time 2 minus Generalized Self-efficacy at time 1) mediate the relationship between online faculty mentoring and transition balance, four regressions were conducted: (1) mentoring predicting transition balance, (2) mentoring predicting generalized self-efficacy gain scores, (3) generalized self-efficacy gain scores predicting transition balance, and (4) mentoring and generalized self-efficacy gain scores predicting transition balance. For full mediation to be supported, the first three regressions needed to have been significant, and in regression 4 mentoring could no longer be a significant predictor of Transition balance. Partial mediation would be supported if regression 4 mentoring was still significant but the beta coefficient was smaller than it was in regression 1.

Research Question 2

After controlling for RN, graduate program, and student demographics, and potential mediators at time 1, does metacognitive awareness mediate the relationship between online faculty mentoring and transition balance?

To examine research question 2, after controlling for RN, Program, and Students demographics, does metacognitive awareness gain scores (metacognitive awareness at time 2 minus metacognitive awareness at time 1) mediate the relationship between online faculty mentoring and transition balance, four regression analyses were conducted: (1) mentoring predicting transition balance, (2) mentoring predicting metacognitive awareness gain scores, (3) metacognitive awareness gain scores predicting transition balance, and (4) mentoring and metacognitive awareness gain scores predicting transition balance. For full mediation to be supported, the first three regressions need to have been significant, and in regression 4 mentoring could no longer be a significant predictor of transition balance. Partial mediation would be supported when regression 4 mentoring was still significant but the beta coefficient was smaller than it was in regression 1.

Research Design Threats

There were threats to internal and external validity associated with this design (Shadish, Cook, & Campbell, 2002). Selection bias, an internal threat, was presumed to be present in this design since the 2 groups were nonequivalent. Several measures were planned to aid in controlling for selection bias. These included participant assignment to group by institution rather than by individual, and random assignment by the researcher of participating institutions to the treatment or comparison group.

Another threat to internal validity, treatment diffusion, could have occurred if research participants in the control group had become aware of the information and intended practices meant for the treatment group (Polit & Beck, 2008). This threat was controlled for by institutional assignment. Participants were recruited from 8 different universities. Of these, 5 were located in geographically separate areas near a major

Midwestern city; 3 were located in different states. All participants from each institution were assigned to the same group, either treatment or control, to safeguard against treatment diffusion.

Other potential threats to internal validity included compensatory rivalry and demoralization. Compensatory rivalry could have occurred if participants not receiving treatment become motivated to show they could do as well as those receiving treatment. Demoralization could have occurred if participants not receiving a treatment deemed desirable become resentful and respond more negatively than otherwise to questionnaires. Since participants in the 2 groups did not have access to each other due to institutional assignment, compensatory rivalry and demoralization should not have posed threats to this study.

History could have been a threat to internal validity as a result of concurrent external events that took place during the course of the study between repeated measures of the dependent variable (Polit & Beck, 2008). It could be conceivable that both the treatment and control groups might have an outcome effect due to events not related to the research interest. The researchers were vigilant for events during the course of the study and were not aware of any such occurrences. Since history effect cannot be completely controlled for in a quasi-experimental design, data analysis methods to examine for within group and between group differences was done to control for history (Shadish, et al., 2002).

Maturation of participants could have also posed a distant threat in that naturally occurring changes over time could be confused with the treatment (Polit & Beck, 2008). It is known that non-equivalent control groups are particularly susceptible to the

interaction effect of selection-maturation (Shadish, et al., 2002). Demographic data collection included the participants' age and years of RN experience; data was analyzed using descriptive statistics between and within groups. There were no appreciable age or experience related differences detected that pointed to significant differences in the non-equivalent group. An additional statistical analysis discussed by Shadish et al. (2002), was to plot the pretest scores against the maturational variable (age or years of experience) separately for each group. With this analysis, if the regression lines differ then different growth rates are likely and "such group differences in slope cannot be due to treatment because only the pretest scores have been analyzed" (Shadish et al., p. 140). This additional analysis was included in the study proposal, but was not necessary.

Instrumentation was another potential threat to the internal validity of this study. This could have occurred if the measuring instruments or methods changed between 2 points of data collection (Polit & Beck, 2008). In this study, data were collected by the same self-reported instruments in the same manner, thus reducing the potential threat of having a change in instrument or methods.

Experimenter expectancies and researcher bias could have threatened the validity of the study and the researcher's belief that the treatment would produce certain outcomes could exert influence on the participants' responses (Kerlinger & Lee, 2000; Polit & Beck, 2008). Several measures were carried out to reduce these threats. First and foremost, the researcher recognized that the outcome variables in this study were objective measures. Instructions and procedures for completing the questionnaires were identical for both the treatment and control groups as outlined in the Study Protocol discussed above. A second faculty mentor was added to this study to aid in safeguarding

against experimenter expectancy threats to validity. Employing a data collector for the study guarded against the threat of researcher bias influencing interpretation of the data.

Threats also included those to external validity (the generalizability of the study) (Polit & Beck, 2008). Convenience sampling can limit generalizability of the findings; the participants may not be representative of the FNP student population. In order to address this concern, FNP students were recruited from eight different universities in order to obtain a broad representation of the study population. These students were at different points in their program; some were nearing completion and had completed the majority of their clinical practicum courses, others were in their first clinical practicum, and some were in the first year of the program and had no clinical experience as an FNP student.

Inter-rater reliability and treatment fidelity were also threats to this study. Training of the interventionists was planned and implemented. A protocol manual was developed and plans were made for adherence. Inter-rater reliability, consistency of the interventionist's responses, is recognized as a particular threat to this study due to the nature of the treatment and delivery of the intervention. The researcher acknowledged this and set up the treatment groups so that differences in outcomes between interveners could be analyzed.

Other threats to external validity included the threat of setting and treatment variation interactions, which was minimized by the selection of comparable FNP programs for inclusion in the study. And finally, the threat of history-treatment interactions is recognized as particularly relevant to this study. The treatment and control groups came from different settings and could potentially experience a variance in local

history that would have affected the outcome variable. The researcher kept this mind and probed for events over the course of the study; none surfaced.

Chapter Summary

The method for the research study to explore online faculty mentoring of FNP students during graduate education and the effect on their RN to FNP role transition balance was discussed in this chapter. A quasi-experimental nonequivalent comparison group with pretest posttest was the design. A convenience sample ($N = 96$) of FNP students was recruited from 8 universities. Sample recruitment and institutional assignment of participants was discussed. The online faculty mentoring intervention (the independent variable) for FNP students enrolled in graduate coursework was detailed. Participants in the treatment group received 5 questions from the interveners to guide them in self-reflection in their role transition from RN to FNP. Two measures of the outcomes variables were taken, including transition balance and two mediator variables, generalized self-efficacy and metacognitive awareness.

Data collection utilized 4 instruments: The TGQ© (Schlossberg & Kay, 2007) (Appendix E) to measure transition balance; the GSE, (Schwarzer & Jerusalem, 1995) (Appendix C) to measure generalized self-efficacy; The MAI (Schraw & Dennison, 1994) (Appendix D) to measure metacognitive awareness; and the researcher-created Student Data Questionnaire (Appendix F). All participants were asked to complete a pretest of the first 3 questionnaires and at the end of the study all to complete a posttest of the same 3 questionnaires.

Measures to diminish internal and external validity threats were discussed, including selection bias, treatment diffusion, treatment fidelity and inter-rater reliability. The discussion also included a pilot study carried out eighteen months prior to this research study. Findings from the pilot study that aided in development of this study were presented.

Data analysis included descriptive statistics to describe the sample characteristics and to evaluate for normalcy. Change scores (time 2 minus time 1) on the GSE, MAI and GSE were calculated from the pretest and posttest scores. Preliminary correlations were conducted between the demographic variables and the three survey change scores (GSE, MAI, and TGQ) in order to assess which variables should be included as covariates in the regression analyses. Inferential statistics using regression analysis was used to assess the difference on transition balance between FNP students who received the online faculty mentoring intervention and those who do not receive the intervention.

CHAPTER 4

RESULTS

The primary purpose of this study was to examine the effect of online faculty mentoring on RN to FNP role transition balance during graduate education. A secondary aim was to examine whether self-efficacy and metacognition mediated the relationship between online faculty mentoring and transition balance. The overall participation rate was 52%; 94 were invited, 72 started and 49 completed the study. Participation rates varied between the treatment and control groups; this information is offered in Table 10.

The results are presented in this chapter. Descriptive data of the sample are presented first. This is followed by analysis of the findings for each research question. Additional analyses are also presented. Participant feedback is included.

Demographic Characteristics of Study Participants

Demographic data were collected at the beginning of the study and included personal demographics of age, gender, ethnicity, marital status, and number of children living at home; frequencies and percentages for participant demographics by group are contained in Table 10. The groups were equally matched with regard to percentage of gender (94% female, 6% male) and ethnicity (Caucasian and African American), although there were differences in Asian and Hispanic participant percentages. The treatment group had a greater percentage of single participants without children than the control group. Both groups had a nearly identical mean and median age, however in the treatment group there were 2 age modes, 25 and 34 years.

Table 10

Frequencies and Percentages for Participant Demographics

Demographic	Treatment	Control
Participation		
Invited	<i>n</i> =63	<i>n</i> =31
Started	(51, 81%)	(21, 68%)
Completed	(32, 51%)	(17, 55%)
Gender		
Female	59 (94%)	29 (94%)
Male	4 (6%)	2 (6%)
Marital Status		
Married	19 (42%)	10 (56%)
Other	2 (4%)	1 (5%)
Single	24 (53%)	7 (39%)
Children under 18		
0	30 (65%)	7 (39%)
1	5 (11.5%)	5 (28%)
2	4 (9%)	5 (28%)
3 or more	6 (14%)	1 (5%)

(table continued)

Table 10

Frequencies and Percentages for Participant Demographics (continued)

Demographic	Treatment	Control
Ethnicity		
African American	5 (11.5%)	2 (11%)
Asian	4 (8.5%)	1 (5%)
Caucasian	33 (73%)	13 (72%)
Hispanic	3 (6%)	2 (11%)
Age		
Mean	34.98	35.28
Median	34	33.5
Mode	25 and 34	33

RN Experience.

Information about RN experience was also collected and included the total number of years experience, the setting of clinical experience (acute care, long-term care or primary care), and areas of clinical experience (Adult Medical/Surgical, Community Health, Critical Care, Maternity, ED, OR/PACU, Pediatric, Mental Health). Information about RN clinical nursing experience is presented in Table 11. Participants were instructed to include all areas of their clinical nursing experience, which accounts for a total number greater than 100%.

Table 11

RN Experience by Group

Demographic	Treatment	Control
	N=51	N=21
Years RN Experience		
Mean	10.68	10.82
Median	8.0	10.0
Mode	8.0	4.0
Range	1-37	3-33
Current RN Practice Setting		
Hospital Inpatient	36 (72.0%)	14 (63.6%)
Primary Care	9 (17.65%)	5 (22.7%)
RN Experiences-All		
Adult Med/Surg.	27 (53.4%)	9 (42.9%)
Comm. Health	9 (17.65%)	4 (19.0%)
Critical Care	18 (35.29%)	7 (33.3%)
Emergency Dept.	9 (17.64)	7 (33.3%)
Maternity/Women's	5 (9.8%)	2 (9.5%)
Mental Health	3 (5.1%)	1 (4.8%)
OR/PACU	5 (9.8%)	1 (4.8%)
Pediatrics	14 (27.45%)	5 (23.8%)

Participants in this study had a range of RN experience between 1 and 37 years. The majority 69% ($n=50$) were currently working in a hospital setting caring for acutely ill patients and 28% ($n=14$) were working in primary care (health promotion, prevention, wellness activities). No participants were currently working in a long-term care setting. Nearly half of participants had RN experience caring for Adult Medical-Surgical patients.

FNP Program.

FNP program demographics were collected and are presented in Table 12. These included method of course delivery method, total number of completed clinical hours as an FNP student, and total number of completed semester hours. Participants in both groups were in FNP programs that were a combination of online and face-to-face courses, although there was a greater percentage in the treatment group in combination programs than in the control group (72.54% vs. 42.86%). There was a greater percent of participants in the control group in face-to-face programs than there were in the treatment group (57.41% vs. 15.69%). Few of the participants ($n=6$, 11.7%) were in a completely online FNP program and all were in the treatment group.

With regard to the total number of completed semester hours, the control group had completed on average 8 more semester hours than the treatment group (29.72 vs. 21.55); both groups had a standard deviation of approximately 18 semester hours. Across all groups the average number of completed semester hours was 23.11 ($SD = 18.33$). There was a wide range between participants in terms of completed clinical hours, 117.10 in the treatment group and 223.71 in the control group. The large standard deviation in both groups (treatment 155.03; control 182.39) is indicative of the wide range of this

program demographic. For all groups the average number of completed clinical hours was 155.01 ($SD = 174.18$).

Table 12

FNP Program Demographics by Group

Demographic	Treatment		Control	
	$N=51$		$N=21$	
Primary method				
Combination	37 (72.54%)		9 (42.86%)	
Face-to-face only	8 (15.69%)		12 (57.41%)	
Online completely	6 (11.76%)		0	
Completed Hours	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Semester Hours	21.55	18.56	29.72	17.48
Clinical Hours	117.10	155.03	223.71	182.39

Data Analyses**Attrition.**

In this study attrition was a concern; it is known that study drop out may decrease the representativeness of the sample under study (Shadish et al., 2002). The overall dropout rate for all participants was 30% from study start to completion of both sets of questionnaires.

Review of attrition by age shows that participants who dropped from the treatment group were younger in mean age than those who finished the study (29 vs. 34

years). The same held true for the control group, although there was less difference in years. The mean age of those who completed the study in group 2 was 35 years; the mean age of those who dropped from the control group was 33 years. There were no statistically significant differences in attrition overall by gender, although 2 of 4 males dropped from the treatment group. Attrition demographics by age and gender are shown in Table 13.

Table 13

Attrition Demographics by Group

	Treatment			Control		
	Start <i>N</i> =63	Finish <i>N</i> =32	Drop <i>N</i> =31	Start <i>N</i> =31	Finish <i>N</i> =17	Drop <i>N</i> =14
Age						
Mean	34.98	36.168	32.68	35.28	36	35
Median	34	34	29	33.5	35	33
Mode	25, 34	34	25.27	33	33, 36	26,33
Gender						
Female <i>n</i>	59	30	29	29	15	14
Male <i>n</i>	4	2	2	2	2	0

Instrument Scoring.

The total scores pretest and posttest were calculated for each of the 3 instruments. Change score was calculated by subtracting the pretest score from the posttest score for

each participant. Means and standard deviations for pretest, posttest, and change scores for all instruments by group are presented in Table 14.

Table 14

Means, Standard Deviations, and Change Scores for All Instruments by Groups

	Pretest		Posttest		Change	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Treatment						
GSE	33.68	3.18	33.20	3.09	-1.0455	2.85319
MAI	41.41	7.91	42.56	6.54	-1.0455	2.85319
TGQ	211.69	24.45	212.07	33.57	2.9231	26.00603
Control						
GSE	33.21	3.38	33.06	3.06	-.2353	3.66622
MAI	41.89	5.78	43.07	5.80	.4000	3.37639
TGQ	206.28	25.20	205.28	29.65	-1.2500	21.51434

From pretest to posttest, the GSE total scores decreased slightly in both groups, and the MAI scores increased slightly. From pretest to posttest the TGQ score increased slightly in the treatment group, and decreased slightly in the control group. None of the change scores were statistically significant.

Preliminary Correlations.

Prior to the hypothesis testing, preliminary correlations were conducted between the demographic variables and the 3 survey change scores (GSE, MAI, and TGQ) in order to assess which variables should be included as covariates. Results of the correlations are displayed in Table 15.

Table 15

Pearson Correlations between Demographics and Instrument Change Scores

	GSE Change	MAI Change	TGQ Change
Gender			
Female	-0.10	0.04	0.41*
Male			
Race			
Asian	0.14	-0.21	-0.23
Black	-0.08	0.35*	-0.11
Hispanic	0.21	-0.25	0.00
White	-0.18	0.03	0.19
Marital status			
Married	-0.05	-0.15	-0.31
Other marital	0.18	-0.15	0.20
Single	-0.05	0.22	0.20
Type of courses taken			
Combination	-0.07	-0.15	-0.10
Face to face	0.00	0.22	0.14
Online	0.11	-0.06	-0.04

(table continued)

Table 15

Pearson Correlations between Demographics and Instrument Change Scores (continued)

	GSE Change	MAI Change	TGQ Change
Number of children younger than 18 living at home	-0.24	-0.12	-0.17
Age	0.21	-0.09	-0.05
Setting: Acute Care	-0.35*	0.00	-0.03
Setting: Primary Care	0.35*	0.00	0.03
Total number of semester hours completed r	0.14	0.01	-0.05
Total number of CLINICAL hours completed r	-0.01	0.09	-0.24
Total years of RN experience	0.22	-0.04	0.08

Note. * $p < 0.05$. ** $p < 0.01$.

The preliminary correlations (Table 15) showed that no demographic variable was correlated with all 3 change scores, suggesting no relationship existed between any of the demographics and all 3 survey change scores. Therefore, no covariates were used in the later analyses.

Analyses Related to Research Questions

Research Question 1. In order to assess if generalized self-efficacy mediated the relationship between group (control vs. treatment) and TGQ change score, 3 regression analyses were conducted. The predictor variable was group membership (1, 0); the mediator variable was GSE change score; and the dependent variable was TGQ change score. In preliminary analysis, the assumptions of linear regression were assessed. Linearity was assessed for the interval variables through examination of the Normal P-P Plot and the assumption was met. Normality and homoscedasticity were assessed through examination of the residuals plot and the assumptions were met.

The first regression examined group membership (together) in predicting the TGQ change score. The results of the regression were not significant $F(1, 38) = 1.05, p = .311$, suggesting no relationship existed between group membership and TGQ change score.

The second regression examined group membership (control vs. treatment) in predicting GSE change score. The results of the regression were not significant $F(1, 35) = 0.17, p = .687$, suggesting no relationship existed between group membership and GSE change score.

The third regression examined the GSE change score predicting TGQ change score. The results of the regression were not significant $F(1, 31) = 1.80, p = .189$,

suggesting no relationship existed between GSE change score and TGQ change score. For successful mediation, either full or partial, the regression models must be statistically significant. In this study, group membership did not influence TGQ change score, and the mediator (GSE change) did not influence TGQ change score. The null hypothesis, that GSE change score did not mediate the relationship between group (control vs. both treatments) and TGQ change score, was retained. Results for all three regressions are presented in Table 16.

Table 16

Regression Mediation Analysis for GSE Change Score Mediating Group and TGQ Change Score

Source (Dependent Variable)	B	SE	<i>t</i>	<i>p</i>	
Group (TGQ change)	6.86	6.89	0.16	1.03	.311
Group (GSE change)	-0.46	1.12	-0.07	-0.41	.687
GSE change (TGQ change)	1.47	1.10	0.23	1.34	.189

Research Question 2. In order to assess if metacognitive awareness mediated the relationship between group (control vs. treatment) and TGQ change score, 3 regression analyses were conducted. In preliminary analysis, the assumptions of linear regression were assessed. The predictor variable was group membership (1, 0); the mediator variable was MAI change score; and the dependent variable was TGQ change score.

Data were inspected to determine that linearity, normality, and homoscedasticity assumptions were met.

The first regression examined group membership (together) predicting TGQ change score. The results of the regression were not significant $F(1, 38) = 1.05, p = .311$, suggesting no relationship existed between group and TGQ change score.

The second regression examined group membership predicting MAI change score. The results of the regression were not significant $F(1, 42) = 0.15, p = .701$, suggesting no relationship existed between group and MAI change score.

The third regression examined MAI change score predicting TGQ change score. The results of the regression were not significant $F(1, 35) = 0.25, p = .622$, suggesting no relationship existed between MAI and TGQ change scores. Results for all three regressions are presented in Table 17.

Table 17

Regression Mediation Analysis for MAI Change Score Mediating Group and TGQ Change Score

Source (Dependent Variable)	B	SE	<i>t</i>	<i>p</i>	
Group (TGQ change)	6.86	6.89	0.16	1.03	.311
Group (MAI change)	0.42	1.07	0.06	0.39	.701
MAI change (TGQ change)	0.50	1.01	0.08	0.50	.622

In this study group membership did not influence TGQ change score, and the mediator (MAI change) did not influence TGQ change score. The null hypothesis, that MAI change score does not mediate the relationship between group (control vs. both treatments) and TGQ change score, was retained.

Additional Data Analysis

Participants in the current study were recruited from both large and small universities. Questions were raised in the planning stage regarding whether there might be demographic or program differences between students enrolled in each type of institution. A search of the literature did not reveal information about whether student demographics or program characteristics differed by institution size. Therefore in order to obtain information about participants in this study, additional data analyses were planned and carried out. Three sets of chi square analysis were obtained to compare categorical variables (gender, marital status, ethnicity, and course delivery method) in the large and small institutions (Munro, 2005). Inspection of results indicates that no associations exist between the institution size, course delivery method, and the participants' demographic variables.

In order to determine whether there were differences between groups with regard to transition balance and metacognitive awareness that may not have been apparent by total score on the TGQ (Appendix E) or the MAI (Appendix D), additional analyses were carried out. A total score for each of the 4 TGQ subscales (situation, self, support, and strategies) was calculated for each participant. A *t* test to compare mean differences between groups was carried out (Munro, 2005). Results did not show statistical

significance between the treatment and control groups with regard to the 4 subscales of the TGQ. The same method of data analysis was carried out for the 8 subscales of the MAI (declarative knowledge, procedural knowledge, conditional knowledge, planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation). Inspection of *t* test results did not show statistical significance between the treatment and control groups with regard to the 8 subscales of the MAI.

According to the literature, years of RN experience is considered to be a factor for transition (Heitz et al., 2004). In order to assess if there were differences in years of RN experience for participants in the current study by group, an analysis of variance (ANOVA) was conducted. The assumptions of normality and homogeneity of variance were verified.

The results of the ANOVA were significant, $F(2, 60) = 5.30, p = .008$, suggesting that the years of RN experience were different by group. Post hoc analysis to determine where the difference in means lie was carried out with the Scheffe' test, which can be used with unequal sample sizes (Munro, 2005). There was a difference between institutions in the treatment group; those from LUC had statistically significant less RN experience than those from other institutions (LU, USF, UWM) by a difference of 8.12 points ($p = .005$). There was no difference between the control group and those from LUC or between the control group and those from the other institutions in the treatment group. Results of the ANOVA are presented in Table 18.

Table 18

ANOVA for Years of RN Experience by Group

Source	SS	<i>df</i>	MS	<i>F</i>	<i>p</i>
Group	723.60	2	361.83	5.30	.008
Error	4093.18	60	68.22		

Participant's Coping Strategies.

Participants in the treatment group of this study were guided by the interventionists to write down strategies for coping with transition at the beginning of the study and to evaluate these at the end of the study. These included staying focused on school; staying organized; prioritizing tasks at home in order to stay focused on school; compartmentalizing school, work, and family; planning time for work time and for play. Some participants made a decision to limit social life until after graduation. Another learned to say "no" to some volunteer opportunities that she normally would have liked to do.

Strategies aimed at maintaining physical health were employed by many FNP students and included eating a healthy diet, being 'religious' about bedtime and getting adequate sleep, and exercising regularly. Other strategies identified were the use of spiritual and religious practices: "prayer, prayer, prayer and more prayer" as one participant put it. Some sought support from members of their church.

Participant Feedback.

Although collection of participant feedback was not included in the study protocol, a number of participants offered feedback at the conclusion of the study. Comments expressed thanks and appreciation for the opportunity to learn about self and about transition. Some of the unsolicited comments were: "Thank you, I really enjoyed the study." "I enjoyed participating in your study! I learned a whole lot about myself." "Thanks again for letting me be part of this, I found it helped me think about how I want my transition to look". "Thanks again for your encouragement and good advice." "Thank you for your input! Answering that question really made me think more in depth about the whole picture." One participant commented from her perspective as a nurse educator on the need to look at transition in different levels of nursing education. "Thank you so much for the opportunity to be part of this research-I think it is extremely important to look at the transition of roles at every level. I am glad that you are looking at NPs."

Another FNP student credited her participation in the study with helping to decrease her level of stress; she said "I think participating in this study, writing my goals down and coming up with strategies (and then sticking to them) really made a difference in my stress level and ability to cope with the enormous workload." She added, "One other strategy I am going to use when I graduate is remembering that this will be a transition, and that I'm getting there."

Chapter Summary

This chapter presented the analysis of data. Demographic data were described using descriptive statistics. Data were obtained from 72 subjects attending 8 CCNE accredited masters degree FNP programs in 4 states: Illinois, Michigan, Pennsylvania, and Wisconsin. After screening for missing responses, data analyses were carried out on 49 sets of questionnaires.

The typical participant was Caucasian, female, age 34, without children at home. There were more single participants in the treatment group than in the control group, the treatment group also had fewer children at home than those in the control group. With regard to RN experience, there was a wide range, from 1 year to 37 years. The majority of participants (73.3%) worked in an inpatient hospital setting and 50% of participants had RN experience in adult medical surgical nursing. The majority of participants (57.8%) were in a combination of online and face-to-face FNP program. Participants in this study had completed an average of 23 semester hours and 155 clinical hours in their program.

The faculty mentoring intervention was carried out online using email. Participants in the treatment group responded to 5 questions over the course of 1 academic semester.

Transition balance was measured by the *Transition Guide Questionnaire* (TGQ) (Appendix E); generalized self-efficacy was measured by the *Generalized Self-Efficacy Scale* (GSE) (Appendix C) and metacognitive awareness by the *Metacognitive Awareness Inventory* (MAI) (Appendix D). Data collection took place over the spring semester of

2011. Participants completed the 3 surveys at pretest and at posttest. All surveys were completed electronically.

There were no statistically significant differences in change score from the pretest to the posttest score for participants. Data analyses showed that the GSE total scores decreased slightly pretest to posttest. From pretest to posttest, the MAI scores increased slightly. From pretest to posttest, the TGQ tests also increased only slightly. There were no statistical differences in change scores between the treatment groups. Additional analyses of the instrument subscales were carried out. Comparison of mean scores by groups showed no statistical differences.

Additional data analyses were carried out to determine whether there were differences between groups with regard to demographics and institution size, institution size and group (control and treatment) and between group (control and treatment) and demographics. There were no statistically significant differences between the groups.

There were no statistically significant findings at the conclusion of this study. Anecdotal responses collected at the end of the study provided some qualitative data that lends support to the positive effect of online faculty mentoring on FNP student transition balance during graduate school.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATION

This study was carried out to examine the effect of online faculty mentoring on RN to FNP role transition balance during graduate education. A secondary aim was to examine whether self-efficacy and metacognition mediated the relationship between online faculty mentoring and transition balance. While 72 FNP students began in the study, only 49 FNP students completed it. Chapter 5 begins with a summary of the study and its findings and concludes ends with conclusions, limitations, and recommendations for future research.

Summary of the Study

A pre-test post-test design using a nonequivalent comparison group (Shadish, Cook & Campbell, 2002) was employed to examine the effect of an online faculty mentoring intervention on transition balance, the primary outcome variable. In addition, two mediators, self-efficacy and metacognition, were included in this study to examine whether either mediated the relationship between online faculty mentoring and transition balance in FNP students during graduate school. Two experienced FNP faculty provided the intervention. A convenience sample of 72 FNP students was recruited from 8 universities in 4 states: Illinois, Michigan, Pennsylvania, and Wisconsin. The treatment ($n=51$) and control groups ($n=22$) were each drawn from 3 private and 1 state-supported university.

Transition balance was measured by the *Transition Guide Questionnaire* (TGQ) developed by Schlossberg and Kay (2007), generalized self-efficacy was measured by the *Generalized Self-Efficacy Scale* (GSE) developed by Schwarzer and Jerusalem (1995),

and metacognitive awareness by the *Metacognitive Awareness Inventory* (MAI) developed by Schraw and Dennison (1994). A researcher-designed demographic questionnaire was used to assess personal characteristics of participants and their RN experience, and to gather some information about their FNP program, at the start of the study.

Participants completed the three questionnaires (GSE, MAI, and TGQ) at the beginning of the study and at the end of the study. All questionnaires were administered and collected electronically via Survey Monkey™.

The faculty mentoring intervention was a series of questions posted by email to guide FNP students in self-reflection about their RN to FNP transition. The mentoring intervention questions for participants, developed by the researcher, were based on Transition Theory (Schlossberg et al., 1995) and the TGQ (Schlossberg & Kay, 2007). Once the study began, the questions were posted at approximately 2-week intervals during the semester; students responded to the questions, and mentors then replied to those responses within 1 week. The mentors provided one-to-one responses that were intended to guide and support participants.

No statistically significant differences were found between groups in change scores from pretest to posttest on Transition balance as measured by the *Transition Guide Questionnaire* (TGQ). Neither generalized self-efficacy as measured by the *Generalized Self-Efficacy Scale* (GSE), nor metacognition as measured by the *Metacognitive Awareness Inventory* (MAI) appeared to mediate the relationship between online faculty mentoring and transition balance in FNP students. Analysis of the demographic data

showed that there were no significant relationships between the demographic variables of age, gender, marital status, and children less than 18 living at home.

There was a statistically significant difference of 8.12 points ($p = .005$) between total years of RN experience between participants from one institution (LUC) of the treatment group and the control group. There were no differences between participants from LUC and participants from the other 3 institutions in the treatment group, nor were there differences between participants from LUC and from the 4 institutions in the control group.

The findings related to RN experience did not show statistical significance with regard to the outcome variables. There were no differences between years of RN experience, the setting and type of RN experience, FNP program delivery method and number of completed semester hours and clinical hours, and the 3 survey change scores (GSE, MAI, and TGQ).

Discussion of Findings

Transition balance.

In this study no statistically significant change was seen in the transition balance scores measured at the start of the study and at the end of the study in either the treatment or control group. There are several possible reasons for this finding.

One reason for these results could be related to demographic characteristics. In the studies of FNP role transition by Heitz et al. (2004) and Steiner et al. (2008) demographic characteristics affected transition balance. They found that the additional roles of wife and mother were sources of stress and deficits for transition balance. In the

literature that was reviewed, RNs transitioning into the FNP role needed additional sources of support in order to balance transition due to the demands of these other roles. In the current study less than half (46.7%) of the participants were married and the majority of participants (55.6%) did not have children; they were not juggling the role of spouse and parent for children younger than 18 at home. Participants in the current study did not have the additional roles that were noted in the literature to be deficits. Participants may not have needed additional support for transition balance during the time they were a part of this study.

Heitz et al. (2004) also noted that for those with greater years of RN experience it was more difficult to let go of the RN role. In this study the mean years of RN experience were 11.51 with a large standard deviation ($SD=9.91$) and a wide range spanning from 1 to 37 years. Consideration was given that the wide range of years may have blunted the effect of this factor. An analysis of variance (ANOVA) was conducted to assess the differences in RN experience by institution and group. Review of results showed that participants from one institution in the treatment group had statistically significant less RN experience than those from the other 3 institutions in the treatment group by a difference of 8.12 points ($p = .005$). The challenge of letting go of the RN role may not have been present for participants in this group due to their fewer number of years in the RN role.

Participants in this study differed from the groups studied by other researchers with regard to marital status and children at home, particularly in the treatment group. As discussed above, these differences may help explain why demographics did not appear to affect transition balance for FNP students in the current study.

Generalized self-efficacy.

There was no statistically significant change in the generalized self-efficacy scores measured at time 1 and time 2 in either the treatment or control group. There was no statistical significance to indicate that generalized self-efficacy mediated online faculty mentoring in FNP students. Possible reasons for this finding include timing of the 2nd measurement and conceptualization of generalized self-efficacy.

The researcher hypothesized that generalized self-efficacy was a factor for successful transition. It has been reported in the literature that higher self-efficacy is accompanied by a sense of control over one's environment; when the environment poses challenges the self-efficacious individual takes action to adapt (Luszczynska, Scholz & Schwarzer, 2005). Conceptually and theoretically it makes sense that an FNP student who believes that she or he is capable of attaining a goal or producing a desired effect, such as transition to a new role, can in fact put a plan in place to meet that goal. A desire to better understand how self-efficacy affects transition or what role it plays was the impetus for including it in this study.

In the literature reviewed for this study, studies by two researchers who explored domain specific self-efficacy and mentoring of NP students were relevant the current study. Hayes (1998) and Neal (2008) examined the affect of perceived preceptor mentoring on self-efficacy for physical exam in NP students. Their findings differed; Hayes found a small positive correlation with perceptions of mentoring and self-efficacy for physical exam, but Neal found no statistical significance in NP students who perceived themselves as being mentored and their self-efficacy for physical exam. Neal theorized that NP students, all RNs, were confident in their physical exam skills and a

change due to mentoring would not be statistically significant. The researcher for the current study found results comparable to Neal's in a pilot study conducted in the fall of 2009. Based on these findings, generalized self-efficacy, rather than domain specific self-efficacy, was included as a mediator for the current study.

Participants in this study began with relatively high average mean scores for generalized self-efficacy (85%). There may have been little opportunity to increase their scores regardless of the intervention. Or it may be that generalized self-efficacy is static and remains at a steady state. Conversely, it may not be feasible to measure changes large enough for statistical significance over a period of months.

It was interesting to note that GSE change scores showed a slight, but statistically insignificant, decrease in size, an opposite finding from what was expected. One wonders if the stresses and challenges of graduate education during the semester may have resulted in some participants feeling less capable of making the transition and attaining the goal of becoming an FNP. Perhaps delaying the second measure until completion of the semester when the stress of deadlines had passed would have yielded a different result. Although this study did not have statistical significance demonstrating that generalized self-efficacy mediates transition balance in FNP students, further research about how generalized self-efficacy affects transition balance may lead to a better understanding of the role this plays in transition.

Metacognitive awareness.

Metacognitive awareness did not change with the online faculty mentoring intervention defined in this study. Possible reasons for this finding include the limited

amount of what is known about metacognitive awareness. There may have been an issue with conceptualization of the variable and with measurement of it.

The research on metacognitive awareness and nursing education is limited to undergraduate students in the clinical setting (Beitz, 1996; Peters, 2000). Examination of the effect of metacognition in graduate education and relevance for FNP transition is its infancy. One of Beitz's (1996) recommendations was that nursing faculty facilitate metacognitive awareness in students in order to aid them in planning and monitoring their own understanding about how to approach a problem when caring for patients in the clinical setting. One area for further exploration could be a longitudinal study to explore the role of metacognitive awareness in FNP students over several semesters and during clinical practicum courses.

Findings related to the conceptual framework

Transition Theory (Schlossberg et al., 1995) was the conceptual framework for this study. According to this model, adults experience transitions as a process of *moving in, moving through, and moving out*. Each individual has a set of unique assets and deficits with which to balance the challenges of transition. The TGQ questionnaire (Schlossberg & Kay, 2007) is an instrument developed by the theorist for individuals in transition to assess their assets and deficits. The TGQ questionnaire uses the 4S system of situation, self, support, and strategies for an individual to assess transition balance. Each of the 4Ss will be discussed as they relate to the study participants.

Situation. The situation for this study was transition from RN to FNP during graduate school. According to Transition Theory characteristics of the situation may vary due to the trigger and timing, how the transition relates to one's social clock, what

aspects of the transition are viewed as controllable, previous experience with transition, concurrent stresses, and an individual's view of whether this is a stressful situation (Goodman et al., 2006).

In this study the situation characteristics were not examined on a case-by-case basis. Rather, this study looked at each participant as experiencing the same transition. How the student came to graduate school in terms of her or his social clock, previous experience with transition, and individuals' progress through their programs were not considered. It may be that additional exploration of where an individual is in the transition process, i.e. *moving in*, *moving through*, or *moving out*, could provide deeper insight into the RN to FNP transition process during graduate school.

Participants' stage in their FNP program may be relevant for developing the type of faculty support necessary to aid in transition balance. It may be that students entering graduate school have different support needs than those in their second year and those nearing program completion. The research design attempted to control for these factors by including the number of completed semester hours and clinical hours, however these factors were not statistically significant for participants in this study with regard to the outcome variables. The intervention did not differ based on where a participant was in terms of program progression.

Support. According to the model, the challenges of transition can be balanced by enhancing assets of support from family, friends, and institutions. In this study an enhanced level of support was offered to participants in the treatment group. The intervention may not have been strong enough to lead to a measurable level of change in

transition balance. Or, as discussed above, it may not have been tailored enough to meet the need of students at varying levels of program completion.

A lack of support from family, friends, and institutions can be deficits for transition balance. Lack of support as a separate entity was not measured in this study. The lack of a statistically significant difference may be explained in part by not including measurement of support deficits in this study. It is plausible that there was a decrease in support deficit with the intervention; or it may have been that each participant had an adequate level of support throughout the time this study was conducted. Schlossberg et al. (1995) discuss visualizing support by viewing the person in transition at the center of a circle surrounded by a convoy of support. The convoy includes support from family, friends, and community. One of the factors for assessing support in the Transition Model is to look how the transition impacts the individual's convoy of support. In this study the participants' convoy of support was not evaluated.

It is also possible that participants in the current study were receiving institutional support and mentoring from their own faculty, program director, and or clinical preceptors. Participants were asked to rank the level of external resources other than family or friends, but were not directly asked about program director, faculty, or clinical preceptor support or mentoring.

Self. Characteristics of the self are part of this model; these include personal attributes and demographic characteristics. For this study 1 personal attribute and select demographic characteristics were collected and evaluated. Data analyses suggest that no relationship existed between any of the demographics and the 3 survey change scores.

As discussed earlier, this may be due to differences in demographic characteristics between the groups that had been studied previously and this group.

In this model generalized self-efficacy is one of several personal attributes for coping with transition; it was included in this study. Schlossberg et al. (1995) also include spirituality, stage of life, state of health, ego development, outlook, commitment, and optimism as characteristics of self in their model. The effect of these personal attributes may have been factors for transition balance for participants in this study. However, it was not possible to include all personal attributes of the self as variables in this research study. Additional research may yield statistically significant differences with regard to the effect of spirituality, stage of life, state of health, ego development, outlook, commitment, and optimism on transition balance.

Strategies. In this model strategies for coping include three types of activities for dealing with transition and seeking balance. These are activities that modify the situation, control the meaning of the problem, and help to manage stress. The strategies for coping vary between individuals; different strategies are employed by individuals in different situations and individuals in the same situation may employ different strategies.

Participants in the treatment group in this study were guided by the mentors to write down strategies for coping with transition at the beginning of the study and to evaluate these at the end of the study. A variety of all 3 types of strategies was reported. Although qualitative data analysis was not part of the study protocol, there is much rich information to analyze. Future qualitative data analysis may yield information that could give additional insight into RN to FNP role transition during graduate school. Thematic

analysis (Riessman, 2008) of the participants and interveners correspondence may yield may yield new thematic elements with regard to transition.

TGQ Instrument. The TGQ instrument has been used in counseling, but has limited use in research studies. The instrument may not be able to detect subtle differences or changes over time in transition balance. Although inspection of the results from a pilot study of the instruments showed high reliability of the TGQ ($\alpha = 0.89$) it may not have captured the factors affecting transition balance in the FNP students in this study.

Findings related to mentoring.

Online environment. The majority of participants in this study were familiar with the online environment; overall 64% reported course delivery as a combination of online and face-to-face and 8% reported a totally online environment for course delivery. All of the totally online environment participants were in the treatment group. There were 27% of participants who reported a totally face-to-face course environment; the majority being in the control group. Information about participants' course enrollment in an online class during the period of the current study was not obtained. This may have been informative. If participants were accessing the online environment solely for the study, this may have been a burden and a factor with regard to attrition.

In spite of familiarity with the online environment, inspection of the findings from the current study showed that the online environment may not be ideal for carrying out this type of intervention. Although it is a user -friendly environment, the high attrition rate and lack of statistical significance in the current study point to shortcomings. Despite the ease of use described in the literature and found in carrying out this study, the

mentoring intervention did not yield statistically significant results with regard to the outcomes measured. Although there were no technological impediments identified during the study, or at least none were reported by participants, the electronic environment is not without its challenges.

There can be an impersonal feel to the online interaction. The lack of face-to-face contact does not allow for sharing of non-verbal messages such as facial expression, eye gaze, and gestures. Body language, posture, touch, and tone of voice are all missing in electronic communication. In the electronic environment communication is limited to words, which may be insufficient to accurately convey thoughts and meaning. Nonverbal communication is important in human interaction. In fact, estimates are that between 65 to 90 percent of human communication is non-verbal (Bonvillain, 1999). It is estimated that 55 percent of non-verbal communication conveys meaning through body language (mainly facial expressions) and 20 percent by tone of voice account (volume, pitch, rhythm) (Knapp & Hall, 2001). Thus the inability of participants in this study to communicate non-verbally may be been a deterrent to development of a mentoring relationship.

The online environment may not be adequate to convey the psychosocial functions of mentoring (counseling, acceptance, role modeling, and friendship) identified by Yoder (1990). According to Yoder (1990), it is the "Psychosocial functions [that] primarily promote a sense of competence, clarity of identity, and effectiveness in role acquisition" (p. 11). It may be that the psychosocial functions are essential for determining significance, particularly during graduate school.

Lack of time was identified as constraint and even a barrier to mentoring by several authors (Eby et al., 2000; Vance, 2002). Results from the current study seem to indicate that a mentoring relationship requires more than convenience of time, ease of use, and inexpensive cost as described in the literature (Ensher, Heun & Blanchard, 2003; Kalisch, Falzetta & Cooke, 2005). The asynchronous schedule did allow for mutually convenient communication between the participants and interventionists in this study, a finding that corroborates Muller's (2003) work with MentorNet, an E-Mentoring Network for Women in Engineering and Science. That said, time was required to engage in the relationship. During the busy semester there were times that it became challenging for both interventionists to read and respond to each participant within the 1-week time frame.

Ehrich et al. (2002) found that ineffective mentoring relationships and relationship problems arose from a number of areas including mentor-protégé mismatch, and lack of training or understanding the goals of the mentoring program. It may be that there were some mismatches of mentors and protégés in the current study. There also could have been a lack of understanding about the goals on the part of study participants. Both of these factors could have contributed to the lack of statistically significant findings.

Reciprocity. The mentors for this study were two experienced FNP faculty from different institutions, both teaching and actively engaged in clinical practice. Both discovered an emerging reciprocal nature to the mentoring relationship with some participants. This was a pleasant and unexpected finding that supports the literature,

namely that mentoring is not a one-sided relationship and offers benefits to both mentor and mentee (Yoder, 1990).

Study attrition.

Attrition was an issue in spite of the strategies planned to deal with this potential problem. This included an opportunity for all participants to win a \$50 Amazon.com gift certificate at the end of the study. Although the treatment group had a higher study start rate (81%) than the control group (68%), a greater percent in the control group went on to complete the study than did the treatment group (55% vs. 51%). Within the treatment group participants from 1 institution (LUC) had a higher attrition rate (57%) than participants from the other 3 institutions (39%). This may reflect something unique with regard to that institution. Although not all students were in the same courses at LUC, they were on the same semester calendar. There may have been something internally regarding the institution or academic program. Or there may have been factors unrelated to the institution. Dynamics within the group itself or between the interventionist and participants could help explain the attrition rate.

Participant burden may be a possibility. As noted above, the control group had lower higher attrition rate (45%) when compared to treatment group (49%). A secondary data analysis of those who did complete the questionnaires and those who did not might aid in providing valuable information for additional research studies.

While the reasons for attrition rates are not known, the timing of data collection may be a contributing factor. At the recruitment phase at the beginning of the semester in January, students were eager to participate in the study. At the end of the study students may have felt overwhelmed with upcoming deadlines and end of year requirements. For

those students preparing to graduate additional obligations may have superceded their interest in completing the study and well as their perceived value of the current study.

Methodological Issues

There were methodological issues associated with this study. The online environment offers confidentiality to participants and is thought to decrease response bias (Cantrell & Pulinacci, 2007). Yet it also makes it difficult to follow up with individuals if data are missing. Incomplete sets of questionnaires posed a major concern for this study even though a study data collector kept track of responses and collected the questionnaires. Some participants did not complete the demographic questionnaire, but did participate in the study; some participants did not complete the pretest and only completed the posttest; and some participants completed the pretest, but not the posttest. The response required feature in Survey Monkey™ was used for all questionnaires. It could be that participants became frustrated by this and chose not to complete surveys at all. The incomplete responses may also be related to the total number of questions on the instruments used for this study. Busy graduate students may have determined that 130 questions were burdensome and hence chose not to answer.

Another factor may be that the delay in beginning the study which cut short the amount of time for the online faculty mentoring intervention by 4 weeks. It may be that the shortened length of time for the intervention was insufficient for demonstrating statistical significance with regard to the outcomes.

A post-study reflection raised a methodological concern with regard to the strength of the intervention. The intervention contained 5 questions with interventionist responses. It may have been insufficient in strength to yield statistically significant

results. The intervention may not have been tailored appropriately to add support for FNP students at varying levels of program completion.

Conclusions

The following conclusions are offered based on the findings of this study:

1. In this study, online faculty mentoring did not appear to affect transition balance in FNP students over the course of one academic semester.
2. In this study, metacognitive awareness did not appear to mediate the relationship between online faculty mentoring and transition balance in FNP students over the course of one academic semester.
3. In this study, generalized self-efficacy did not appear to mediate the relationship between online faculty mentoring and transition balance in FNP students over the course of one academic semester.
4. In this study, FNP students' personal demographics did not appear to have a direct affect on their transition balance, generalized self-efficacy, or metacognitive awareness.
5. In this study, FNP program characteristics did not appear to have a direct affect on transition balance.
6. In this study, RN total years of experience, setting, and types of experience did not appear to have a direct effect on transition balance.

Limitations

There were several limitations for this study, including recruitment, timing, characteristics of the sample, use of self-reported instruments, and the strength of the intervention. Each will be discussed further.

In order to obtain a large enough sample for this study, recruitment was undertaken at 8 institutions. Not all institutions accepted the IRB-approved protocol from the University of Wisconsin-Milwaukee. The IRB process varied in terms of what was required and length of time to obtain approval at each of the other institutions. This in turn impacted the start date for recruitment and ultimately the timing for the study start date. The intent was to begin the study at the start of spring semester in January 2011. Due to the lengthy recruitment phase, the study did not begin until mid-February. As a consequence of this unexpected delay in start time there was a decreased amount of time to carry out the intervention.

The duration of the online intervention may have not have been long enough to measure change on the outcome variables. In the literature reviewed for this study, the length of time for mentoring relationships spanned from 3 months (Andrews & Chilton, 2000) to several years (Stewart & Krueger, 1996). It could be that the time period of 3 months was less than adequate for developing the mentoring relationship between the interventionists and participants in this study. Perhaps carrying out the intervention over a longer period of time may have led to greater differences in change scores.

Another timing related factor was that the second measurement may have been taken at an inopportune point. Perhaps after the end of the semester, when participants were no longer working to meet deadlines for assignments and exams, may have been a

better time to take the second measure. Post-semester measurement may have allowed for participants to reflect more fully on their experience.

Non-probability convenience sampling was used which may have limited generalizability of findings. However, in spite of its weakness, convenience sampling is the most common sampling method in nursing as well as in many other disciplines (Polit & Beck, 2008). There was little diversity among participants; the majority of participants were Caucasian and female. Although this is generally representative of the population of nurses in the U. S., the homogeneity of the sample may also be a limitation for generalizability.

The instruments for the study were self-reported. Trustworthiness and validity of responses could be compromised if respondents sought only to present themselves in the best light. However, collecting the responses electronically allowed for anonymity, which enhances the likelihood of obtaining candid responses (Polit & Beck, 2008). And the cost and time to administer self-reported questionnaires is much less than a face-to-face method. Both cost and time were major considerations for carrying out the study.

Lack of statistical significance in this study may be due to sample size and level of power. The power analysis was based on a medium effect size of .15 and calculation called for a sample size of 68. A medium effect size of .15 may have been inadequate to detect actual differences between the groups (Kerlinger & Lee, 2000). And the reduced sample of 49 may have also been too small to detect differences between the groups.

Another limitation was that FNP student participants were at varying points in their educations. The current study design attempted to control for this by measuring the number of completed semester hours at the start of the study. Inspection of results

showed that for participants there was a wide range (0 to 50) of completed semester hours. The overall mean for all participants was 23.89 ($SD=18.50$); for the treatment the mean was 21.55 ($SD=18.56$) and control group mean was 29.72 ($SD=17.48$). There was also a wide range between institutions for the total number of semester hours (36 to 54) in their FNP program (Table 2, Appendix M). This variation makes it less appropriate to generalize about this particular FNP program characteristic. For example, an FNP student who had completed 29.72 hours in a 36-hour program would be likely be at a different stage of transition than a student who had completed 29.72 hours of a 54-hour program.

Appropriateness of the intervention with regard to degree of program progress was also a limitation noted at post-study. For students moving into graduate education they may need more support with how to manage time, say no to requests and invitations, and put off social events until the semester was completed. Students in the moving through stage may need an intervention to prepare them for clinical practica. The FNP clinical rotations differ in many ways from pre-licensure clinical coursework. The placement is one-to-one, rather than in a group. The preceptor may be an NP or a physician, while there is a clinical faculty advisor; he or she is not in the clinical setting with the student on a regular basis. The setting is usually in the community and may be in an underserved area; for some FNP students these are all new environments and may pose challenges. Even the dress code is different from the hospital environment! Business professional is expected; scrubs are not appropriate.

For students moving out of graduate education, the intervention may have been insufficient support to assist them in launching into the next phase of transition. The

myriad of steps necessary to become a licensed, practicing FNP can seem daunting. Assembling the required documentation and completing the application for the certification exam is a lengthy process. Even deciding between which of the two certification exams to take poses a challenge for students. There are many ways that a faculty mentoring intervention could assist students with transition at completion of their program. A tailored intervention that assessed the level and degree of current program support may be worth consideration for further exploration. However, there was a wide range between groups regarding the number of completed clinical hours. In fact the control group had completed more than twice as many hours in the clinical setting. This group would have greater exposure to the FNP role by virtue of being in the clinical site. They also may have been receiving some type of mentoring from their clinical preceptor and or university faculty; this was not measured. Future research may be warranted to explore differences in transition balance between students at varying levels of graduate education.

Implications

Although the findings of this study are limited, there are implications for nursing education, nursing practice, nursing theory, and nursing research. Two factors to consider for education, practice, and research include time and timing of the intervention and FNP student stage of program progression. It is known that the transition process from RN to FNP is a challenging, stressful, and demanding time. The effect of online faculty mentoring over the course of 1 semester did not show statistically significant differences in transition balance between those who did and did not receive the

intervention. However, at the conclusion of the study participants in the treatment groups spontaneously shared their enthusiasm for the intervention.

Nursing education.

The length of time required to develop a mentoring relationship is not universally agreed upon; in the literature it varies from 3 months to many years. This study took place over 3 months; results were not statistically significant. A longer time period, 1 full academic year, may be more appropriate. A full year would permit more ebb and flow to the relationship. In nursing education this could be done by pairing faculty with the same group of FNP students for an entire year.

Guidance and support for transition could be a component of good teaching learning strategy for NP education. From the literature reviewed for the current study, it is not clear that this is current practice in graduate nurse education. One significant difference between teaching and mentoring is that mentoring is a non-evaluative relationship. This may enable students to share more freely and seek out assistance from faculty without the stress of grades. The non-evaluative component can be reciprocal; faculty can engage in a relationship with students without the need for assigning grades.

Another consideration for nursing education is the timing of the intervention. There may be stages in the graduate program that correspond to stages of RN to FNP role transition. Tailoring the reflective questions and responses to those stages may enhance the intervention. Spreading out the guided self-reflection questions over a longer period of time should also be considered. That way both mentees and mentors could have additional time for reflecting and responding to each other. This may strengthen the intervention and in turn lead to more significant results. There may also be different

needs for faculty support from students of different ages and stages of development; these factors were not fully explored in the current study and may warrant additional investigation.

Implementing mentoring as a teaching-learning strategy would require time. The biggest impact for nursing education would be with regard to faculty workload. Successful mentoring requires training the mentors, developing a program, and time to carry out relationship.

Nursing practice.

According to the literature, the transition from RN to FNP practice is difficult, stressful, and challenging. Perhaps this turbulent time is a rite of passage; a point in time that is necessary for each individual. It may be that mentoring or other forms of support do not alter the passage into practice. Since this is not known, an additional area for research could be to use Transition Theory as the framework to explore the effect of faculty mentoring on the post-graduate transition phase into practice. If the effect of faculty mentoring carried over into successful transition into practice implementing this model during graduate school could be worthwhile.

Nursing theory.

Transitions as a concept in nursing have been explored and reported in the literature (Meleis, 2007; Meleis et al., 2000). However, the concept of FNP role transition is not well researched. Development of a model based on additional research could aid in identifying key ideas about RN to FNP practice. Transition Theory may offer a framework for theory development to help understand the transition to NP nursing practice in a more complete way. This fits with theory development in nursing which,

according to Walker and Avant (2005) no matter how small or large in scope “is aimed at helping the nurse to understand practice in a more complete and insightful way” (p. 4). There is ample opportunity for developing a conceptual basis for transition into NP practice.

Nursing research.

This study is the beginning of research on the transition from RN to FNP role during graduate school. It appears that both qualitative and quantitative research is needed in order to determine what factors affect balance for FNP students as they learn to take on a new role and make the transition from “the side of the bed to the head of the bed” (Cusson & Viggiano, 2002, p. 22). Longitudinal studies may identify events that are deficits to and strategies that are assets for FNP students’ transition from RN to novice FNP. Further research is needed to identify ways that faculty can aid students and facilitate the first phase of transition during graduate school. A larger study with more participants and mentors could yield statistically significant findings. A comparison of face-to-face and online faculty mentoring could add to the knowledge about mentoring.

Recommendations for Further Research

The following recommendations are based on the findings of this study:

1. Replicate this study using wider sampling and additional faculty as mentors from schools located in various areas across the United States. This would allow for a larger sample size and could lead to generalizability of the results.

2. Replicate this study over a longer period of time. A longitudinal study over one full academic year, or from start of FNP clinical practica to graduation be a more accurate reflection of RN to FNP transition during graduate school.
3. Examine the effect of both face-to-face and online faculty mentoring.
4. Study the effect of faculty mentoring during graduate school to evaluate whether there are differences in transition into practice.
5. Explore the RN to FNP transition from a generational perspective to determine differences and similarities between age groups.
6. Refine mentoring intervention to make it more inclusive for different stages of transition.
7. Increase strength of mentoring intervention to evaluate whether a higher dose would lead to statistical significance with regard to outcome variables.

Chapter Summary

This quasi-experimental study, using a nonequivalent comparison group pre-test post-test design, investigated the effect of online faculty mentoring on RN to FNP role transition balance in graduate nursing students. Metacognition and self-efficacy were studied as mediating factors. Transition Theory was used to guide this study and provided the framework for evaluating the outcome, transition balance.

The sample ($N = 72$) of FNP students was recruited from 8 universities in 4 states. All FNP students enrolled at those institutions were eligible to participate. Participants were first randomized into groups (treatment or control) by institution. Each group included 1 large state funded university and 3 smaller private universities. This resulted

in a greater number of participants in the treatment group ($N = 51$) than in the control group ($N = 21$).

The treatment consisted of a researcher developed online faculty mentoring intervention where the interventionists posted identical questions approximately every 2 weeks. These questions were intended to guide the FNP students in self-reflection about their transition and to aid them in evaluating their assets and deficits for transition. The interventionists offered encouragement and support in response to students' answers to the self-reflection questions. The interventionists also encouraged participants to use positive self-talk as a coping strategy.

This study examined the effect of online faculty mentoring on three outcome variables: Transition balance, measured by the *Transition Guide Questionnaire* (TGQ) (Appendix E); generalized self-efficacy measured by the *Generalized Self-Efficacy Scale* (GSE) (Appendix C) and metacognitive awareness by the *Metacognitive Awareness Inventory* (MAI) (Appendix D). A change score was calculated by subtracting the pretest score from the posttest score for each participant. From pretest to posttest, the GSE total scores decreased slightly. From pretest to posttest, the MAI scores increased slightly. From pretest to posttest, the TGQ tests also increased only slightly. There were no statistically significant differences in change score from the pretest posttest score for participants. FNP students' transition balance did not appear to be influenced by online faculty mentoring. Generalized self-efficacy and metacognition did not appear to be factors for FNP students' transition balance, nor do they appear to mediate the affect of online faculty mentoring.

There were no statistical differences in change scores between the treatment groups. The interventionists appeared to have treatment fidelity with administering the online mentoring intervention.

Methodological issues were discussed and included the lengthy IRB and recruitment processes, which negatively affected the study start date. Limitations to the study include lack of timing, generalizability, small sample size, and a relatively high attrition rate. One of the instruments had limited use in research settings.

The implications of the findings on nursing education, practice, research and theory were proposed. Conclusions were drawn and recommendations for further research were presented including both new research and secondary data analysis using qualitative methods for the data obtained in this study.

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Appendix A

Permission to Reproduce Springer Publishing Company Figures

Appendix A

Springer Publishing Company Permission

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Appendix B

Permission to Adapt Transition and Taking Stock of Coping Resources Figure

Appendix B

Permission to adapt the Transition and Taking Stock of Coping Resources figure for research purposes obtained from Stephanie Kay, [REDACTED], September 21, 2010.

Appendix C

The General Self-Efficacy Scale Tool

Appendix C

The General Self-Efficacy Scale Tool

Used with permission from the authors, June 2, 2010 R. Schwarzer and M. Jerusalem
(Appendix G)

Response Format: 1 = Not at all true
 2 = Hardly true
 3 = Moderately true
 4 = Exactly true

- ___ 1. I can always manage to solve difficult problems if I try hard enough.
- ___ 2. If someone opposes me, I can find the means and ways to get what I want.
- ___ 3. It is easy for me to stick to my aims and accomplish my goals.
- ___ 4. I am confident that I could deal efficiently with unexpected events.
- ___ 5. Thanks to my resourcefulness, I know how to handle unforeseen situations.
- ___ 6. I can solve most problems if I invest the necessary effort.
- ___ 7. I can remain calm when facing difficulties because I can rely on my coping abilities.
- ___ 8. When I am confronted with a problem, I can usually find several solutions.
- ___ 9. If I am in trouble, I can usually think of a solution.
- ___ 10. I can usually handle whatever comes my way.

Appendix D

The Metacognitive Awareness Inventory Tool

Appendix D

Metacognitive Awareness Inventory (MAI) Tool

Used with permission of the author Gregory Schraw, PhD June 3, 2010 (Appendix H)

Check True or False as appropriate.

	True	False
1. I ask myself periodically if I am meeting my goals.		
2. I consider several alternatives to a problem before I answer.		
3. I try to use strategies that have worked in the past.		
4. I pace myself while learning in order to have enough time.		
5. I understand my intellectual strengths and weaknesses.		
6. I think about what I really need to learn before I begin a task		
7. I know how well I did once I finish a test.		
8. I set specific goals before I begin a task.		
9. I slow down when I encounter important information.		
10. I know what kind of information is most important to learn.		
11. I ask myself if I have considered all options when solving a problem.		
12. I am good at organizing information.		
13. I consciously focus my attention on important information.		
14. I have a specific purpose for each strategy I use.		
15. I learn best when I know something about the topic.		
16. I know what the teacher expects me to learn.		
17. I am good at remembering information.		
18. I use different learning strategies depending on the situation.		
19. I ask myself if there was an easier way to do things after I finish a task.		
20. I have control over how well I learn.		
21. I periodically review to help me understand important relationships.		
22. I ask myself questions about the material before I begin.		
23. I think of several ways to solve a problem and choose the best one.		
24. I summarize what I've learned after I finish.		
25. I ask others for help when I don't understand something.		
26. I can motivate myself to learn when I need to		
27. I am aware of what strategies I use when I study.		
28. I find myself analyzing the usefulness of strategies while I study.		
29. I use my intellectual strengths to compensate for my weaknesses.		
30. I focus on the meaning and significance of new information.		
31. I create my own examples to make information more meaningful.		
32. I am a good judge of how well I understand something.		

(continued)

	True	False
33. I find myself using helpful learning strategies automatically.		
34. I find myself pausing regularly to check my comprehension.		
35. I know when each strategy I use will be most effective.		
36. I ask myself how well I accomplish my goals once I'm finished.		
37. I draw pictures or diagrams to help me understand while learning.		
38. I ask myself if I have considered all options after I solve a problem.		
39. I try to translate new information into my own words.		
40. I change strategies when I fail to understand.		
41. I use the organizational structure of the text to help me learn.		
42. I read instructions carefully before I begin a task.		
43. I ask myself if what I'm reading is related to what I already know.		
44. I reevaluate my assumptions when I get confused.		
45. I organize my time to best accomplish my goals.		
46. I learn more when I am interested in the topic.		
47. I try to break studying down into smaller steps.		
48. I focus on overall meaning rather than specifics.		
49. I ask myself questions about how well I am doing while I am learning something new.		
50. I ask myself if I learned as much as I could have once I finish a task.		
51. I stop and go back over new information that is not clear.		
52. I stop and reread when I get confused.		

Appendix E
The Transition Guide Instrument

Appendix E

Schlossberg and Kay's Transition Guide <http://www.transitionguide.com/guide.php>
Copyright by Nancy K. Schlossberg and Stephanie Kay and used with permission from
the authors June 5, 2010 (Appendix G).

Appendix F

The Student Data Questionnaire

Appendix F

Student Data Questionnaire

Date: _____ ID # _____
 (Please use the last 4 digits of your cell phone number)

Email address: _____ to enroll you in a Google group for participation and to contact you during the study.

1. Age: _____
2. Gender: Female Male
3. What Ethnicity Do You Consider Yourself? (*Check one*)
 - White** (not Hispanic): Origins in Europe, North Africa, or the Middle East.
 - Black** (not Hispanic): Origins in any of the Black racial groups of Africa.
 - Hispanic**: Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish Culture or origin, regardless of race.
 - Asian or Pacific Islanders**: Origins in the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, Japan, Korea, the Philippine Islands, and Samoa.
 - American Indian or Alaskan Native**: Origins in the original peoples of North America and who maintain tribal affiliation or community recognition.
4. Marital Status: _____ Married _____ Single _____ Other
5. Number of children younger than 18 living at home: _____
6. What is the primary method of course delivery for your FNP graduate program?
 (*Check one*)
 - _____ Online
 - _____ Face to face in a classroom
 - _____ Combination of online and face to face
7. Total number of semester hours you have completed in your FNP program at the beginning of this semester: _____
8. Total number of clinical hours you have completed as an FNP student at the beginning of this semester: _____
9. Total number of years experience as a Registered Nurse: _____

10. What has been the main setting of your nursing clinical experience? (*Check one*)

- Primary Care (such as health promotion, prevention, wellness activities)
- Acute Care (such as hospital in-patient, hospitalized patient care)
- Long Term Care (such as long-term care, rehabilitation or skilled care)

11. In what areas have your nursing clinical experiences occurred? (*Check all that apply*)

- Adult Medical/Surgical Nursing
- Critical Care Nursing
- Community Health Nursing
- Emergency Department Nursing
- Maternity Nursing/Women's Health
- Mental Health/Illness Nursing
- OR/PACU Nursing
- Pediatric Nursing
- Other, please specify _____

12. In which University are you enrolled? _____

Appendix G

Permission to Use the Transition Guide Instrument

Appendix G

**Transition Works
10964 Bloomingdale Drive
Rockville, MD 20852**



This is to certify that Cathlin Poronsky has permission to use The Transition Guide for research purposes. Only original copies are permitted for use.

**Stephanie Kay, LCPC
Transition Works
June 5, 2010**

Appendix H

Permission to use the Generalized Self Efficacy Scale Instrument

Appendix H

Explicit permission to utilize the Generalized Self Efficacy Scale in research studies is not required. “We hereby grant you permission to use and reproduce the General Self-Efficacy Scale for your study, given that appropriate recognition of the source of the scale is made in the write-up of your study” (Retrieved from: http://userpage.fu-berlin.de/~health/faq_gse.pdf).

Appendix I

Permission to use the Metacognitive Awareness Inventory Instrument

Appendix I

Permission to use the Metacognitive Awareness Inventory instrument obtained from Gregory Schraw, PhD, [REDACTED]@unlv.nevada.edu University of Nevada, Las Vegas, June 3, 2010

From: Gregory Schraw [REDACTED]@unlv.nevada.edu]
Sent: Thursday, June 03, 2010 10:39 PM
To: [REDACTED]
Cc: gs
Subject: Re: Metacognitive Awareness Inventory
Attachments: MAI_scoring.doc

Categories: Dissertation

Cathlin,

Yes, you have my permission and best of luck!

Gregg

Appendix J

Transition Coping Resources Scoring Ranges

Appendix J

Transition Coping Resources Scoring Ranges

	Situation	Self	Supports	Strategies
HIGH Strong coping resources	50	50	45	135
	49	49	44	132
	48	48	43	129
	47	47	42	126
	46	46	41	125
	45	45	40	123
	44	44	39	120
	43	43	38	117
	42	42	37	114
	41	41	36	111
	40	40	35	108
	39	39	34	105
	38	38		102 99
MEDIUM Moderate coping resources	37	37	33	98
	36	36	32	96
	35	35	31	93
	34	34	30	90
	33	33	29	87
	32	32	28	84
	31	31	27	81
	30	30	26	78
	29	29	25	75
	28	28	24	72
	27	27	23	69
	26	26	22	66
	25	25	21	63
24	24			
23	23			

(continued)

	Situation	Self	Supports	Strategies
LOW New strategies for coping may need to be developed	22	22	20	62
	21	21	19	60
	20	20	18	57
	19	19	17	54
	18	18	16	51
	17	17	15	48
	16	16	14	45
	15	15	13	42
	14	14	12	39
	13	13	11	36
	12	12	10	33
11	11	9	30	
10	10		27	

Appendix K

Metacognitive Awareness Inventory Scoring Guide

Appendix K

Metacognitive Awareness Inventory (MAI) Scoring Guide

Directions: For each True on the MAI give yourself 1 point on the following charts. For each False, give yourself 0 points in the Score column. Total the score of each category and place in box.

KNOWLEDGE ABOUT COGNITION

DECLARATIVE KNOWLEDGE – The factual knowledge the learner needs before being able to process or use critical thinking related to the topic – Knowing <i>about, what, or that</i> – Knowledge of one's skills, intellectual resources, and abilities as a learner – Students can obtain knowledge through presentations, demonstrations, discussions PROCEDURAL KNOWLEDGE – The application of knowledge for the purposes of completing a procedure or process – Knowledge about <i>how</i> to implement learning procedures (e.g. strategies) – Requires students know the process as well as when to apply process in various situations – Students can obtain knowledge through discovery, cooperative learning, and problem solving CONDITIONAL KNOWLEDGE – The determination under what circumstances specific processes or skills should transfer – Knowledge about <i>when</i> and <i>why</i> to use learning procedures – Application of declarative and procedural knowledge with certain conditions presented – Students can obtain knowledge through simulation	DECLARATIVE KNOWLEDGE		SCORE
	5. I understand my intellectual strengths and weaknesses.		
	1. I know what kind of information is most important to learn.		
	12. I am good at organizing information.		
	1. I know what the teacher expects me to learn.		
	2. I am good at remembering information.		
	20. I have control over how well I learn.		
	32. I am a good judge of how well I understand something.		
	46. I learn more when I am interested in the topic.		
	TOTAL		/ 8
PROCEDURAL KNOWLEDGE	SCORE	CONDITIONAL KNOWLEDGE	SCORE
3. I try to use strategies that have worked in the past.		15. I learn best when I know something about the topic.	
14. I have a specific purpose for each strategy I use.		18. I use different learning strategies depending on the situation.	
27. I am aware of what strategies I use when I study.		26. I can motivate myself to learn when I need to.	
33. I find myself using helpful learning strategies automatically.		29. I use my intellectual strengths to compensate for my weaknesses.	
		35. I know when each strategy I use will be most effective.	
TOTAL	/ 4	TOTAL	/ 5

(MAI Scoring Guide Continued)

REGULATION OF COGNITION

PLANNING –Planning, goal setting, and allocating resources prior to learning INFORMATION MANAGEMENT STRATEGIES –Skills and strategy sequences used to process information more efficiently (e.g., organizing, elaborating, summarizing, selective focusing) COMPREHENSION MONITORING –Assessment of one’s learning or strategy use DEBUGGING STRATEGIES –Strategies used to correct comprehension and performance errors EVALUATION –Analysis of performance and strategy effectiveness after a learning episode		PLANNING	SCORE
		4. I pace myself while learning in order to have enough time.	
		6. I think about what I really need to learn before I begin a task.	
		8. I set specific goals before I begin a task.	
		22. I ask myself questions about the material before I begin.	
		23. I think of several ways to solve a problem and choose the best one.	
		42. I read instructions carefully before I begin a task.	
		45. I organize my time to best accomplish my goals.	
		TOTAL	7
INFORMATION MANAGEMENT STRATEGIES	SCORE	COMPREHENSION MONITORING	SCORE
9. I slow down when I encounter important information.		1. I ask myself periodically if I am meeting my goals.	
13. I consciously focus my attention on important information.		2. I consider several alternatives to a problem before I answer.	
30. I focus on the meaning and significance of new information.		2. I ask myself if I have considered all options when solving a problem.	
31. I create my own examples to make information more meaningful.		21. I periodically review to help me understand important relationships.	
37. I draw pictures or diagrams to help me understand while learning.		28. I find myself analyzing the usefulness of strategies while I study.	
39. I try to translate new information into my own words.		34. I find myself pausing regularly to check my comprehension.	
41. I use the organizational structure of the text to help me learn		49. I ask myself questions about how well I am doing while learning something new.	
43. I ask myself if what I’m reading is related to what I already know.			
47. I try to break studying down into smaller steps.			
48. I focus on overall meaning rather than specifics.			
		TOTAL	7
TOTAL		10	7

(MAI Scoring Guide Continued)

REGULATION OF COGNITION

DEBUGGING STRATEGIES	SCORE	EVALUATION	SCORE
25. I ask others for help when I don't understand something.		7. I know how well I did once I finish a test.	
40. I change strategies when I fail to understand.		3. I ask myself if there was an easier way to do things after I finish a task.	
44. I re-evaluate my assumptions when I get confused.		24. I summarize what I've learned after I finish.	
51. I stop and go back over new information that is not clear.		36. I ask myself how well I accomplish my goals once I'm finished.	
52. I stop and reread when I get confused.		38. I ask myself if I have considered all options after I solve a problem.	
		49. I ask myself if I learned as much as I could have once I finish a task.	
TOTAL	5	TOTAL	6

Appendix L

Table 1 Mentoring Definitions by Discipline

Appendix L

Table 1. Mentoring Definitions by Discipline

Citations	Definitions	Discipline
<p>Ali, 2008; Dracup & Bryan-Brown, 2004; Faut-Callahan, 2001.</p> <p>Goran, 2001; Rosser, Rice, Campbell & Jack, 2004</p>	<p>Mentoring is a humanistic, interactive, confidential, social relationship, formal or informal between people, assigned over a mutually agreed-on period of time. The mentor is an expert who functions as a sponsor, guide, and role model and provides a supportive learning environment to aid the protégé with professional and personal development.</p> <p>Mentoring is a non-evaluated experience that empowers the mentor and mentee to develop personally and professionally within the auspices of a caring, collaborative, and respectful environment.</p>	Nursing
<p>Grossman, 2007</p> <p>Stewart & Krueger, 1996</p>	<p>Mentoring is a teaching-learning process, a reciprocal relationship between mentor and protégé for career development.</p> <p>Mentored nurses value their experience and in turn mentor other nurses thereby enhancing the profession.</p>	Nursing
<p>Ehrich, Tennant & Hansford, 2002; Gardiner, Tiggemann, Kearns, & Marshall, 2007</p> <p>Peluchette, Van Eck & Jeanquart, 2000</p>	<p>Mentoring is a formal or informal personal helping relationship between a mentor, an older, senior, experienced individual willing to give time, over an extended period, and junior person, the protégé.</p> <p>Mentors focus on career needs and overall development needs of the protégé and provide varying degrees of support.</p>	Education

(table continued)

Citations	Definitions	Discipline
Galbraith, 2003b	A mutual endeavor for college faculty member and college learner. Mentoring takes time, the relationship takes place through a series of mentor-mentee dialogues.	Higher Education
Lee, Anzai & Langlotz, 2006; Leslie, Lingard, & Whyte, 2005; Pololi & Knight, 2005; Ramani, Gruppen & Kachur, 2006	A confidential, interpersonal dyad relationship between an older senior professional to promote the career of a younger junior colleague.	Medicine
Allen, Eby, O'Brien, Lentz, 2008 Eby, Allen, Evans, Ng, & DuBois, 2008	Mentoring is a basic social process, formal or informal, between an experienced person (mentor) and a newcomer (protégé) established to enhance personal and professional growth of the protégé.	Psychology

Appendix M

Table 2. Participating Institutions' Characteristics

Appendix M

Table 2. Participating Institutions' Characteristics

Institution*	Setting: 1. Urban 2. Suburban 3. Rural 4. Multi-campus	Total # semester hours in program	Method(s) of course delivery: 1. Classroom Face to Face 2. Online only 3. Hybrid-both F2F & online	Total # clinical hours program	Total # MSN students	Total # FNP students	Total # consented for study
Lewis	2	54	1	630	210	25	7
LUC	2	50-53	3	672	332	106	35
SVSU	2	46	3	720	107	92	8
SXU	1	45	1	600	90	70	16
TJU	1	36	3	672	61	40	2
UIC	4	51	3	675	907	103	6
USF	4	46	2	660	221	180	9
UWM	1	46	1	540	125	108	11

* Legend:

- Lewis= Lewis University, Romeoville, IL
- LUC = Loyola University Chicago
- SVSU = Saginaw Valley State University, Michigan
- SXU = Saint Xavier University, Chicago
- TJU = Thomas Jefferson University, Philadelphia
- UIC = University of Illinois at Chicago
- USF = University of St. Francis, Joliet, IL
- UWM = University of Wisconsin-Milwaukee

Appendix N

Consent to Participate in Online Research Form

Appendix N

**University of Wisconsin – Milwaukee
Consent to Participate in Online Research**

Study Title: DO SELF-EFFICACY AND METACOGNITIVE AWARENESS MEDIATE THE RELATIONSHIP BETWEEN ONLINE FACULTY INTERACTION AND FAMILY NURSE PRACTITIONER STUDENTS ROLE TRANSITION BALANCE?

Person Responsible for Research: Karen H. Morin, DSN, RN, ANEF; Cathlin B. Poronsky, MS, RN

IRB: UWM IRB# 11.167

IRB approval date: December 21, 2010

Study Description: The purpose of this study is to examine the effect of online faculty interaction, self-efficacy, and metacognition on RN to FNP transition balance during graduate education. Approximately 200 subjects will participate in this study. If you agree to participate, you will be assigned to one of two groups. Both groups will be asked to complete three surveys on two occasions that will take approximately (20) minutes each time to complete. Both groups will be asked to complete a demographic questionnaire at the beginning of the study this should take 5 minutes to complete.

In addition, students will be asked to post responses to at least one and up to five questions during the semester. This should take no more than one to two hours over the course of the semester.

Risks / Benefits: Risks to participants are considered minimal. There will be no costs for participating, nor will you benefit from participating other than to further research.

Confidentiality: All of your information collected for this study is completely confidential and no individual participant will ever be identified with his/her research information. Each study participant will be asked to supply an identification number. All Data will be stored by ID number, not by name or any other identifier. Data storage will be on a password protected computer. Physical copies of the data will be stored in locked cabinets. All data will be reported as group findings; at no time will individual findings be reported. After the study is complete the data will be stored for 5 years on a password protected computer and in locked files. After 5 years the data will be deleted from the computer and paper copies will be shredded. Only Dr. Morin and Ms. Poronsky will have access to the information collected for this study

Voluntary Participation: Your participation in this study is voluntary. You may choose to not answer any of the questions or withdraw from this study at any time without penalty. Your decision will not change any present or future relationship with the University of Wisconsin Milwaukee.

Who do I contact for questions about the study: For more information about the study or study procedures, or to withdraw from the study contact Cathlin Poronsky at [REDACTED]@uwm.edu (708) [REDACTED] or Karen H. Morin, DSN, RN at [REDACTED]@uwm.edu (414) [REDACTED]

Who do I contact for questions about my rights or complaints towards my treatment as a research subject? Contact the UWM IRB at 414-██████████ or ██████████@uwm.edu.

Research Subject's Consent to Participate in Research:

By completing and submitting the online surveys, you are voluntarily agreeing to take part in this study. Completing the survey indicates that you have read this consent form and have had all of your questions answered, and that you are 18 years of age or older. Thank you!

Appendix O

Faculty Mentoring Intervention Protocol

Appendix O

Faculty Mentoring Intervention Protocol

The faculty researchers will provide mentoring to guide FNP students in self reflection on the transition process and support them in evaluating their strengths and assets in order to assist them in the work of transition from RN to FNP. The study data collector will monitor, collect and store participants' responses until the study concludes. The protocol for the study intervention is outlined in this appendix.

1. After the primary researcher has received participants email address the study will begin. Each faculty mentor will have a treatment group study participants. The faculty mentors will send a welcome email message to each student in her group. The message will include what to expect regarding participation in the study, and a link to Survey Monkey™ to complete the initial questionnaires. The Survey Monkey™ Email Invitation Collector feature will be used to email a unique link to each participant.

A. For students in the intervention groups the welcome message will be:

Welcome to this FNP student research study! There are two researchers leading this study; we are pleased that you have joined us. Please begin by reading the Consent to Participate in Online Research. This is attached as a file in this Google group. In order to get to know you, please send an introduction of yourself, include how far along you are in the FNP program, your ideas about what you want to do when you complete the program and any other information you feel that we should know about you. This will not be shared with anyone else, please send this by email [REDACTED]@uwm.edu within the next 7 days.

Over the course of this semester we will maintain communication through email and Google groups. You will be asked to read, reflect and respond to five questions, one posted electronically every other week in March and April, the final questions will be sent in early May. These questions will be of a reflective nature about your role as an FNP student. Your responses will be kept confidential, please post your response within 10 days of receiving the question. This should take no more than 1-2 hours total over the semester.

Soon you will receive a series of 4 emails, each with a link to Survey Monkey™ and the instruments that are being used for this study. There are three questionnaires and a demographic data sheet for you to complete. Please plan on spending approximately 20-25 minutes to complete these questionnaires within the next 7 days.

Over the course of this semester we will maintain communication through email and Google groups. You will be asked to read and respond to five questions, one posted electronically every other week in March and April. The first question will be sent next week, the final question will be sent May 2nd. These questions will be of a reflective nature about your role as an FNP student. Your responses will be kept confidential, please post your response within one week of receiving the question. We will respond back to you within one week.

Early in May, you will be asked to again complete the three questionnaires using Survey Monkey™. Please plan to complete these questionnaires within 7 days of receiving the second email message.

Thank you for participating in this study to learn more about how family nurse practitioner students' make the transition from the RN to FNP role during graduate school. We look forward to hearing from you soon.

B. For students in Group B, the standard interaction group the welcome message will be:

Welcome to this FNP student research study! We are pleased that you have joined us. Please begin by reading the Consent to Participate in Online Research. This is attached as a file in this Google group.

Soon you will receive a series of 4 emails, each with a link to Survey Monkey™ and the instruments that are being used for this study. There are three questionnaires, and a demographic data sheet for you to complete. Please plan on spending approximately 20-25 minutes to complete these questionnaires within the next 7 days.

Early in May, you will be asked to again complete the three questionnaires using Survey Monkey™. Please plan to complete these questionnaires within 7 days of receiving the email messages. Thank you for participating in this research to learn more about how family nurse practitioner students' make the transition from the RN to FNP role during graduate school.

2. In order for the data collector to know when the study begins, each mentor/researcher will notify her by email when she has sent the welcome email message. Survey Monkey™ will be set up so that a separate collector link for each of the four groups will collect the responses.

3. The data collector will monitor the participants' responses to the initial questionnaires via the Survey Monkey™ tracking response feature.

A. The data collector will send a reminder message to participants who have not responded within 7 days.

Subject: Reminder. Message: Dear FNP student, one week ago you received an email message regarding your participation in a research study. This message is a reminder to complete the questionnaires. The link will close in 3 days, if you wish to continue in the study please complete the questionnaires within the next 3 days.

C. After 10 days the link will be closed; respondents who access the link after 10 days will see a closed survey message and will be unable to access the questionnaires. This procedure will be repeated at conclusion of the study with the same two week time frame for completion of the questionnaires.

4. The faculty researchers will post the intervention questions below electronically, as outlined above in March, April and May. Dates for posting will be established at the beginning of the study and added to this section of the protocol. Participants will be asked to respond within ten days; follow up will take place as outlined above in item 3.

Mentoring Intervention Questions for Participants

Question1: Think about your transition into the FNP role this semester and the other roles in your life and answer the following two questions. Be specific you will evaluate yourself at the end of the semester.

- a. Identify other roles in your life that may cause you stress this semester.
- b. What are your strategies to cope with the potential challenges?

Question 2 Reflect on your transition into the FNP role and assess your assets and supports.

- a. What are your strengths for transition into the FNP role?
- b. What strategies do you need to add to enhance your transition into the FNP role?

Question 3: This week marks the half-way point of this semester.

How do you find yourself responding to this transition thus far?

- a. On a scale of 1 (low) to 5 (high) where would you rate your:
 - physical energy 1 2 3 4 5
 - emotional energy 1 2 3 4 5
- b. Review your goals; do you need to make any revisions to your plans for meeting them?

Question 4: Think about your supports for this transition.

- a. On a scale of 1 (inadequate) to 5 (fully adequate) where would you rate your level of support from each of the following
 1. Family 1 2 3 4 5
 2. Spouse or partner 1 2 3 4 5
 3. Friends 1 2 3 4 5
 4. An individual or group outside of family or friends 1 2 3 4 5

5. Other source 1 2 3 4 5 (list the individual or group):

Question 5: Review the roles and strategies that you identified in week one.

- a. What strategies helped you with your transition this semester?
- b. Looking ahead: What are some things you can do to strengthen your resources for managing your next phase of RN to FNP transition?
 Be specific, write at least 3 strategies.

5. The faculty mentor/researchers will provide guidance by responding to each student's electronic posting within 7 days. Responses will be supportive of students' experiences and reflections. Students will be encouraged to use positive self-talk as a strategy for dealing with role transition and challenges during their academic term as they transition from RN to FNP.

7. The researcher will send the second email with the link to the final questionnaires to participants on May 5, 2011.

8. The data collector will monitor the participants' responses to the final questionnaires via the Survey Monkey™ tracking response feature.

A. The data collector will send a reminder message to participants who have not responded within 7 days.

Subject: Reminder. Message: Dear FNP student, one week ago you received an email message regarding your participation in a research study. This message is a reminder to complete the questionnaires. The link will close in 3 days, if you wish to continue in the study please complete the questionnaires within the next 3 days.

C. After 10 days the link will be closed; respondents who access the link after 10 days will see a closed survey message and will be unable to access the questionnaires.

Appendix P
Messages to Study Participants

Appendix P

Welcome Message from Researcher to Control Group

Welcome to this FNP student research study! We are pleased that you have joined us. Please begin by reading the Consent to Participate in Online Research. This is attached as a file in this Google group.

Soon you will receive a series of 4 emails, each with a link to Survey Monkey™ and the instruments that are being used for this study. There are three questionnaires, and a demographic data sheet for you to complete. Please plan on spending approximately 20-25 minutes to complete these questionnaires within the next 7 days.

Early in May, you will be asked to again complete the three questionnaires using Survey Monkey™. Please plan to complete these questionnaires within 7 days of receiving the email messages. Thank you for participating in this research to learn more about how family nurse practitioner students' make the transition from the RN to FNP role during graduate school.

Welcome Message from Researcher to Intervention Group

Welcome to this FNP student research study! There are two researchers leading this study; we are pleased that you have joined us. Please begin by reading the Consent to Participate in Online Research. This is attached as a file in this Google group. In order to get to know you, please send an introduction of yourself, include how far along you are in the FNP program, your ideas about what you want to do when you complete the program and any other information you feel that we should know about you. This will not be shared with anyone else, please send this by email [REDACTED] within the next 7 days.

Soon you will receive a series of 4 emails, each with a link to Survey Monkey™ and the instruments that are being used for this study. There are three questionnaires and a demographic data sheet for you to complete. Please plan on spending approximately 20-25 minutes to complete these questionnaires within the next 7 days.

Over the course of this semester we will maintain communication through email and Google groups. You will be asked to read and respond to five questions, one posted electronically every other week in March and April. The first question will be sent next week, the final question will be sent May 2nd. These questions will be of a reflective nature about your role as an FNP student. Your responses will be kept confidential, please post your response within one week of receiving the question. We will respond back to you within one week.

Early in May, you will be asked to again complete the three questionnaires using Survey Monkey™. Please plan to complete these questionnaires within 7 days of receiving the second email message. Thank you for participating in this study to learn more about how family nurse practitioner students' make the transition from the RN to FNP role during graduate school. We look forward to hearing from you soon.

Message from Data Collector to Control Group

Hello, we hope your semester is going well. Thanks for your participation in the Family Nurse Practitioner Students Role Transition Balance Research Study. Please look for an email in May with a link to the second set of questionnaires.

Appendix Q

Mentoring Intervention Questions for Participants

Appendix Q

Mentoring Intervention Questions for Participants

Question 1: Think about your transition into the FNP role this semester and the other roles in your life and answer the following two questions. Be specific you will evaluate yourself at the end of the semester.

- a. Identify other roles in your life that may cause you stress this semester.
- b. What are your strategies to cope with the potential challenges?

Question 2: Reflect on your transition into the FNP role and assess your assets and supports.

- a. What are your strengths for transition into the FNP role?
- b. What strategies do you need to add to enhance your transition into the FNP role?

Question 3: This week marks the half-way point of this semester.

How do you find yourself responding to this transition thus far?

- a. On a scale of 1 (low) to 5 (high) where would you rate your:
 1. physical energy 1 2 3 4 5
 2. emotional energy 1 2 3 4 5
- b. Review your goals; do you need to make any revisions to your plans for meeting them?

Question 4: Think about your supports for this transition.

- a. On a scale of 1 (inadequate) to 5 (fully adequate) where would you rate your level of support from each of the following
 1. Family 1 2 3 4 5
 2. Spouse or partner 1 2 3 4 5
 3. Friends 1 2 3 4 5
 4. An individual or group outside of family or friends 1 2 3 4 5
 5. Other source 1 2 3 4 5
(list the individual or group): _____

Question 5: Review the roles and strategies that you identified in week one.

- a. What strategies helped you with your transition this semester?
- b. Looking ahead: What are some things you can do to strengthen your resources for managing your next phase of RN to FNP transition? Be specific, write at least 3 strategies.

Appendix R

Letter of Inquiry to Graduate Program Directors

Appendix R

Letter of Inquiry to Graduate Program Directors

Date

Name

Institution

Address

City, State

Dear (insert name of FNP Program Director):

As a doctoral candidate in the College of Nursing at the University of Wisconsin-Milwaukee, I am conducting a study about family nurse practitioner students' transition from the RN to FNP role during their graduate school education. I am writing to invite your school to participate and to ask for the assistance of one of your faculty members with identifying students eligible to participate in this study.

All FNP students in your university are eligible to participate in this study. There are no negative consequences to your students for participating in this study. Although there are no direct benefits for participating, the study findings may provide clues of how faculty mentoring of FNP students effects their role transition during graduate education. This study has been reviewed and approved by the Institutional Review Board (IRB) at the University of Wisconsin-Milwaukee and will be submitted to the IRB at your university. Students' names will not be required on the questionnaires; complete anonymity of participants will be maintained.

This study will be conducted at eight different universities. It is important to include your school in this research in order to help insure that there is a cross section of FNP students. I also teach FNP students and am well aware of the demands on faculty's time. Completion of the questionnaires will be done electronically and should take no more than 20-30 minutes on two occasions, once at the beginning and then again at the end of the semester. A small token of appreciation will be given to faculty members who assist with recruitment.

If you agree to include your school in this study, please respond by email to me () with the name, email, mailing address and phone number of the faculty member who will assist with recruitment. Once I have received this information I will send additional information about the study and recruitment information to that individual.

If you or your faculty has any questions, please email me at [REDACTED]. Should you agree to include your students in this study, I would be happy to send an abstract of the results when the study is completed. Thank you in advance for your consideration of this study.

Sincerely,

Cathlin B. Poronsky, MS, FNP-BC
Doctoral Candidate
University of Wisconsin-Milwaukee

Appendix S
Recruitment Letter to Faculty

Appendix S

Recruitment Letter to Faculty

Date

Name

Institution, Address

City, State

Dear (insert name of faculty member):

Thank you for agreeing to help with recruitment for my study on FNP students' role transition. As a faculty member, I am aware of the many demands on your time. Your assistance will be invaluable to my efforts and will assist in making my study findings more valid. In no way are you obligated to participate in this study. I do hope, however, that you will agree that the study is worth the amount of time you will need to invest. Hopefully, this study will provide helpful insight about FNP role transition and possibly some ways that faculty can assist students in their transition.

All FNP students in your university are eligible to participate. Two documents are enclosed to share with potential participants: a recruitment flyer and an explanation of the study. Also enclosed for you are instructions for enrolling students into the study. I know that classroom time is very valuable. However, I would appreciate it if you could arrange for 15 minutes of time at the beginning of the semester to show your students the recruitment presentation and distribute the explanation of the study. After students have viewed the recruitment presentation and had time to read the flyer and study explanation, please circulate the study sign-up sheet. Please then collect the sign-up sheet and return it to me in the enclosed stamped self-addressed envelope. Consent will take place online once I have enrolled the participants into the study.

For students in online courses please post the recruitment flyer, study explanation document, recruitment presentation and ask FNP students to consider participating in this study. Students who are willing to participate can indicate that by sending a return email to you. Please forward the emails of willing participants to me at [REDACTED].

Alternatively, eligible students in your university can contact me directly by email at [REDACTED] to be enrolled in the study.

The study is, of course, completely voluntary. Should your students have any questions, please encourage them to email me. Also, please assure students that their grades will not be influenced in any way by participating or choosing not to participate in this study.

Thank you again for agreeing to assist me with recruitment for this study. Once the study is completed, I would be happy to send an abstract of the results. Please email me at [REDACTED] if you would like to receive an abstract. If you have any questions, please email me at or call me at (708) [REDACTED]

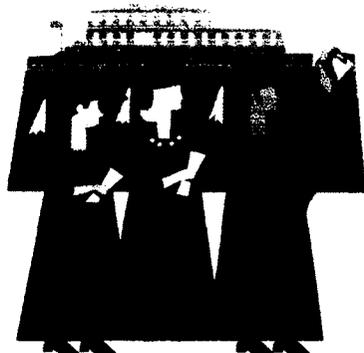
Sincerely,

Cathlin B. Poronsky, MS, FNP-BC,
Doctoral Candidate, University of Wisconsin-Milwaukee

Appendix T
Recruitment Flyer

Appendix T

Recruitment Flyer



**RESEARCH STUDY
OPPORTUNITY:
SEEKING FNP
STUDENTS**

Working with professors and researchers from the University of Wisconsin-Milwaukee's College of Nursing, I am conducting research on

Family Nurse Practitioner Students Role Transition Balance

All FNP students in your university are eligible to participate in this study.

All study participants will:

- Complete 3 questionnaires on line twice, once at the beginning of the semester and again at the end of the semester.
- Assess your assets and deficits for coping with transition.

Some participants will be asked to respond electronically to a series of questions during the semester.

Please contact me if you are interested in participating in this study.

Cathlin Poronsky, MS, APN, FNP-BC

██████████@uwm.edu

Appendix U

Procedure for Enrolling Participants in the Study

Appendix U

Procedure for Enrolling Participants in the Study

1. Give each student a copy of the recruitment flyer and the “Explanation of the Study” sheet.
2. Show the recruitment presentation to students.
3. Allow students time to read the flyer and study explanation. Students may email me (████████@uwm.edu) with any unanswered questions.
4. Please advise students that their consent to participate is voluntary. Those students who choose not to participate will not be penalized in any way.
5. Please assure students that their grades will not be affected by their decision not to participate.
6. Please circulate the study sign-up sheet and allow students time to write down their email address on the sheet.
7. When the study sign-up sheet has circulated, please collect it and place it in the self-addressed envelope provided.
8. Please return the self-addressed envelope with the study sign-up sheet within one week.
9. Alternatively, eligible students can contact me by email (████████@uwm.edu) to be enrolled in the study.
10. If you have any questions at any time, please do not hesitate to contact me by email (████████@uwm.edu).

Appendix V

Explanation of the Study for Participants

Appendix V

Explanation of the Study for Participants

My name is Cathlin Poronsky, MS, FNP-BC and I am a doctoral candidate at the University of Wisconsin-Milwaukee. I am interested in conducting a study to better understand how family nurse practitioner students' make the transition from the RN to FNP role during graduate school. This study is part of the requirements for a doctoral degree from the University of Wisconsin-Milwaukee. I am collecting data from eight schools that have well established and well respected Family Nurse Practitioner programs. Your school has been selected for this reason.

Should you choose to participate please write your email address on the study sign-up sheet. You may email me to ask questions prior to signing up to participate in the study. Once I have received your email address and willingness to participate, you will be enrolled in an electronic study group. You will be sent a link to complete four instruments: a student data sheet to supply demographic information about yourself, and three questionnaires. This should take approximately 20-25 minutes of your time. At the end of the semester, you will again be asked to complete the three questionnaires online. Completing these final three questionnaires should take no more than 20 minutes of your time.

Over the course of this semester some students will be contacted by email and asked to respond to questions. These questions will be of a reflective nature about your role as an FNP student. Your responses will be kept confidential. This should take no more than 1-2 hours total over the semester.

Your participation in this study is voluntary. You may choose to withdraw at anytime without penalty. All of your information will remain anonymous and only group data will be reported.

There are no known risks or benefits to you from participating in this study. Your decision to participate will not affect your grade in this course. Should you decide to participate, the information you provide will help nursing faculty to better understand the role transition from RN to FNP during graduate education and may result in improvements in nursing education.

These experiences will require some of your time. In recognition of your extra effort, you will receive a certificate of research participation at the completion of all study activities. In addition, all students from your university who are eligible to participate will be entered into a drawing for one of ten \$50 amazon.com gift certificates. The gift certificate will be awarded at the end of the study.

Once the study has been completed, the results will be available upon request. If you have any questions concerning any aspect of this study please contact me by email at

██████@uwm.edu; if you prefer to speak by phone, include your phone number and the best time to call you in the email.

Thank you very much for participating and taking the time to assist me to better understand the FNP role transition during graduate school.

Cathlin B. Poronsky, MS, FNP-BC
Doctoral Candidate
University of Wisconsin-Milwaukee

Appendices W
IRB Approval Letters

Appendices W
IRB Approval Letters
University of Wisconsin-Milwaukee



Department of University Safety & Assurances

New Study - Notice of IRB Expedited Approval

Date: December 21, 2010

To: Karen H. Morin, DSN, RN, ANEF
Dept: College of Nursing

Cc: Cathlin B. Peronsky, MS, RN

IRB#: 11.167

Title: **DO SELF-EFFICACY AND METACOGNITIVE AWARENESS MEDIATE THE RELATIONSHIP BETWEEN ONLINE FACULTY INTERACTION AND FAMILY NURSE PRACTITIONER STUDENTS ROLE TRANSITION BALANCE?**

After review of your research protocol by the University of Wisconsin - Milwaukee Institutional Review Board, your protocol has been approved as minimal risk Expedited under as governed by 45 CFR 46.110. In addition, your protocol has been granted approval to waive documentation of informed consent as governed by 45 CFR 46.117 (e).

This protocol has been approved on _____ for one year. IRB approval will expire on _____. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the date of IRB expiration, a continuation for IRB approval must be filed by the submission deadline. If the study is closed or completed before the IRB expiration date, please notify the IRB by completing and submitting the Continuing Review form found on the IRB website.

Unless specifically where the change is necessary to eliminate apparent immediate hazards to the subjects, any proposed changes to the protocol must be reviewed by the IRB before implementation. It is the principal investigator's responsibility to adhere to the policies and guidelines set forth by the UWM IRB and maintain proper documentation of its records and promptly report to the IRB any adverse events which require reporting.

It is the principal investigator's responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities the principal investigator may seek to employ (e.g., FERPA, Radiation Safety, UWM Data Security, UW System policy on Firearms, Alcohol and Gifts, state gambling laws, etc.) which are independent of IRB review/approval.

Contact the IRB office if you have any further questions. Thank you for your cooperation and best wishes for a successful project.

Respectfully,

Madison C. Spadonick
IRB Administrator

Madison Spadonick
IRB Administrator
Institutional Review Board
Engelmann 170
P. O. Box 413
Milwaukee, WI 53201-0413
(414) 226-3173 phone
(414) 226-6729 fax

<http://www.uwm.edu/irb>
mspadonick@uwm.edu

University of Illinois at Chicago IRB Approval

From: "Chuck Hoehne" <[REDACTED]@uic.edu>
 Subject: Re: [Fwd: RN to FNP Transition Balance Study]
 Date: Wed, December 22, 2010 10:56 am
 To: "McDevitt, Judith H." <[REDACTED]@uic.edu>

Hi Dr. McDevitt,

As per OHRP Guidance (Link:

<http://www.hhs.gov/ohrp/humansubjects/guidance/engage08.html>);

Institutions would be considered not engaged in a human subjects research project if the involvement of their employees or agents in that project is limited to one or more of the following:

(4) Institutions whose employees or agents:

- (a) inform prospective subjects about the availability of the research;
- (b) provide prospective subjects with information about the research (which may include a copy of the relevant informed consent document and other IRB approved materials) but do not obtain subjects' consent for the research or act as representatives of the investigators;
- (c) provide prospective subjects with information about contacting investigators for information or enrollment; and/or
- (d) seek or obtain the prospective subjects' permission for investigators to contact them.

An example of this would be a clinician who provides patients with literature about a research study at another institution, including a copy of the informed consent document, and obtains permission from the patient to provide the patient's name and telephone number to investigators.

(5) Institutions (e.g., schools, nursing homes, businesses) that permit use of their facilities for intervention or interaction with subjects by investigators from another institution. Examples would be a school that permits investigators from another institution to conduct or distribute a research survey in the classroom; or a business that permits investigators from another institution to recruit research subjects or to draw a blood sample at the work site for research purposes.

Given the above guidance, if you do not want UIC to be engaged in the research (that is- you do NOT want to obtain UIC IRB approval or an exemption determination), then you have two options:

1. Get approval from students before releasing contact information to UWM; or
2. Ask the UWM researchers to send you (UIC faculty) the recruitment email and then you (UIC faculty) forward the email to the UIC students. In this option, the email would need to include instructions for the students to contact the UWM researchers directly.

Loyola University Medical Center IRB Approval



Loyola University Medical Center
 Institutional Review Board
 for the Protection of Human Subjects
 2100 South First Avenue
 Maywood, IL 60153

01/12/2011

NOTICE OF IRB EXEMPTION OF A RESEARCH PROJECT

Investigator **Poronsky, Cathlin**LU Number **203264**

Title **DO SELF-EFFICACY AND METACOGNITIVE AWARENESS
 MEDIATE THE RELATIONSHIP BETWEEN ONLINE FACULTY
 INTERACTION AND FAMILY NURSE PRACTITIONER
 STUDENTS ROLE TRANSITION BALANCE?**

Date of
 Review **01/11/2011**

Action **EXEMPT**Reason **45CFR46.101, b-1 Category Educational**

Comments **1. This project consists of activities that are exempt according to 45
 CFR 46.101, b(1).**

**2. Should you wish to make modifications that involve changing the
 type, nature, source
 (etc.) of the data/materials specified in the current proposal, you MUST
 request such changes in advance from the Loyola IRB, as this may
 change the categorization of the proposed research.**

This project has been determined to be EXEMPT from IRB review.
 There are no reporting requirements associated with this project.

The Full Board will review this determination on 01/19/2011.
 If the Board disagrees with this action, you will be notified by 01/26/2011.



Ernie Fluder
 Director
 Human Research Protections Program

Saint Xavier University IRB Approval

SAINT XAVIER UNIVERSITY
Institutional Review Board

January 13, 2011

Re: Dissertation Project, Do Self-Efficacy and Metacognitive Awareness Mediate...

Approval Number: SP110020113

Dear Dr. Buenting:

Thank you for submitting the documentation requested by the IRB for the research project named above. The IRB has determined that all procedures are in compliance with university and federal guidelines governing protection of rights of human subjects. Your request for approval is hereby granted. You may begin collecting data for your project at any time.

Please note that institutional and federal regulations require that any changes in data collection procedures, sampling design, record keeping procedures, or other aspects of the research protocol must be immediately reported to the Institutional Review Board. Approval is granted for one year. If your study extends beyond one year, it will be subject to an annual review. Please include the IRB approval number in any correspondence.

I am sending this letter only to you as the faculty sponsor, and not to the UWM researchers, so please let them know of the acceptance. This is the only letter you will be sent. Please print a copy of this message for your records. If you have any questions, or if you require a hard copy of this letter, contact me at 7 [REDACTED]; [REDACTED]@sxu.edu; or skype mark [REDACTED]

Best wishes for success with your research project!

Sincerely,

[REDACTED]

Saint Xavier University
Institutional Review Board

University of St. Francis Joliet IRB Approval

**UNIVERSITY OF
ST. FRANCIS.**
Respect. Service. Integrity. Compassion.

500 Wilcox Street, Joliet, IL 60435
(800) 735-7500 • www.stfrancis.edu

January 18, 2011

Cathlin B. Poronsky, MS, FNP-BC
Doctoral Candidate, University of Wisconsin-Milwaukee

Western Springs, IL

Dr. Marie Lindsey
University of St. Francis

Joliet IL

RE: IRB Application: 2010-11-0009

Dear Ms Poronsky and Dr. Lindsey

On January 13, 2011 your research proposal entitled : *Do Self-Efficacy And Metacognitive Awareness Mediate The Relationship Between Online Faculty Interaction And Family Nurse Practitioner Students Role Transition Balance?* was reviewed by the Co-Chairs of the USF Institutional Review Board under an Expedited Review. Based upon the materials you submitted and your original application your application is approved. You may begin your research.

This approval is valid until January 13, 2012. Please provide written updates to the University of St Francis IRB should there be any changes to the procedures or protocols outlined in your application. If there are additions to the materials or broadening of the participant scope, notification to the board will also be necessary.

If you have any questions regarding the letter or process, please feel free to contact me at 815- or .edu or Dr. Christine Call (815- or @stfrancis.edu)

Best of luck with your study.

Sincerely,
Michael Stowe, Ph.D.
Co-Chair, Institutional Review Board.
Cc: C. Call
File

CURRICULUM VITAE**Cathlin Buckingham Poronsky****Place of birth: [REDACTED], IL****Education****BSN, Loyola University of Chicago, June 1975****Major: Nursing****M.S., University of Illinois at Chicago, August, 1997****Major: Nursing****Dissertation Title: Online faculty mentoring and transition balance in family nurse practitioner students.****Affiliations/Memberships****American Academy of Nurse Practitioners****American College of Nurse Practitioners****Illinois Society for Advanced Practice Nursing****Midwest Nursing Research Society****National Organization of Nurse Practitioner Faculties****Sigma Theta Tau International Honor Society of Nursing****Teaching Experience****Loyola University Chicago, Marcella Niehoff School of Nursing****2010--present****Saint Xavier University, Chicago, Illinois, School of Nursing,****2005-2010**

Awards/Honors

Nurses Educational Funds, Inc. Scholarship recipient, 2007-2008

Publications

Poronsky, C. B., Doering, J. J., Mkandawire-Valhmu, L., & Rice, E. I. (*In press*)
A case study of the transition to the tenure-track for three nursing faculty with young children. *Nursing Education Perspectives*.

Presentations

Exploring Differences in Nurse Practitioner Student Learning Outcomes Based on Degree of Faculty-to-Student Interaction poster presentation at the 36th Annual Meeting of the National Organization of Nurse Practitioner Faculties held in Washington, D.C April 15, 2010.

University Service

Loyola University Chicago

School of Nursing Curriculum Committee, member 2010-2011

School of Nursing Masters and DNP Programs Committee, member 2010-present

Saint Xavier University, Chicago, IL

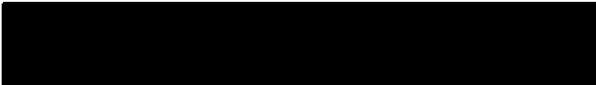
University Assessment Committee, member 2006-2010

Chair 2008-2010

School of Nursing Graduate Admission, Recognition, Progression

Committee, member 2006-2010

Chair 2008-2010


Major Professor

August 17, 2011
Date