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Student Motivation, Stressors, and Intent to Leave a Nursing PhD or DNP Program: A National Study Using Path Analysis

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STUDENT MOTIVATION, STRESSORS, AND INTENT TO LEAVE A NURSING PhD OR
DNP PROGRAM: A NATIONAL STUDY USING PATH ANALYSIS

By

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A dissertation submitted in partial fulfillment
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ABSTRACT

The growing need for nurse scientists and nurse faculty researchers has led to the call to double the number of doctorally prepared nurses by 2020 (Institute of Medicine [IOM], 2010). Nursing has responded with more doctoral degree programs resulting in an increase from 122 DNP graduates in 2007 to 8,184 nurses who hold DNP degrees by 2013. PhD programs have also seen 5,306 graduates between the years 2004 through 2013 (American Association of Colleges of Nursing [AACN], 2014a). One troubling aspect that affects nursing and other doctoral programs is high attrition rates. A recent ten year longitudinal study from the Council of Graduate Schools indicated attrition rates for doctoral students in the United States is 43% (Council of Graduate Schools [CGS], 2009).

The state of the science in relation to nursing doctoral students indicates gaps in the literature. Doctoral students are the least studied student population (Russell, 2015). Research conducted with nursing doctoral students is typically qualitative and exploratory in nature. There is a gap in the empirical evidence concerning the factors which impact nursing doctoral students' motivation and persistence and consequently, their intent to continue or leave their current programs of study. Doctoral students face many challenges in pursuing their degrees. Nursing doctoral students often have multiple responsibilities and obligations in their lives, creating differing types of stress.

Environmental stressors are defined as the multiple responsibilities and obligations that impact the lives of students in current doctoral nursing programs. The purpose of this study was to examine how the effects of environmental stressors, as mediated by the doctoral nursing students' motivational beliefs, impact their intent to leave their current program of doctoral study. A literature review was conducted that identified six themes of environmental stressors

which impact nursing students in doctoral programs. Constructs from the Expectancy Value Theory of Achievement Choice provided measurement for the motivational constructs which impact students. The 57 question Nursing Doctoral Stressors and Motivation survey tool, which was developed with modified and newly developed questions was used to assess all of these factors. An additional 14 question demographic tool was also utilized for the study.

Participation requests were sent by email to deans/directors of all PhD and DNP programs across the United States, with the request to forward to all currently enrolled students. Eight hundred and seventy seven participants responded to this survey. MPlus analysis software was employed to analyze demographic data and then assess the best fit for the models. Path analysis was utilized as it made it possible to analyze numerous variables simultaneously, investigating models that are more complex and realistic. Analyses were conducted to confirm the internal consistency of the survey tool. Additional analyses indicated that two environmental stressors of Support Issues and Program Stressors significantly predicted students' intent to leave. Significant mediation effects were seen from the motivational beliefs of intrinsic value, expectancies for success, and effort cost. DNP participants reported both similar and differing significant impacts from motivational beliefs than did participants in PhD programs. Finally, analyses indicated that the impacts of participation costs were greater than the impact of utility costs for students, thus suggesting the greater need for supportive resources in these areas.

It is not possible to remove all stressors from students' lives during their doctoral studies. But a better understanding of the environmental stressors that affect them offers the potential for nursing programs looking to incorporate adequate resources and support which will help minimize attrition and promote persistence of their doctoral students.

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DEDICATION

I dedicate this to Roger Loren Sowers. Dad - this dissertation journey will always be intertwined with the loss of you. I do know how proud you would have been at this moment and I wish so much that you could have been here to celebrate with me. You will always be in my heart. Thank you for everything. I love you so much and I miss you every day.

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CHAPTER 1: INTRODUCTION

More doctorally-prepared nurses are urgently needed. The number of nurses with doctoral degrees needs to increase extensively and rapidly. There has been a call for nursing to increase this number by the year 2020 (American Association of Colleges of Nursing [AACN], 2014b; Institute of Medicine [IOM], 2010; National League for Nursing [NLN], 2013; Robert Wood Johnson [RWJ], 2007). Dramatically increasing these numbers will be difficult, as the National League for Nursing (NLN; 2013) indicated that 57% of schools with doctoral programs specified the lack of faculty as the main obstacle for expanding programs. This lack of faculty is also cited as one of the primary obstacles for the expansion of associate degrees, baccalaureate degrees, and master's level programs as well (NLN, 2013), indicating this is a wide-spread problem in nursing education. The primary choices for obtaining doctoral degrees for nurses are the Doctor of Philosophy (PhD) degree or the Doctorate of Nursing Practice (DNP) degree.

Nurses with research doctoral degrees (PhDs) function within academia and health care settings, conducting original research, driving public policy, and fulfilling administrative roles. Additionally, PhD nurses help to teach and train the next generation of nurses and nurse educators in a variety of programs and settings (Smith & Delmore, 2007). The DNP degree was first introduced in 2004 as a practice doctorate, in answer to the call for greater numbers of doctorally-prepared nurses (Udlis & Mancuso, 2015). With the introduction of the DNP degree, nurses with doctoral degrees are also working more frequently within health care settings, providing primary care in clinical specialties, translating research into practice, and also teaching and training the next generation of nurses in various academic and clinical practice settings. Graduates of either program are prepared to generate knowledge to benefit the profession of nursing and all areas of health care.

The recent white paper from the American Association of Colleges of Nursing (AACN; 2015a) delineated clarification between the two nursing doctoral focuses: research-focused and practice-focused. Research-focused or PhD graduates learn how to generate knowledge through rigorous methodology and statistical analyses for broad applications and generalizability (AACN, 2015a). Practice-focused or DNP graduates learn to develop and innovate translational practice changes which impact the evidence base of the healthcare community, improve varieties of healthcare settings and practice areas, and advance health outcomes of the public (AACN, 2015a). This knowledge is considered transferable, but not generalizable.

The AACN (2011a) stated the demand for doctorally-prepared nurses, whether PhD or DNP, is far greater than the current supply. The AACN summarized the tremendous need for nurses with doctoral training noting nurses trained at this level directly provide advanced care to patients, educate nursing students at all levels and in all settings, implement recommendations which impact policy through political action, lead systems of healthcare as administrators and consultants, and design and execute evidence-based practices which advance our nations' healthcare needs.

Attrition in doctoral programs in the United States is exceptionally high. While attrition is reported to be approximately 43% in doctoral programs in the United States (Council of Graduate Schools [CGS], 2009), this rate can vary from as low as 11% to as high as 68%, based on program discipline (Gardner, 2008). Specific attrition rates are not known for nursing PhD and DNP, but it may follow a similar trajectory as noted in other disciplines. Completion rates versus attrition rates were reported by Sowell at a 2008 joint Council of Graduate Schools (CGS) and National Science Foundation workshop. For the disciplines of the social sciences, life science, engineering, mathematics, and the physical sciences, completion rates ranged from 55-

64%, with some years dipping according to the discipline as low as 29%. High attrition in doctoral programs is a concern for the academic institutions that house these programs and, in the case of nursing programs, a concern for the profession of nursing as a whole. For the academic institutions, attrition is expensive. Smallwood (2004) discovered in a study of doctoral student attrition at the University of Notre Dame that to decrease attrition by 10% would save the university \$1 million a year just in stipends (para. 5). Recent studies indicate that some attrition is normal and often unavoidable (CGS, 2004), but attrition that occurs within the early years of doctoral programs is generally preferable to attrition that occurs later (Gardner, 2008).

A recent study from the American Institutes for Research (AIR, 2012) indicated that for general college attrition, students who leave within the first two years of study account for 73% of students who go, yet the average cost per student accounts for roughly half of instructional spending. Students who leave their program of study after more than 36 months account for 9% of all students who go, yet account for 22% of these expenditures. Cost per student for those who leave their program prior to completion was calculated as approximately \$12,000 and, for those who left later in their program of study, this figure climbs to approximately \$34,000 per student. As the AIR (2012) study was conducted with students in undergraduate programs, it is projected that costs to the institution may be even higher for students in graduate-level programs of study.

This chapter has three sections. The first section identifies the problem statement. The second section discusses the background and significance of the study. The third section discusses the purpose of the study, with detailed descriptions of the terms operationalized within the study.

Problem Statement

Nursing doctoral degrees, whether PhD or DNP, are labor intensive, time consuming, and expensive undertakings. Currently, in U.S. doctoral programs, only 57% of students successfully complete their degrees in ten years or less (CGS, 2009). Ultimately, this means that roughly 43% or more of students who begin doctoral programs either do not finish or drop out (CGS, 2009). This is alarming for the profession of nursing as numerous entities, both inside and outside of the nursing profession, have called for a drastic increase in the number of doctorally-prepared nurses (AACN, 2014b; NLN, 2013; RWJ, 2007; Tri-Council for Nursing, 2010). The Institute of Medicine (IOM) actually called for this number to double by 2020 (IOM, 2010). Currently in the United States, less than 1% of nurses hold doctoral degrees in nursing or nursing-related fields (United States Department of Health and Human Services [HRSA], 2013; Pancheri et al., 2013).

Many studies that are conducted with doctoral students are done so with broad cohorts of students, rarely breaking these groups into narrower fields or disciplines (CGS, 2008, 2009). For studies that do look at students by discipline, rarely (if ever) are nursing doctoral students delineated as a category. When doctoral nursing students are the focus of a study, these studies are primarily conducted as qualitative studies (Cohen, 2011; Evans & Stevenson, 2010).

In order to develop methods to combat attrition rates in nursing doctoral programs, it is necessary to understand the multiple factors that impact current doctoral students. The research problem to be addressed by this study is to understand the environmental factors that impact current nursing doctoral students' intent to leave their program of doctoral study. This study also analyzed if these relations were mediated by students motivation to learn. Additionally, the study analyzed if different types of perceived cost contributed to nursing doctoral students' intent

to leave their program of study and if these relationships held constant across different student populations. Finally, the study analyzed if perceived cost offsets perceived subjective task value. A path analysis was conducted to explore the impact the above listed factors have on nursing doctoral students' intent to leave their current program of study.

Background and Significance

The Tri-Council for Nursing (2010) issued a policy statement calling for advancing nursing education regardless of level of entry into practice, and provided specifics regarding the need for graduate education. The Tri-Council for Nursing consists of a coalition of four independent nursing organizations, the AACN, the American Nurses Association (ANA), the American Organization of Nurse Executives (AONE), and the National League for Nursing (NLN). Each of these organizations has a focus on leadership within educational settings, within practice areas, and on research. Each organization functions independently with its own members, individual missions, and goals. However, these organizations share common values and meet on a regular basis to build consensus regarding best practices for the practice of nursing (Tri-Council for Nursing, n.d.).

The Tri-Council for Nursing (2010) policy statement indicated that nurses with advanced or graduate education, whether they have DNP or PhD degrees, are required in increasing numbers to serve as educators, researchers, providers of primary care, experts, and managers/leaders. The statement ends with a charge for nurses to embrace the importance of academic advancement and to commit to become lifelong learners. The events that led to the development of the statement were related to the predicted shortage of nurses, the increasing complexity of health care settings, the increasing complexity of patient needs, and the nursing faculty shortage (Tri-Council for Nursing, 2010).

The National Council of State Boards of Nursing (NCSBN; 2010) issued a statement fully supporting these recommendations. Nurses at doctoral levels of practice, both DNP and PhD, advance the profession through numerous ways. In clinical settings, doctoral nurses such as DNPs provide primary care, teach in clinical environments, and translate research. In academic settings, doctoral nurses (PhD and increasingly DNP) teach in didactic and clinical settings, and PhDs conduct research while DNPs translate research. In the health care industry, doctoral nurses, both with PhD and DNP degrees, work in government, management, and advisory positions (AACN, 2011b; Chism, 2009; Ketefian & Redman, 2015). Increasing the numbers of doctoral nurses, both PhD and DNP, is crucial for the profession of nursing to remain a relevant participant in the health care industry.

The American Association of Colleges of Nursing (2014c) reported that as of Fall 2014, there are 179 institutions in the United States offering DNP degrees, 26 that offer PhD degrees, and 110 that offer both DNP and PhD degrees. The AACN's (2014a) annual report indicated DNP programs showed a growth of 27.4% from 2012 to 2013, with an enrollment of over 14,000 students. From 2012 to 2013, research-focused doctoral programs (PhD and Doctorate of Nursing Science) also showed an increase of 1.3%, with 5,145 students enrolled. While there have been concerns that the availability of DNP programs would lessen interests in research doctorates, this does not seem to be the case. Since 2003, when the profession of nursing began conceptualizing the DNP, nursing students enrolled in research-focused doctorates have increased by 49.6% (AACN, 2014a). This increase of DNP programs and students has had a significant impact on the field of nursing education and will facilitate the goal of increasing the numbers of doctoral nurses in the United States.

The National League for Nursing Board of Governors (2013) published a vision statement which supported the need for doctorally-educated nurses to “respond to national directives for leading curriculum change, developing models of cost effective education, and preparing a workforce to meet the needs of a reformed health care system” (p. 1). It is a significant concern that in the midst of escalating academic and health care complexity and spiraling costs only 25% of full-time nursing faculty hold doctoral degrees. The National League for Nursing Board of Governors (2013) proposed that doctoral programs in nursing are critical and include both research (PhD) and practice (DNP) doctorates to “teach, provide leadership for transforming education and health care systems, and to conduct or translate research in nursing education” (p. 1).

Attrition

Attrition rates in doctoral programs in the United States are extremely high. A recent study by the CGS (2009), stated completion and attrition rates vary broadly based on field of study. Overall, in the ten-year longitudinal study of students who began doctoral programs in the 1992-1993 and 1994-1995 cohorts, 45.5% of doctoral students completed their degrees within seven years. This number increased to 56.6% by the end of Year Ten. This study also indicated that most students who were lost to attrition did so comparatively early in their programs, as attrition rates grew sharply during the first four years. In Year One, the attrition rate overall was 6.6%, by Year Two this percentage more than doubled. By Year Four, the attrition rate reached 23.6%, ultimately reaching 30.6% by Year Ten, although broad differences were seen across disciplines (CGS, 2009).

A study by DiPierro (2007) analyzed records of past doctoral students and discovered similar numbers of attrition, though with much higher rates of attrition earlier in students’

programs. This study was conducted at a large Midwestern institution which holds the classification of a doctoral/research-extensive university from the Carnegie Foundation (DiPierro, 2007). The study found that 58.8% of attrition happened within the first two years of doctoral study, 41.2% occurred after the first two years of study, 31.8% occurred after three years of study, and 17.3% occurred in attrition that happens after the five year mark, or in the final stage. Findings from this research also found wide disparities of attrition for minority students. DiPierro (2007) indicated initial findings of the attrition rate at 37.9% for African Americans, but when looking at just African American males, this number increased to almost 50%. Similar findings indicated that students classified as international or other had attrition rates of 53%. These findings were utilized to help guide recommendations for policies to help lower attrition at the institution. It is important to note that while it was stated that this was a large study, the number of records analyzed was not apparent and the study was conducted at just one institution.

It is also important to note that these statistics from both the nationwide CGS (2009) study and the DiPierro (2007) study apply only to very broad educational categories, and nursing doctoral students were not a separate category in either study discussed. Ultimately, what this indicates is that in U.S. doctoral studies, regardless of the field of instruction, approximately 43% of students either drop out or do not complete their doctoral degrees by the end of ten years (DiPierro, 2007).

Impact on Nursing

Most studies of doctoral students are conducted with students from a broad range of programs. Russell (2015) discussed that doctoral students are the least studied student population. While this is true, there is an even greater scarcity of empirical studies that look

exclusively at the motivation and persistence of nursing doctoral students. The information found in the literature review in the following chapter provides some understanding regarding factors impacting doctoral nursing students. Many of the studies are qualitative studies that provide preliminary information, though the information gained may not be generalizable.

Purpose of the Study

It is clear that it is in the best interest of the nursing profession and health care industry for nurses to complete doctoral programs. It is also in the best interests of the public, as most citizens are participants within some type of health care during their lifetime, either as direct consumers or as family members of consumers. It benefits the entire nation to have a group of nurses who are trained at the highest educational levels for nursing education reforms, and to provide the most current, evidence-based, and safest care possible in an increasingly complex and multifaceted environment.

The purpose of this research study is to provide clearer evidence regarding the impact of environmental stressors on doctoral nursing students' intent to leave their programs of study. Additionally, this study helped analyze if these relations were mediated by students' motivation to learn. The study also examined if different types of perceived cost contributed to nursing doctoral students' intent to leave their program of study, and if these relationships held constant across different student populations. Finally, the study analyzed if perceived cost offset perceived subject task value. While it is not possible to remove stressors from students' lives while they complete their doctoral program, schools of nursing with doctoral programs can use this information to incorporate protective factors and provide resources that will promote persistence of students in nursing doctoral programs. Lee (2009) stated schools of nursing with doctoral programs must provide support and clearly convey their expectations for students. Lee

pointed out that programs which clearly demonstrate a student-centered approach and provide student support within their programs have a recruitment advantage when marketing their doctoral programs to prospective students.

The Expectancy Value Theory (EVT) of Achievement Choice was developed in educational settings in the 1980s and 1990s by Dr. Jacquelynne S. Eccles and colleagues. Eccles et al. (1983) stated that an individual's belief concerning his/her level of confidence in accomplishing an academic task, the value placed on these tasks, and expectations for success are crucial components of the student's achievement behaviors. These values influence the individual's choices, which can also be affected by both internal and external factors, and ultimately impact the student's achievement (Eccles, 1987; Eccles et al., 1983; Eccles & Wigfield, 1995, 2002; Wigfield, 1994; Wigfield & Eccles, 2000). This motivational theory will provide the framework for the study.

Research Questions and Subresearch Questions

Core Research Question 1. Do environmental stressors such as financial issues, support issues, program stressors, outside demands, time issues, and health issues predict students' intent to leave nursing doctoral programs?

Subresearch Question 1a. Are these relations mediated by students' motivations for learning?

Core Research Question 2. How do different kinds of perceived costs contribute to nursing doctoral students' intent to leave?

Subresearch Question 2a. Do these relationships hold constant across populations of students (PhD and DNP)?

Core Research Question 3. Does perceived cost offset perceived subjective task value?

Theoretical and Operational Definitions and Terms

The following terms are defined as they were utilized within the study and were based on current literature.

Attrition. Defined as leaving a program of educational study before completion of sought after degree/credential (AIR, 2012). For the purposes of this study, attrition was defined as students who leave a nursing doctoral program of study prior to full completion of the program and the rewarding of doctoral credentials, either PhD or DNP.

Capstone phase. A DNP scholarly project, most often known as a capstone project (Dennison, Payne, & Farrell, 2012), is the implementation of research/knowledge which is based in current clinical practice and develops methods indicating how research can influence clinical practice (Chism, 2009). For the purposes of this study, *capstone phase* was defined as students who have finished their DNP coursework, yet have not earned their full degree and are working on completion of the capstone project. *Working on completion* was defined as students in the implementation and/or writing phase of the project.

Course. Defined as a sequence of classes which lead to graduation from an institution of learning (Merriam-Webster, 2015). For the purposes of this study, *coursework* was defined as students actively enrolled in and completing the work in classes designated by their current program of study as necessary for completion either in a PhD or DNP program.

Dissertation phase. A nursing PhD dissertation is original research which develops new data or evidence that impacts the profession of nursing (Chism, 2009). For the purposes of this study, students who have finished their PhD coursework yet have not earned their full degree and are working on completion of the dissertation study were considered in the dissertation phase.

Working on completion was defined as students in the implementation and/or writing phase of the dissertation.

Doctoral student, currently enrolled and actively working. For the purposes of this study, the designations that meet this criteria were defined as: students enrolled for the semester at least part-time in doctoral coursework (either PhD or DNP, students enrolled for the semester in the dissertation implementation phase and/or dissertation writing phase (PhD), or Students enrolled for the semester in the capstone implementation phase and/or capstone writing phase (DNP).

Environmental stressors (ES). For the purposes of this study, environmental stressors were defined as external factors which can influence students' ability to concentrate, their abilities to solve problems, make decisions, and complete their doctoral work (Reilly & Fitzpatrick, 2009). The constructs for each environmental stressor/theme were operationalized as follows:

- *Financial issues ES.* For the purposes of this study, financial issues were defined as:
 - The costs of education and/or tuition for the student (Alexander, Chadwick, Slay, Peterson, & Pass, 2002; Carlson, 1999; Cathro, 2011; Lee, 2006; Reilly & Fitzpatrick, 2009; Squires, Kovner, Faridaben, & Chyun, 2014);
 - The loss of income or income reduction felt by the student during their program of study (Alexander et al., 2002; Carlson, 1999; Cathro, 2011; Cohen, 2011; Reilly & Fitzpatrick, 2009; Squires et al., 2014; Underwood, 2002); and
 - The acquiring of debt to achieve degree completion (Cathro, 2011; Cohen, 2011; CGS, 2009; Lee, 2006; Reilly & Fitzpatrick, 2009; Squires et al., 2014).
- *Health issues/concerns ES.* For the purposes of this study, health issues/concerns were defined as:

- Concerns regarding personal physical and/or emotional health (Cohen, 2011; Jarnagin, 2005; Reilly & Fitzpatrick, 2009);
 - Self-neglect or the lack of self-care (Cohen, 2011; Jarnagin, 2005; Kenty, 2000; Reilly & Fitzpatrick, 2009);
 - Persistent stress of program of study (Carlson, 1999; Hadjioannou, Shelton, Fu, & Dhanarattigannon, 2007; Underwood, 2002); and
 - Family members' health issues/concerns (Underwood, 2002).
- *Outside demands ES.* For the purposes of this study, outside demands were defined as:
 - Conflict between multiple responsibilities (Carlson, 1999; Cohen, 2011; Jarnagin, 2005; Kenty, 1997, 2000; Lee, 2009);
 - Needs of family (Carlson, 1999; Cohen, 2011; Jarnagin, 2005; Kenty, 1997);
 - Responsibilities as parent and/or caretaker (Carlson, 1999; Cohen, 2011; Jarnagin, 2005; Kenty, 1997; Lee, 2009; Megginson, 2008);
 - Competing responsibilities as student and employee/friend/family member (Cathro, 2011; Cohen, 2011; Kenty, 1997, 2000; Lee, 2009; Megginson, 2008); and
 - The perceived need for self-sacrifice (Jarnagin, 2005; Reilly & Fitzpatrick, 2009).
- *Program stressors ES.* For the purposes of this study, program stressors were defined as:
 - Flexibility or the lack of flexibility of the program of study (Cathro, 2011; Kenty, 2000; Lee, 2006; Megginson, 2008);

- Expectations of and relationships with faculty/advisers (Carlson, 1999; Cathro, 2011; Cohen, 2011; Hadjioannou et al., 2007; Jackson, Darbyshire, Luck, & Peters, 2009; Lee, 2006, 2009; Underwood, 2002);
 - Isolated nature of coursework and/or dissertation/capstone phase (Cohen, 2011; Hadjioannou et al., 2007; Lee, 2006);
 - Lack of structure for dissertation/capstone work (Cohen, 2011); and
 - Overwhelming nature of capstone/dissertation process (CGS, 2009; Underwood, 2002).
- *Support issues ES.* Support was defined as external factors which assistance with builds persistence, leading to academic success (Shelton, 2012). For the purposes of this study, support issues were defined as:
 - Support from family and friends (Carlson, 1999; Cathro, 2011; Cohen, 2011; CGS, 2009; Kenty, 1997, 2000; Lee, 2006, 2009; Megginson, 2008; Reilly & Fitzpatrick, 2009);
 - Support from a committed spouse and/or partner (Carlson, 1999; Kenty, 1997; Lee, 2006, 2009); and
 - Support from nursing doctoral program faculty and/or advisers (Cohen, 2011; Kenty, 1997; Lee, 2006).
- *Time issues ES.* For the purposes of this study, time issues were defined as:
 - Lack of time with friends/family (Kenty, 1997, 2000; Megginson, 2008; Squires et al., 2014);
 - Insufficient time to devote to work and other non-school responsibilities (Alexander et al., 2002; Kenty, 1997; Megginson, 2008);

- Difficulty balancing time between work, school, and family (Kenty, 1997, 2000; Megginson, 2008);
- Lack of adequate time for school work (Kenty, 2000; Megginson, 2008); and
- Lack of adequate time daily for multiple responsibilities (Kenty, 1997, 2000; Megginson, 2008).

Expectancy value theory cost values. For the purposes of this study, cost was conceptualized in terms of the negative aspects of engaging in the task (Eccles & Wigfield, 2002). For the purposes of this study, these were broken into the three following individual constructs:

- *Effort cost value.* Effort required for successful completion of a task (Eccles et al., 1983).
- *Opportunities cost value.* Foregoing opportunities to engage in other valued tasks (Eccles et al., 1983).
- *Psychological cost value.* Risk for (or actual) psychological or emotional cost associated with engaging in a task (Eccles et al., 1983).

Expectancy value theory expectancies for success. For the purposes of this study, these were defined as an individual's belief and confidence in his/her own competence and abilities; an individual's expectations for success or failure; and an individual's belief regarding their control over outcomes (Eccles & Wigfield, 2002).

Expectancy value theory subjective task values. The projected value of any task is a function of three key elements (Eccles et al., 1983). For the purposes of this study, these were broken into the following individual constructs:

- *Attainment task value.* The personal importance an individual has in doing well on a task (Eccles et al., 1983).
- *Intrinsic task value.* The enjoyment an individual gets from completing an activity, or the personal interest they display in a subject (Eccles et al., 1983).
- *Utility task value.* How well tasks correlate to an individual's goals (both current and future goals; Eccles et al., 1983).

Motivation. For the purposes of this study, this was defined as the passion and drive individuals exert when striving to meet a goal(s) (Merriam & Bierema, 2013). *Intrinsic motivation* was defined as driving factors that are internal to an individual (Merriam & Bierema, 2013).

Persistence. For the purposes of this study, this was defined as choosing to remain in an academic program coupled with successful academic performance, or achieving the academic standards required to continue in a program, leading ultimately to graduation (Shelton, 2012).

Protective Factors. For the purposes of this study, this was defined as environmental supports that were available for doctoral nursing students from faculty, advisers, and administrators within the school of nursing and broader university setting.

Summary

An important appeal to the nursing profession has been the need to increase drastically or even double the number of doctorally-trained nurses in a short amount of time (AACN, 2014b; IOM, 2010; NCSBN, 2010; NLN, 2013; RWJ, 2007; Tri-Council for Nursing, 2010). Currently in the United States, less than 1% of nurses hold doctoral degrees in nursing or nursing-related fields (HRSA, 2013; Pancheri et al., 2013). Nurses trained at the doctoral level include those who completed practice-focused programs (DNP) or research-focused programs (PhD; AACN,

2011a, 2011b, 2015; Smith & Delmore, 2007). Current and potential nursing doctoral students face the completion of complex programs of study in institutions with high attrition in their graduate-level programs. Research indicated that attrition in the United States is approximately 43%, yet this can range broadly based on discipline of study (CGS, 2008, 2009; Gardner, 2008), and costs related to attrition are high (Smallwood, 2004). Nursing doctoral students are a population that is studied infrequently, and when they are studied, it is often qualitatively (Cohen, 2011; Evans & Stevenson, 2010). The need to implement empirical studies which will analyze the factors that impact nursing doctoral students' intent to leave their programs of study are essential. This increased knowledge will help build a greater understanding regarding the times and spaces in a program to provide supportive, protective factors. This support is necessary to help minimize attrition and promote persistence within these populations of students.

CHAPTER 2: REVIEW OF THE LITERATURE AND FRAMEWORK

This chapter reviews the state of the literature related to stressors, motivation, persistence, and the unique population of nursing doctoral students. A targeted literature review was conducted to identify themes related to the types of environmental stressors impacting students in nursing doctoral programs. Doctoral students comprise a population that is infrequently studied, and nursing doctoral students are studied even less frequently. There is thus a gap in the literature regarding empirical knowledge of doctoral nursing students. This limited amount of research impacts our understanding of factors that influence attrition or completion of nursing doctoral studies. This chapter reviews the literature on four related themes: environmental stressors impacting doctoral nursing students, motivation, persistence, and the characteristics of doctoral nursing students. The chapter concludes with a discussion of the theoretical framework utilized for the study.

Environmental Stressors

Successful completion of a doctoral program requires a complex balancing act of commitments and responsibilities for students. Students in doctoral programs complete difficult coursework, including advanced topics of theory development, project development, statistics, research methodology, and advanced writing courses. Next, nursing students develop and implement a capstone project for DNP students or dissertation for PhD students which are multistep, detailed, and complex undertakings (AACN, 2010; AACN, 2015a).

Nursing doctoral students are members of a unique community. Most nursing doctoral students are nontraditional students and must juggle numerous obligations. Many of these students continue working (Alexander et al., 2002; Cohen, 2011; Reilly & Fitzpatrick, 2009), and often have family responsibilities, including parenthood (Cohen, 2011; Lee, 2006, 2009). These

responsibilities are in addition to the stressors related to schoolwork itself. In order to identify the environmental stressors that impact nursing doctoral students, a systematic, targeted literature review regarding doctoral persistence and nursing was conducted.

In this review, among the relevant articles discovered was a comprehensive literature review (Cohen, 2011), which analyzed studies of persistence among doctoral/graduate nurses published from the years 1985 through 2009. Utilizing Cohen’s (2011) search terms, an update to the literature review was implemented for studies published from 2009–2015. The literature review matrix for the targeted search of environmental stressors is included in Table 1.

Table 1

Environmental Stressors Targeted Literature Review Boolean Search Terms

Boolean Search Terms (all search terms paired with the word nursing)	Number of Articles Identified and Abstract Reviewed	Search Term Changes	Number of Articles Located and Reviewed	Number of Relevant Articles
“all but dissertation”	0	nursing taken out	2	1
“doctoral completion”	28		12	3
“doctoral experience”	2			0
“doctoral persistence”	1		1	1 (Cohen, 2011)
“doctoral program attrition”	0		0	0
“program attrition”	128 ADN/BSN	Graduate added	10 0	0 0
“doctoral student advisement”	8		8	1
“doctoral student support”	0 – Boolean search 1065 – smart text search		15	4 – Review of top 150 abstracts in relevance order [relevant articles found in top 45 articles]
“perseverance”	524		10	3 – Review of top 125 abstracts in relevance order [relevant articles found in top 40 articles]
“self efficacy” AND “persistence”	8		6	2

*Note. Databases used: Academic Search Premier, CINAHL, ERIC, Medline, PsychARTICLES, and PsycINFO from 1997–2015.

Articles were reviewed and read in descending chronological order and analyzed for factors external to the student that could cause or add stress for doctoral nursing students. Identified stressors were listed out and sorted into themes. Themes of the environmental stressors that impact doctoral nursing students were identified into the following six broad categories: financial issues, support issues, program stressors, outside demands, time issues, and health issues. As these were broad categories, the operationalized variable terms for all environmental stressors are listed in Table 2.

Table 2

Identified Environmental Stressors, Operationalized Variables

Identified Environmental Stressor	Operationalized Variables
Financial issues	Costs of education/tuition Income loss or reduction Acquiring debt
Support issues	Family and friends support Committed spouse/partner support Program faculty/advisers support
Program Stressors	Flexibility of program, or lack thereof Expectations of and relationships with faculty and advisers Isolated nature of coursework Isolated nature of dissertation/capstone phase Lack of structure of capstone/dissertation work Overwhelming nature of capstone/dissertation process
Outside demands	Conflict between multiple responsibilities Needs of family Responsibilities as parent and/or caretaker Competing responsibilities as student and employee/friend/family member Perceived need for self-sacrifice
Time Issues	Lack of time with friends/family Insufficient time to devote to work and other nonschool responsibilities Difficulty balancing time between work, school, and family Lack of adequate time for school work Lack of adequate time daily for multiple responsibilities
Health Issues/Concerns	Issues/concerns regarding personal physical and/or emotional health Self-neglect or lack of self-care – leading to personal physical and/or emotional health issues Persistent stress of program – leading to personal physical and/or emotional health issues Family members health issues/concerns

Financial Issues

Doctoral programs in nursing are expensive undertakings. The National Center for Education Statistics reported the average costs for the years 2011–2012 for doctoral degrees in health fields was \$42,700, and professional practice degrees in other health sciences (not including medical degrees) was \$43,100 (Woo & Shaw, 2015). Squires et al. (2014) indicated students contemplating Bachelor's to PhD or Master's to PhD programs have concerns related to the additional costs of further schooling. Participants in their survey of students in BSN, MSN, and DNP programs at one large urban university in the United States indicated students identified that high financial costs related to foregoing wages during school or undertaking large debts to pay for school would be significant barriers for doctoral study.

When conducting a literature review regarding factors that promote or inhibit doctoral nursing study, Cathro (2011) defined financial concerns for students as high costs of tuition, or lost or decreased wages when transitioning from clinical settings to academia. Cathro (2011) also listed that one of the challenges for universities to recruit nurse educators is the noncompetitive salary offered by academia when compared to practice settings. A report from the National Advisory Council on Nurse Education and Practice (2010) stated that approximately 63–67% of doctoral nurses with PhD and DNPs do not pursue careers in academic settings, with low salaries and intense workloads in academia listed as factors for this decision.

The pilot study of nursing faculty enrolled as doctoral students conducted by Lee (2006) specified that financial concerns can lead to longer completion times, as students' focus is distracted from their program of study. Reilly and Fitzpatrick's (2009) study of DNP students regarding perceptions of stress and student personality characteristics found almost 31% of participants reported stress about financial issues. Similarly, Carlson (1999) conducted an

exploratory qualitative study of the experiences of midlife women graduate students. This study surveyed 212 female students between the ages of 40-59 in doctoral programs in the United States and identified the themes of change, diversity, challenge, and growth within the study. Carlson's (1999) findings indicated that 60% of participants' verbalized concerns related to financial issues, some reporting they struggled to support themselves and stressed that the importance of financial security during school was essential to minimize stress. The participants of the study verbalized the desire for better jobs and more marketability as reasons to undertake doctoral studies at their current phase of life.

Current and prospective students were not the only ones with concerns related to finances and cost of education. Alexander et al. (2002) conducted a needs survey of maternal and child agency directors and reported the need for more graduate educated professionals, which was perceived necessary by greater than 70% of study respondents. Directors of these agencies reported the costs of education, lost income, and time were barriers for their employees to seek graduate education.

Support Issues

The identified themes related to support issues during the targeted literature review linked to family, friends, and spouse or partner support. The CGS (2010) report on practices and policies to minimize attrition, based on the results of a 10-year longitudinal study of doctoral students, delineated support from family was one of the primary factors that impacts students. The report recommended that policies should accommodate students with families, and schools should have institution-wide policies on family and medical leave.

In a qualitative study of the meaning of doctoral coursework for midlife female students by Jarnagin (2005), many study participants felt the presence of positive support was crucial for

success. These findings reiterate the information found in Kenty's (1997) earlier study of Master's-prepared female nursing faculty seeking doctoral degrees. Kenty recommended that the development of strong relationships and support systems in all areas of students' lives including school, work, and home are crucial, but outlined that the spouse was the most important source of support for many student participants. Cathro (2011) listed family responsibilities as a preventive factor for doctoral study and recommended seeking out online and/or flexible programs to overcome these stress factors. Cohen (2011) also added that the lack of support from family and peers created difficulty for students in their desire to persist in their doctoral studies. Reilly and Fitzpatrick's (2009) study findings suggested the need for social support, as relationships with family and friends were identified as the most common type of stress by 37.2% of participants. The study from CGS (2009) indicated the factors most frequently mentioned as crucial for doctoral study completion, either alone or in combination, by 34% of study participants were finances, mentorships, and family.

Walker, Golde, Jones, Bueschel, and Hutchings (2008) found that mentorship relationships between faculty/advisers and students are a foundational practice in doctoral programs. Walker et al. (2008) recommended that students should seek out mentoring relationships from more than one faculty member. The influence of multiple mentors increases the collaboration and connections made by students. Likewise, the CGS (2009) study also mentioned the importance of supportive, reciprocal relationships with faculty/advisers for doctoral program success. Lee's (2009) study of 277 nursing faculty members pursuing doctoral degrees indicated that almost 10% of student participants reported problematic relationships with either an adviser or faculty member; one of the most disrupting aspect of doctoral study. Support from faculty is important, as students in the candidacy/dissertation phase of a PhD program are

more likely to withdraw if they do not complete their dissertation within two years. Carlson's (1999) study specified that over 50% of respondents in the study included the importance of faculty support in their study. It appears clear that relationships between students and faculty and/or advisers were crucial for success.

Program Stressors

Program factors can impact students in significant ways. Walker et al. (2008) indicated few things are more important for doctoral study than the quality of the doctoral program. The CGS (2009) report stated 60% of study participants reported one of the primary reasons to choose a university was the reputation of the program or the programs' faculty. The National League for Nursing Board of Governors (2011) published a vision statement that specified to help promote successful completion of degrees, schools of nursing programs of study should include academic pathways that do not require lengthy additional prerequisites, should build on students' current skill set, and are user-friendly and flexible.

Hadjioannou et al. (2007) specified that doctoral programs are different from other academic degrees, and students can find these differing pathways of doctoral work challenging and isolating. Hadjioannou et al. (2007) analyzed the qualitative experiences of a group of five education doctoral students to explore common challenges facing doctoral students. The students formed a student-led support group while completing their doctoral degrees along with a professor who joined as the group mentor. The professor member noted in a self-reflection that doctoral students own sense of competition and need for high achievement can be self-defeating, despite their solid motivation and high achievement (Hadjioannou et al., 2007). The authors reported that a challenging factor faced during their doctoral journeys was the experience of isolation during the program. The experience with this supportive group helped the students

overcome these feelings of isolation. Cohen (2011) also stated doctoral students reported feelings of isolation and anxiety as common factors in their doctoral programs.

Other situations that can cause anxiety and stress for students are differing expectations between faculty and student (Hadjioannou et al., 2007). These findings tie to an article by Jackson et al. (2009), which outlined reflections from professors with experience in nursing doctoral program supervision in Australia. The authors indicated that student and mentor/adviser relationships by their very nature have a difference in influence of power, which was better to acknowledge from the beginning. It should be the responsibility of the faculty mentor to model communication and relational skills that allow this difference in power to be mutually negotiated and successfully managed throughout the program.

Lee's (2009) study indicated participants reported difficulties with faculty/adviser relationships in two primary ways. First was the concern regarding faculty feedback, teaching competency, and availability, with some students reporting faculty were not accessible because of the faculty's busy schedules. The other issue related to the perception by some students that faculty did not seem to genuinely care about them or their work. These findings reiterated the sentiment of participants in the Hadjioannou et al. (2007) study that described faculty members who feel the dissertation process should be difficult and uncomfortable. Lee's (2006) study discussed that difficult relationships with faculty and/or advisers was one of the most detracting factors of the participants' doctoral program. Cohen (2011) suggested students reported anxiety when student and faculty have different expectations. Additionally, often students felt the direction they received from faculty was either excessive or meager, which created challenging conditions for both students and faculty. Kenty (2000) recommended choosing a research topic

early in the program and choosing an adviser with availability and commitment to the students' dissertation process to minimize the stress of doctoral programs.

Underwood's (2002) qualitative study looked at the experiences of women who were mothers at the same time they were completing doctoral programs. Participants had all advanced to the candidacy portion of their program and were the primary caregiver to a child that was elementary school-age or younger. Study participants discussed that structuring all the components, such as study groups and conferences, was especially difficult for them as mothers and the overwhelming nature of doctoral study meant mothers needed to be self-disciplined in order to achieve success within their studies. Cathro's (2011) literature review demonstrated similar findings that emphasized the need for flexible programs to minimize stressors that limit students time and access. All respondents in Underwood's (2002) study reported problems with child care options/arrangements and lack of program flexibility at some time during their doctoral journey. Study participants felt that doctoral programs must have clear policies that support the needs of students who have families.

Outside Demands

The report from the Advisory Committee on Student Financial Assistance (ACSFA, 2012) to Congress delineated that nontraditional students face a higher risk for attrition since they often must balance the multiple responsibilities of family and work along with school. Cohen's (2011) and Cathro's (2011) literature reviews indicated students frequently have difficulty balancing the home life and care of their families with work and school responsibilities. Lee (2009) detailed the importance for students to balance the numerous concerns of work and school with their additional roles as parents and caretakers.

Qualitative studies by Jarnagin (2005) and Kenty's (1997) explored the experiences of female faculty members. Jarnagin (2005) stated major life changes for women were related to their role, their relationships to their families/friends, responsibilities within their homes, and their achievement at work and school. Stress for participants was increased by the demands of home and family, and conflicts with time often impacted these relationships. Support from social networks and friends had both negative and positive impacts on student while support from spouses decreased stress. Kenty's (1997) similar findings indicated that even with supportive relationships with others in their lives, there was still the common theme that doctoral programs required balancing of multiple responsibilities. Stress was decreased when participants reported more satisfaction with their roles and achievement with work and school. Kenty's (2000) discussion of strategies to minimize stress for female doctoral students indicated the need to prioritize and set goals. Also, setting limits for outside commitments during doctoral study was a beneficial to help juggle priorities and balance competing demands as methods for minimizing stress.

Time Issues

Both ACSFA (2012) and Squires et al. (2014) indicated that time is one of the primary barriers to successful completion of college degrees. In Squires et al.'s (2014) study, participants cited several types of time issues, such as lack of time with family and friends and insufficient time to devote to work and other nonschool responsibilities. Cathro (2011) reported similar concerns of insufficient time to devote to responsibilities outside of school, along with a lack of adequate time for school and daily responsibilities of life. This supported the findings from the Alexander et al. (2002) study of directors of state health care agencies, which indicated directors facing the need to increase the education of their workforce cited lost work time of students, lack

of staff for work responsibilities, and high cost as organizational barriers to offering continuing education. In addition, the time required to complete graduate degrees and inability to take time away from work were obstacles perceived for employees by administrators. Kenty's (1997) study indicated time conflicts for students were associated with stress and impacted relationships with family and friends.

Health Issues/Concerns

Cohen's (2011) literature review discussed the commonality of physical and emotional health problems related to persistent stress of nursing doctoral programs and neglect of self-care typical of many doctoral students. In Underwood's (2002) study, participants reported physical issues related to pregnancy and childbirth which made their doctoral programs more difficult. Reilly and Fitzpatrick's (2009) study of DNP students found that 48% of participants reported current stress, with the most frequent stress coming from relationships with family and friends. Approximately 30.2% reported financial stress and 32.6% of students reported that their stress related to health concerns.

Jarnagin's (2005) study indicated participants commonly reported that lack of self-care and the level of self-sacrifice required were more than anticipated, with negative consequences on many participants' health. One participant reported the persistent stress of school as draining and stated, health changes were entirely stress related. These findings echo Kenty (2000), who suggested the persistent stress of doctoral programs could lead to health concerns for participants. Participants in Carlson's (1999) qualitative study reported alterations to health, with several participants reporting frequent exhaustion, weight gain, mental health concerns, stress-related illnesses such as gastrointestinal distress and headaches, and exacerbation of serious health issues, such as diabetes and lupus.

Developing themes regarding the environmental stressors impacting doctoral nursing students was a crucial piece of this study. These themes were utilized to build the environmental stressors survey. These survey items measured the core question of the study, which addressed the impact of environmental stressors on doctoral nursing students' intent to leave their current program of study.

Motivation

While factors that motivate students are complex, research shows that the more intrinsic these factors are, the more motivated the learner typically is. Pintrich (2004) and Bruinsma (2004) proposed that students who exhibit higher intrinsic motivation result in greater academic achievement. Intrinsic motivation, as defined by Deci and Ryan (1985), is the performance of an activity for internal fulfillment, rather than for a separate consequence. One of the major components of Eccles et al.'s (1983) EVT is intrinsic interest or personal enjoyment of tasks, which influences a student's achievement behavior (Eccles, 2011, 1987; Eccles et al., 1983; Eccles & Wigfield, 1995, 2002). Motivation is an important aspect of success, particularly for doctoral students. Students' motivational beliefs include such things as students' feelings of competence, goals, and belief in a task's importance toward meeting their goals (Pintrich & DeGroot, 1990).

Motivation can impact students' drive, goals, expectancies, and self-worth (Robbins et al., 2004). Students' motivational beliefs are crucial to their ultimate success or failure. Intrinsically motivated students appear to experience increased learning outcomes, which positively correlate to increased retention in higher education (Rose, 2011). Adult learners are self-directed and internally motivated, and previous learning influences their learning experiences (Gorges & Kandler, 2011). Recent research on the differences in andragogy and

pedagogy supported the findings that adults are self-directed and internally driven (Knowles, Holton, & Swanson, 2015), and show greater intrinsic motivating factors (Merriam & Bierema, 2013). Even adult students in basic-level educational programs are heavily impacted by intrinsic motivation. Mellard, Krieshok, Fall, and Woods (2013) found when intrinsic motivating factors of goal driven beliefs and behavior stop or slow for students in basic level programs, these students' motivation may weaken or even stop.

Students implement internal mastery-focused motivational methods as a means to complete a task that is either boring or too difficult. Mastery-focused learning is defined as the goal to master a task, defined by individual standards. Deci and Ryan (2000) stated individuals function at a higher level when there is alignment between their goals and their own needs. This impacts the adaptability of the student, as they strive to keep these in alignment. The focus is on accomplishing new tasks that improve the individuals' knowledge and encourage further mastery. Adopting a mastery-focused approach has positive impacts on a task's value and interest/intrinsic motivation. Students who have a mastery focus are typically able to maintain positive perceptions of competence, and are adaptive to challenges from difficult tasks (Pintrich, 2000). Students who are focused on learning and improving are more likely to look for the progress made as they interpret feedback regarding tasks completed. Teaching students to focus on becoming cognizant of their own motivation will help them adapt to the context of the situation and to the task (Pintrich, 2000).

Active participation in tasks can impact motivation. Kang and Tan (2014) found intrinsic motivation was significantly increased for adult business and computer students by the implementation of the learning activity. Walker, Greene, and Mansell (2006) discovered significant positive relationships between intrinsic motives, students' belief in their abilities, and

meaningful cognitive engagement. By contrast, this study also found significant positive relationships between external motives and shallow cognitive engagement. Deci, Koestner, & Ryan (2001) indicated negative correlations between external reward factors on students' desire to learn and learning outcomes such as grades. Ultimately, Rose (2011) stated, intrinsically motivated students appear to experience increased learning outcomes which positively correlate to increased retention in higher education.

Persistence

Another important aspect related to motivation is what Bandura (1986) referred to as self-efficacy, or the confidence individuals have in their abilities. This is a foundational aspect of motivation that helps to build an individual's feelings of personal accomplishment. Additionally, Bandura (1986) discussed that in addition to perceptions of confidence, an individual's expectations for success and their goals direct their behavior. Persistence is crucial for the nursing doctoral student. Doctoral programs are often challenging and overwhelming. Without persistence, few students will successfully complete a doctoral program of study. The construct of self-efficacy may impact a student's behavioral choices, their level of effort for tasks and, most importantly, their persistence (McCormick, Bielefeldt, Swan, & Paterson, 2015). Wigfield and Eccles (2000) stated that it is an individual's perception of competence and how valued an activity is which will lead to their choice, persistence, and achievement.

Ampaw and Jaeger (2012) discovered that students who received financial assistance were more likely to persist and complete the doctoral experience transition from student to researcher, which was particularly true for students awarded research assistantships. The findings support a previous study by Ehrenberg and Mavros (1995), which proposed that students awarded either fellowships or research assistantships have higher rates of completion

and complete degrees in shorter amounts of time. Gonzalez-Moreno's (2012) study, however, did not support these findings, as this study of music doctoral students found no significant differences based on financial assistance.

Litalien and Guay's (2015) initial research indicated students who felt they had higher support from their advisor, faculty, and peers reported increased perceptions of competence. This supports findings from the CGS (2008) study, which indicated 65% of respondents reported the availability of mentoring and advising was important for their ability to complete their doctoral degrees. Robbins et al. (2004) indicated that students' educational goals, commitment to their university, social supports and involvement, self-driven academic behaviors, financial support, and university selectivity positively correlate to retention or persistence.

Perception of competence is a foundational premise for doctoral students' persistence (Castro, Garcia, Cavazos, & Castro, 2011; Litalien & Guay, 2015). These feelings and beliefs were supplemented through financial support and psychological support, such as mentoring and advising. Enhanced feelings and beliefs in their own abilities appear to be crucial factors for students' endurance.

Nursing Students Characteristics

There is an assumption that students in doctoral programs are already motivated individuals. Yet, as Hegarty (2011) discussed, motivation of graduate students is infrequently studied. This is important when looking at nursing doctoral students, as these are typically nontraditional students. These students usually enter doctoral programs later in their career and often work and raise families while obtaining their doctoral degree (Cohen, 2011; Ketefian & Redman, 2015; Reilly & Fitzpatrick, 2009; Smith & Delmore, 2007). These students also often take longer to complete their programs, and more than half of nursing students enrolled in

doctoral programs are part-time students (Jarnagin, 2005; Kenty, 2000; Reilly & Fitzpatrick, 2009; Smith & Delmore, 2007) and many students also work full-time while obtaining graduate degrees (Cohen, 2011; Lee, 2006). An article by Livsey, Campbell, and Green (2007) analyzed the historical trends, current state, and future challenges facing nursing graduate students. The authors listed the guiding influences that impact nurses pursuing a graduate degree as an interest in the profession of nursing, a desire to increase their own education, and support from their family.

Nursing doctoral students are infrequently studied, and most studies conducted are qualitative. Arvidsson and Franke's (2013) descriptive phenomenographic study identified that students need learning processes which help them prepare for research by synthesizing the different portions of the research process and integrating real-world questions with scientific theories. This study supported previous discoveries that research should provide useful, important knowledge for the students' selected field of study (Appel & Dahlgren, 2003).

Baldwin's (2013) grounded theory study from the United Kingdom found that nurses in professional doctorates described the desire to develop their careers professionally and their lives personally as the goal of completing the degree. Professional development was described as enhancing feelings of competence and ability, learning the steps and processes to adequately conduct relevant research, and developing leadership skills and abilities. This supports an earlier study by MacIntosh (2003), which stated the development of a nurse's professional identity required further development of their skills and abilities throughout their career.

Mentoring and support were essential influences for doctoral students (Walker, et al., 2008). Arvidsson and Franke's (2013) findings stated that, ultimately, students require innovative learning experiences and committed guidance to promote their transition to

researcher. These findings also reinforced earlier research from Franke and Arvidsson (2011), who specified that guidance from a mentor with similar research interests helps to create the necessary steps for the transformative experience of doctoral programs.

Nursing doctoral students encounter challenges along the way. Cohen's (2011) literature review found that challenges facing these students sorted into the following themes: the transitional nature of returning to school; the external factors of outside demands of life, particularly related to parenthood; program related delays; and student-faculty relationships. Baldwin's (2013) qualitative study indicated challenges that were discovered during data analysis related to friend/family responsibilities, time issues, and difficulty balancing multiple roles between work, private life, and school. These findings also support a previous study from Maher, Ford, and Thompson (2004) of female doctoral students in various programs. Maher et al.'s (2004) study indicated the incidence of health, family, or marital problems impeded the progress of the students within their study.

Theoretical Framework

The framework for this study, the expectancy value theory of achievement choice (EVT), was initially developed from the work of John Atkinson's classic expectancy value theory used in the field of psychology (Atkinson, 1957, 1964). In the 1980s and 1990s, Dr. Jacquelynne S. Eccles (Parson), along with Dr. Allan Wigfield and colleagues (Eccles, 1987; Eccles et al., 1983; Eccles & Wigfield, 1995, 2002; Wigfield, 1994; Wigfield & Eccles, 2000) further developed this theory for application in educational settings. Eccles and Wigfield (2002) argued, in expanding Atkinson's theory, that expectancy and value components are much more complex, yet the primary difference is that expectancies for success and values are positively related rather than the inverse relationship proposed by Atkinson. Eccles et al.'s (1983) model suggested that an

individual's behavior is a function of their expectations regarding the outcome of their actions and the value they place on these outcomes.

Originally, Eccles et al.'s (1983) work was focused on explaining children and adolescents' behavior, yet this work has been expanded to implement this theory with adults, for example with adult music students (Gonzalez-Moreno, 2012; Gorges & Kandler, 2011); male and female adult tennis players (Sheldon & Eccles, 2005); adult physical education students (Chen & Liu, 2009); Greek university students (Vernadakis, Kouli, Tsitskari, Gioftsidou, & Antoniou, 2014); Taiwanese university students (Chiu & Wang, 2008); female Korean university students (Bong, 2001); engineering faculty (Matusovich, Paretti, McNair, & Hixson, 2014); college engineering students (Li, McCoach, Swaminathan, & Tang, 2013); and college students in science, technology, engineering, and math (STEM) courses (Perez, Cromley, and Kaplan, 2013).

Eccles et al.'s (1983) model delineated two key components crucial for predicting behavior, persistence, and achievement: (a) subjective task values and (b) expectancies for success (Eccles, 2011; Eccles et al., 1983). Eccles et al. (1983) stated that an individual's belief concerning their level of confidence in accomplishing an academic task, the value they place on the task, and expectations for success are vital components of students' achievement behaviors (Eccles et. al., 1983; Wigfield & Eccles, 2000). The choices made by students are influenced by both positive and negative task features, and all choices have associated costs, as each choice an individual makes will limit or even negate other options. Therefore, relative task value and probability for success are key factors behind choice (Eccles & Wigfield, 2002). Recent studies have found that self-efficacy and task value can be meaningful predictors of achievement and

gratification with learning (Bong, 2001; Chiu & Wang, 2008; Ding, Sun, & Chen, 2013; Gonzalez-Moreno, 2012; Lee, 2015; Yukselturk & Bulut, 2007).

Subjective Task Values

Eccles et al. (1983) defined four components that outline the subjective task values from EVT of attainment value, intrinsic value, utility value, and perceived cost. It is important to note that cost values do not include financial cost, but are related to the emotional or psychological cost to the individual. Additionally, Perez et al. (2013) explained that while previous studies analyzed perceived cost as one construct, their study broke this into three separate constructs for added depth. These additional elaborations of the concept of cost tied back to earlier work from Eccles et al. (1983), which broke cost out into three dimensions. Perez et al. (2013) conceptualized these concepts for added dimension for the study conducted. This added depth and expansion of the construct of cost value category was included in this study to gain a broader perception of the impact of emotional/psychological cost. EVT theory is important for studying student's academic decisions and persistence within their chosen academic related activities. EVT acknowledges that motivational beliefs are dependent upon the complex interaction between external and internal factors (Eccles et al., 1983). These four subcategories are the key components of subjective task values.

Attainment value. This was defined as the personal importance an individual places on doing well on a task. Eccles (2005) indicated this definition was closely tied to work on individuals and their identity. Individuals place value on tasks that are principal to their own core identities, since these types of tasks provide the chance to illustrate or verify unique facets of their personalities. Eccles (2005) stated this also ties to the fact that individuals need to feel

they are engaged in tasks that are socially important and their desire to be respected by their peers.

Intrinsic value. This is expressed as the enjoyment an individual gets from completing an activity or the personal interest they display in a subject. Eccles (2005) indicated this concept relates to the idea of flow from Csikszentmihalyi (1990), in that intrinsically motivated behavior occurs when individuals are actually engaged in a task. Flow is only achievable when an individual's perceptions of available opportunities and their own abilities are balanced; then the student is able to complete the challenge successfully (Eccles, 2005). Eccles (2005) contrasted intrinsic value from intrinsic motivation, explaining that motivation has more relation to the foundation of the decision to complete an activity. This motivation can be undermined by external factors and/or rewards, whereas intrinsic value is described as a relatively stable construct for individuals.

Utility value. This is described as how well tasks correlate to an individual's goals (both current and future goals). Eccles (2005) explained that in some aspects, utility value is similar to extrinsic or external motivation since the activity helps the individual meet another goal, rather than acts as a goal in and of itself. The activity can also relate to important goals for the individual, and as such is related to the person's self-esteem. This is similar to Deci and Ryan's (2000) relationship between introjected and integrated behavioral motivation.

Perceived cost. The Eccles (2005) model analyzed that the value of a task was interdependent on an individual's beliefs, which can be described as the cost of participation in the activity. Circumstances that impact an individual's self-esteem can be considered a cost of participation. The loss of time to participate in other valued activities can also be considered a cost for involvement in a task.

Effort cost. This was defined as the effort required for the successful completion of a task. Eccles et al. (1983) outlined this as how or if the cost to participate in an activity outweighs the effort put forth, and if this was beneficial to the individual. As individuals make choices, they contemplate the least amount of effort necessary to succeed at the task based on their perceived abilities. Eccles et al. (1983) stated the effort an individual perceived necessary for successful completion of a task may provide a central factor for their behavioral choices.

Opportunities cost. This was outlined as foregoing opportunities to engage in other valued tasks. Eccles (2005) indicated that an individuals' time and energy for activities have finite values. Therefore, individuals must make choices concerning the completion of valued activities. The value of engaging in an activity can be impacted by the value of an activity that the individual must give up. This is where the factor of choice comes in. The individual has to choose what task will be sacrificed to engage in another task.

Psychological cost. This was delineated as the risk for (or actual) psychological or emotional cost associated with engaging in a task. This ties to the strategies that Eccles (2005) discussed of avoidance and abstinence. These techniques can protect the individual's self-esteem, allowing them to escape failure. If they try and fail, it is at a cost. If they do not try, then they will not fail and their psyche is protected.

Expectancies for success. These constructs break out into three main concepts: an individual's belief and confidence in their own competence and abilities, an individual's expectations for success or failure, and an individual's belief regarding their control over outcomes. Eccles et al. (1983) stated these concepts are accepted by experts as valuable elements which influence individual's behavior choices. Colomeischi (2015) defined this as the certainty an individual has that in the majority of circumstances, they have the ability to achieve

their goals successfully. Ward (2001) cautioned that expectancies for success may fluctuate along a range from relatively unspecific to precise.

Summary

The study built on the literature regarding understanding the constructs of motivation and persistence, as well as the impact of environmental stressors on nursing doctoral students. Gaps in the current literature are the lack of empirical studies that analyze the effect of environmental stressors and motivational factors impacting the population of nursing doctoral students and their intent to leave their current programs of study. The implementation of targeted empirical studies such as this will build the knowledge base regarding our understanding of this valued, unique population of nursing doctoral students.

The theoretical framework of expectancy value theory of achievement choice, as expanded by Eccles et al. (1983), was utilized for the study. This theory looks at the motivational beliefs of individuals as represented by subjective task values and expectancies for success. This particular study utilized the three expanded constructs of cost within the subjective task values. These motivational constructs were utilized as mediators within the study to answer the core and subresearch questions. While it is not possible to remove stressors from students' lives during their doctoral studies, nursing schools with doctoral programs can utilize this information to incorporate protective factors into their nursing doctoral programs. In order to design relevant curricula, supply adequate resources, and provide effective support, it is important for schools of nursing with doctoral programs to understand these constructs in detail, as they apply to specific populations.

CHAPTER 3: METHODOLOGY

The research methodology for the study is discussed in this chapter. The design was chosen to elicit information and analyses that would contribute to the literature regarding the environmental factors that impact nursing doctoral students' intent to leave their current programs of study, and the motivational beliefs that mediate this intent. This chapter will discuss the following: (1) core research questions; (2) research subquestions; (3) hypotheses; (4) study variables and theoretical models; (5) study sample; (6) survey tools; (7) data collection methods; (8) research design and statistical analyses; (9) ethical considerations and (10) study limitations.

Research Questions and Hypotheses

Research Questions

The aim of this study was to develop understanding if environmental factors can predict doctoral nursing students' intent to leave their program of study and the mediation by the students' subjective values, expectancies for success, and perceptions of costs. The questions it was designed to address include:

Core research question 1. Do environmental stressors such as financial issues, support issues, program stressors, outside demands, time issues, and health issues predict students' intent to leave nursing doctoral programs?

Hypothesis 1. Environmental stressors of financial issues, support issues, program stressors, outside demands, time issues, and health issues will have significant direct impact on students' intent to leave nursing doctoral programs.

Subresearch question 1a. Are these relations mediated by students' motivations for learning?

Hypothesis 1a. These relations will be significantly mediated by students' motivation for

learning.

Core research question 2. How do different kinds of perceived costs contribute to nursing doctoral students' intent to leave?

Hypothesis 2. Perceived cost will significantly predict a students' intent to leave a nursing doctoral program after accounting for subjective values and expectancies for success.

Subresearch question 2a. Do these relationships hold constant across populations of students (PhD and DNP)?

Hypothesis 2a. These relationships will hold constant across varieties of nursing doctoral student populations (PhD and DNP students).

Core Research Question 3. Does perceived cost offset perceived subjective task value?

Hypothesis 3. Effect of perceived cost will significantly offset perceived effect of subjective task value.

Table 3 provides a condensed summary of the study methodology and includes: core and subresearch questions, hypotheses, and analytical approaches.

Study Variables

The study variables utilized in this study were the exogenous environmental variables of financial issues, support issues, program stressors, outside demands, time issues, and health issues. The exogenous pathways looked at the direct effect of these variables on students' intent to leave a program of nursing doctoral study. These variables were identified through the literature review and are listed as annotations on the theoretical models (in Appendix A).

The endogenous variables analyzed were the motivational beliefs of the student population. The endogenous pathways look at the indirect effect of the variables, as mediated by students' motivational beliefs on intent to leave a program of nursing doctoral study. These

beliefs are represented by the constructs from EVT in Table 4.

Table 3

Proposed Methodology Synopsis

Core Research Questions	Sub Research Questions	Hypotheses	Analytical Approach
1. Do environmental stressors such as financial issues, support issues, program stressors, outside demands, time issues, and health issues predict students' intent to leave nursing doctoral programs?	1a. Are these relations mediated by students' motivations for learning?	Environmental stressors of financial issues, support issues, program stressors, outside demands, time issues, and health issues will have significant direct impact on students' intent to leave nursing doctoral programs. ¹ These relations will be significantly mediated by students' motivation for learning. ¹	Test path analysis and look at stressors on intent to leave, as mediated by motivational constructs. Appendix A, figures 1-9 represent the restricted theoretical model ($n > 290$). Appendix A, figures 10 and 11 represent the ideal theoretical model ($n > 380$).
2. How do different kinds of perceived costs contribute to nursing doctoral students' intent to leave?	2a. Do these relationships hold constant across populations of students (PhD and DNP)?	Perceived cost will significantly predict a students' intent to leave a nursing doctoral program after accounting for subjective values and expectancies for success. ² These relationships will hold constant across varieties of nursing doctoral student populations (PhD and DNP) ²	Test path analysis and look at how different types of perceived cost contribute to nursing doctoral students' intent to leave. Test path analysis to determine if these relationships hold constant across varieties of nursing doctoral student populations. Appendix A, figures 1-9 represent the restricted theoretical model ($n > 290$). Appendix A, figures 10 and 11 represents the ideal theoretical model ($n > 380$).
3. Does perceived cost offset perceived subjective task value?*		Effect of perceived cost will significantly offset effect of perceived subjective task value. ¹	Test path analysis to determine if perceived cost is offset by perceived subjective task value. Appendix A, figures 10 and 11 represent the ideal theoretical model ($n > 380$).

Note. ¹Hypothesis based on targeted literature review, references included as part of theoretical diagram. ²Hypotheses based on intuition, stemming from previous literature review. *Prospective question to be asked if sample size is sufficient to model this relation simultaneously.

Table 4

Endogenous Variables in Theoretical Models

EVT Constructs	Beliefs Represented
Subjective Task Values	Attainment Value Intrinsic Value Utility Value
Cost – Broken into three separate constructs	Effort Cost Opportunities Cost Psychological Cost
Expectancies for Success	

Theoretical Models

Appendix A presents the annotated theoretical models of relationships for the path analyses. Schreiber, Nora, Stage, Barlow, and King (2006) indicated that theoretical models are developed to “estimate a population covariance matrix that is compared with the observed covariance matrix” of the data gathered (p. 323). These models include the restricted theoretical models, which were designed to be implemented with a sample of >290 participants for 58 pathways. The ideal theoretical model was designed to be implemented with a sample of >380 participants for 76 pathways. The sample size is based on five participants per pathway. Figure 1 is the full restricted model. Figure 2 addresses Core Research Question (RQ) 1, modeling pathways for the environmental stressors and their direct impact on nursing students’ intent to leave their program of doctoral study. (This model is the same for both restricted and ideal.) Figures 3-8 show Subresearch Question (SRQ) 1a and models the pathways of the environmental stressors as mediated by selected motivational constructs. These have been separated by environmental stressors into individual figures for the purposes of clarification only. Figure 9 examines the pathways for RQ2, which analyze the different kinds of perceived costs as contributing to students’ intent to leave. Figure 9 also addresses the pathways for SRQ2a to determine if these relationships hold constant across different nursing doctoral student

populations: i. e., PhD and DNP students. The pathways are identical, however analysis was run by demographic group, via path analysis. Figure 10 shows the full ideal diagram, which lists each environmental stressor mediated by each motivational construct. This model was not broken into individual figures like the restricted model. Figure 11 addresses the pathways for RQ3 in addition to the analyses of the above-listed relationships among the exogenous and endogenous variables. This model assessed if perceived cost was offset by perceived subjective task value. These additional analyses were possible as all relationships between environmental stressors as mediated by all EVT motivational constructs were analyzed.

Study Sample

The sample size in a path analysis is important for accurate estimation of the values of the “paths, variances, and covariances” (Streiner, 2005, p. 121). The sample size necessary for a path analysis was related to the number of pathways present in the proposed theoretical diagram. The number of participants per pathway must be a minimum of five, with no need to go beyond 20 participants per pathway for adequate power (Bentler & Chou, 1987). In the restricted model, there were 58 pathways, including 6 exogenous, 31 endogenous, and 21 covariate factors. This required a minimum of 290 sample participants. The ideal model, which analyzed additional potential pathways, had 76 pathways, including 6 exogenous, 49 endogenous, and 21 covariate factors. This required a minimum of 380 sample participants.

After receiving approval from the university’s Institutional Review Board (IRB; in Appendix B), the study survey was sent to potential study participants. The target population for the proposed study was students currently enrolled in any of the 311 nursing doctoral degree programs in the United States (PhD or DNP) who were willing to participate after providing informed consent.

Survey Tools

The Nursing Doctoral Stressors and Motivation survey tool consisted of questions from modified surveys, which assessed the subjective task value constructs from EVT, expectancies for success from EVT, and students' self-reported intent to leave their current program of nursing doctoral study; comprising 32 questions. These questions were modified from previous tools utilized to assess students in science, technology, engineering, and mathematics (STEM) programs. An additional 24 questions assess the self-reported impact of environmental stressors on nursing doctoral students, and were developed utilizing themes identified from the targeted literature review. One open-ended question was included at the end to provide students the opportunity to list any other factors that impacted their doctoral study and were not addressed as part of the survey. The original Nursing Doctoral Stressors and Motivation survey tool created consisted of 69 questions; with further modifications to limit the length of the survey, the final tool consisted of 57 questions. Fourteen demographic questions were included at the beginning of the survey. Table 5 includes the survey tool constructs, number of questions, whether the question was modified or developed, and number of questions removed. Appendix C includes the complete Nursing Doctoral Stressors and Motivation survey tool, including demographic questions.

Data Collection Methods

Access to an available population of nursing doctoral students was obtained by contacting deans and directors of the 311 nursing doctoral programs in the United States. A list of nursing doctoral programs, which included names of program deans and directors, was obtained from the publically available AACN website of doctoral nursing programs operating as of fall 2014 (AACN, 2014c). Email addresses were compiled for deans and/or directors of each program.

Three hundred and six emails containing a description of the proposed study (in Appendix D) and a link to the consent form (in Appendix E) and study tool using Qualtrics was sent to program deans and directors, with the request to forward it to students currently enrolled in nursing doctoral programs. Qualtrics utilizes encryption that allows for protection of data and ensures responses are anonymous, making this a good choice for protection of participants' privacy (Qualtrics, 2015).

The links from the first forwarded email took students to the online, self-administered Nursing Doctoral Stressors and Motivation survey tool, which began with an informed consent page. Students first read information about the study and choose whether to provide informed consent. Students willing to provide informed consent were routed to the online survey, which contained 57 survey questions with an additional 14 demographic questions. Weekly reminders (in Appendix F) were sent to deans and directors for the following three weeks, throughout the end of the four week data collection period. If an adequate sample had not been reached in this four-week period, a two-week extension would have been implemented.

Table 5

Survey Tool Constructs, Number of Questions, Modified or Developed

Survey Tool Subtitle	Motivational Construct Measured	Number of Questions	Modified or Developed
Self-Efficacy	Expectancies for Success EVT	4 (1 removed)	Modified
Attainment Value	Subjective Task Value EVT	4	Modified
Intrinsic Value	Subjective Task Value EVT	4	Modified
Utility Value	Subjective Task Value EVT	4	Modified
Effort Cost	Subjective Task Value EVT	4	Modified
Opportunity Cost	Subjective Task Value EVT	4	Modified
Psychological Cost	Subjective Task Value EVT	4	Modified
Intent to Leave	Students' Self-reported Intent to Leave Doctoral Nursing program	4 (3 removed)	Modified
Financial Issues	Environmental Stressor	4	Developed
Support Issues	Environmental Stressor	4	Developed
Program Stressors	Environmental Stressor	4 (2 removed)	Developed
Outside Demands	Environmental Stressor	4 (1 removed)	Developed
Time Issues	Environmental Stressor	4 (1 removed)	Developed
Health Issues	Environmental Stressor	4 (4 removed)	Developed
Open-ended question	Additional Factors	1	Developed
	Total Questions	57 (12 removed)	
Demographic Questions		14	

Research Design

A descriptive survey design was utilized for this study. Descriptive survey designs are used when more information about a subject is required. There was no attempt to establish causality, as gaining a better understanding of a construct or topic was the purpose (Burns & Grove, 2009). The aim of the study was to develop understanding if environmental factors predict doctoral nursing students' intent to leave their program of study and the mediation by the students' subjective values, expectancies for success, and perceptions of costs.

The survey was analyzed utilizing path analysis. Kline (2011) discussed the origins of path analysis, a type of structural equation modeling (SEM). Kline (2011) noted that SEM techniques do not have one source, they are a compilation of similar techniques. What is now known as exploratory factor analysis was developed in the early 20th century by Charles Spearman in approximately 1904. Approximately two decades later, Sewell Wright developed the basics of path analysis, looking at covariances and how they relate to a model with representations of both direct and indirect effects. In the 1960s, path analysis techniques were first utilized in the behavioral sciences. In the 1980s and 1990s, computer programs were developed that could analyze path analyses, and recent developments have shown more complex models and analyses (Kline, 2011). Path analysis is one of the oldest types of SEM and it is still frequently utilized in research.

Path analysis is a statistical analysis method employed to determine whether a multivariate set of nonexperimental data fits well with a particular model (Wuensch, 2012, para. 1). Essentially, path analysis is an extension of multiple regression that allows examination of numerous variables simultaneously to analyze models that are more complex and realistic and take a confirmatory rather than explanatory approach (Streiner, 2005). Path analysis can

investigate circumstances where there are several dependent variables, in addition to variables in a chain of influence (Streiner, 2005). Byrne (2012) stated, “Most other multivariate procedures are essentially descriptive by nature (i.e., exploratory factor analysis), so that hypothesis testing is difficult, if not impossible” (p. 3). Additionally, most other multivariate methods can utilize observed measures only, whereas path analysis can analyze both observed and unobserved (or latent) variables. Path analysis can also be seen as “a disconfirming technique, one that can help us to reject false models (those with poor fit to the data), but it never confirms your particular model when the true model is unknown” (Kline, 2011, p. 16).

Path analysis was previously known as causal modeling. However, it is important to note that path analysis cannot be used to establish causality, it merely determines if the data gathered is consistent with the proposed model. It is a powerful tool to examine complex models and compare different models to ascertain the model with the best fit (Streiner, 2005).

Numerous variables impact students in nursing doctoral programs and affect their intent to leave their program of study. This complexity makes path analysis a useful tool to analyze the data gathered in this descriptive survey study regarding the impact of environmental factors on doctoral nursing students’ intent to leave their program of study as mediated by students’ motivational beliefs. These motivational beliefs are represented by subjective task values, including three types of costs and expectancies for success from EVT.

Statistical Analyses

When utilizing path analysis and SEM methods, Schreiber et al. (2006) discussed the recommended steps for both preanalysis and postanalysis. Preanalysis includes estimations of required sample sizes, discussion regarding missing data, the type of software program used, and the proposed estimation method. Schreiber et al. (2006) stated postanalysis should include “an

examination of the coefficients of hypothesized relationships and should indicate whether the hypothesized model was a good fit to the observed data” (p. 327).

Sample issues for the study included a required sample size of 290 or greater for the restricted theoretical model and a minimum of 380 participants for the ideal theoretical model, based on a minimum of five participants per pathway (Streiner, 2005). Missing data was assessed for univariate and multivariate normality using SPSS 22.0, assessing both box plots and Mahalanobis distance. Estimations for missing data were conducted using full information maximum likelihood (FIML) since pairwise or listwise deletion was not recommended with path analyses (Kline, 2011; Schreiber et al., 2006).

The data was imported into Mplus analysis software Version 7.4 (Muthén & Muthén, 1998-2012) to assess the goodness of fit for the model and address both the core research questions and subquestions listed in Table 3. Analyses were conducted first by running confirmatory factor analysis (CFA) to confirm internal consistency of the Nursing Doctoral Stressors and Motivation survey tool. Descriptive statistics, such as mean, median, and correlation tables, were developed using SPSS 22.0 software and included as part of the analyses and discussion.

CFA was used to test whether the measures of the construct were consistent with the researchers’ understanding of the nature of the construct. Schreiber et al. (2006) stated with CFA, “the researcher examines the significance of individual structural paths representing the impact of one latent construct on another or the latent construct on the observed variable” (p. 327). This step also helped to establish the validity of the tool. Validity is the degree that a survey measures what it is designed to measure and functions as it is designed to function. External validity assesses the extent that the results can be generalized from the survey

sample to the population of interest. Ensuring the sample is an accurate representation of the population of interest helps to establish external validity. The internal consistency of the tool was established using CFA during the statistical analyses.

Reliability is the consistency of the measurement survey. It measures the consistency of the responses across items of the instrument. Higher consistency yields less error and greater reliability. In other words, individual items should produce results that are consistent with the overall questionnaire. The measure most commonly used to analyze this is Cronbach's alpha, with 0.7 - 0.8 considered the generally accepted value (Field, 2013, p. 709).

The remaining path analyses examined direct effects, indirect effects, and the degree of mediation observed. For goodness of fit indices, Schreiber et al. (2006) recommended either non-normed fit index (TLI), comparative fit index (CFI), or root mean square error of approximation (RMSEA) for analyses conducted once, utilizing the recommended standards for acceptable fit TLI or CFI $>.95$, standard root mean square residual (SRMR) $<.08$, RMSEA $<.06$ to $.08$ with confidence interval (CI) straddling $.05$.

No modifications were necessary, as a sufficient sample size was obtained. However, if modifications were necessary to develop a better fitting model, then different indices would have been utilized for reanalysis, however this would have increased the likelihood of a Type I error. It is important to note that any *post hoc* modifications must be based on theory, and the researcher must discuss what modifications are made, what test is used for reanalysis, and if the changes make theoretical sense for the model. In the event of modification and reanalysis, the model becomes exploratory rather than confirmatory. Analyses concluded with a discussion of the implications of the findings of the statistical analyses and whether these findings supported the hypotheses proposed in Table 3.

Inductive content analysis is a technique used to identify or describe characteristics within written text. Researchers use content analysis to study narrative responses to identify themes present within written text. During analysis, preliminary categories are defined and the narrative material is reviewed and revised until final categories are delineated (Waltz, Strickland, & Lenz, 2005). Responses to the final open-ended question were analyzed using inductive content analysis, to determine additional themes identified in the answers to the open-ended question from survey participants. Narrative comments that clearly fit into the six environmental stressors themes were totaled. An additional theme that identified information not addressed during the survey was reviewed and revised until the new theme was determined.

Ethical Considerations

In order to ensure that the study was conducted in accordance with all institutional, federal, and ethical guidelines, the study was submitted for approval from the University of Nevada, Las Vegas IRB and no data was gathered before approval was received (in Appendix B). Informed consent was provided at the beginning of the survey to verify that participants were clearly informed regarding the nature of the study and ensure that their participation was voluntary. Protection of participants' privacy is essential. Therefore, the survey was sent via Qualtrics, which utilized encryption software. This ensured anonymity of responses and guaranteed protection of participants' privacy. Additionally, once data was gathered it was maintained on the student investigator's private password-protected computer in a locked office, ensuring no one else had access to the data. Ethical considerations were maintained throughout the study.

Study Limitations

Study limitations indicate the areas of weakness within a proposed study. A limitation of

this study was the lack of direct access to the sample population, which led to several potential issues. It is not possible to determine actual response rate, nor send direct reminders to potential participants. Additionally, as the survey was forwarded to students from program deans/directors, there was no guarantee that there were not duplicate submissions by students or participation from nonstudents. It was also impossible to ensure that each dean forwarded the study link onto students in the doctoral programs at the deans' school. Repeat e-mail reminders helped minimize the impact of this limitation. The development of new survey questions and the modification of survey questions was an additional limitation for this study, as there was no way to establish validity against other established studies, although face validity was established as was internal reliability of the tool, using CFA during statistical analyses. These limitations were all taken into consideration when analyzing the study findings.

Summary

A descriptive survey research design was implemented and analyzed utilizing path analysis to assess the following research questions: Do environmental stressors such as financial issues, support issues, program stressors, outside demands, time issues, and health issues predict students' intent to leave nursing doctoral programs? Are these relations mediated by students' motivations for learning? How do different kinds of perceived costs contribute to nursing doctoral students' intent to leave? Do these relationships hold constant across populations of students (PhD and DNP)? Does perceived cost offset perceived subjective task value? This methodology allowed for analysis of the complex factors that impact students, the motivational beliefs that mediate students' choices, and how these factors relate to students' intent to leave their current program of nursing doctoral study. Limitations of the study have been identified. Ethical considerations were maintained throughout the course of the study.

CHAPTER 4: RESULTS

The purpose of this study was to develop an understanding of environmental factors that predict doctoral nursing students' intent to leave their program of study, and whether students' performance expectations, perceptions of program value, and experiences of cost mediate how stressors affect intentions. This chapter presents the preliminary results, including a demographic description of the study participants and a confirmatory factor analysis (CFA) confirming the factor structure of the 57-item Nursing Doctoral Stressors and Motivation survey tool. Inferential analyses are then described, which include a series of path analyses testing hypothesized models addressing each research question. The final section of the chapter contains an inductive content analysis of themes from one open-ended question.

Demographic Descriptions of the Sample

When utilizing path analysis for data analysis, required sample size is based on the number of pathways in the theoretical model. Each pathway requires between five to 20 participants for an adequate sample size (Streiner, 2005). The ideal theoretical model consisted of 58 pathways, which required a minimum of 380 participants. A list of all nursing PhD and DNP programs, which included the names of program deans and directors, was obtained from the AACN website (AACN, 2014c). The 57-question survey tool and 14 demographic questions were emailed to these deans and directors. The email included a description of the study, a link to the study, and the request for deans and directors to forward the information to all students currently enrolled in their nursing doctoral programs. Eight hundred and seventy-seven ($n = 877$) PhD and DNP students completed the survey. Of these, 42 participants answered only the 14 demographic questions, so they were dropped from the analysis. The remaining sample ($n = 835$) was sufficient to fit the prescribed path models and evaluate the solutions produced.

Sample demographics ($n = 835$) indicated the majority of participants completing the survey were female (91.3%) and Caucasian (83.8%). Most of the participants fit into the age category range of 26–35 years (32.6%) and, together with those from 36–45 years (25.6%), and 46–55 years (22.2%), encompassed the bulk of participants. The majority of participants indicated they worked outside of their nursing doctoral program an average of 30+ hours weekly (60.3%). Sample demographics showed that students were roughly split between those with full-time (53.7%) and part-time (46.3%) enrollment, and those in the earlier program phases (coursework phase, 54.4%) versus those in later program phases (capstone/DNP or dissertation/PhD, 45.2%). The split between types of program delivery was: hybrid delivery (41.6%), online delivery (37%), and traditional delivery (20.8%) methods.

Seventy-two of the students who reported attending an online program indicated that 14.5% of them had no on-campus requirements; 22% stated this was required once a semester; 31.3% indicated required campus attendance of two to three times during their program; and the highest figure, 32.1% reported requirements of campus presence four to five times during their program. Students were also asked if they had ever taken a break from active doctoral study, with a break described as one or more semesters the student was not enrolled in either doctoral program coursework or doctoral dissertation/capstone work. Of the 835 participants, 90.8% answered no. For the 71 (8.5%) students who indicated they had taken breaks, 67 reported the average break was one semester (44.8%), with the next highest break period reported encompassing 1–1.5 years (31.3%). Table A (in Appendix G) reports all sample demographic data including means, standard deviation (SD), counts, and percentages. Valid percentages were reported to account for participants who chose not to answer an individual question.

Additionally, participants were asked to report their clinical nursing background and all prior educational degrees. The number of participants who reported this information is listed in Table B (in Appendix G). Percentages, sample means, and SD were not calculated for this information, as the question provided the option for participants to select all that applied. For students who answered the final demographic question regarding previous educational degrees, the vast majority reported having master's of science (MSN, $n = 496$) and baccalaureate (BSN, $n = 451$) degrees. An additional 159 participants reported an RN to BSN degree, and 69 participants reported an accelerated BSN degree. Numbers and categories of clinical background and past educational degrees are listed in Table B (in Appendix G). An additional 24 participants indicated they had previous doctoral degrees, which are listed by category and number in Table C (in Appendix G). Open-ended responses to items meant to capture progress towards a degree in semesters yielded heterogeneous responses and could not provide trustworthy data. These questions were therefore not included in the demographics analyses.

Confirmatory Factor Analysis

The Nursing Doctoral Stressors and Motivation survey tool utilized for this study contained 32 questions modified from previous tools used to assess students in STEM programs and 24 questions developed from the literature review to assess environmental stressors that impact doctoral nursing students. Face validity was established, the internal consistency of the tool was determined by running a confirmatory factor analysis (CFA) using Mplus. Missing data was assessed for univariate and multivariate normality using SPSS 22.0, assessing both box plots and Mahalanobis distance for all survey items. A correlation table with variables standardized to have a mean of 0 and a standard deviation of 1 was developed for the 14-factor CFA model, as

presented in Table D (in Appendix G). The standardized factor loadings, standard deviations, and significance values for each item are illustrated in Table E (in Appendix G).

Mplus Version 7.4 (Muthén & Muthén, 1998–2012) was used for confirmatory factor analysis. The robust maximum likelihood (ML) estimator was used for all analyses, both for the CFA and for later hypotheses testing. The model fit of CFA and hypotheses model testing were assessed with the following specifications. Comparative fit index (CFI), the Tucker-Lewis index (TLI), and CFI/TLI parameters $\geq .95$ are recommended for acceptance and indicate good model fit (Hu & Bentler, 1999; Schreiber et al., 2006). The standardized root mean square residual (SRMR) and the root mean square error of approximation (RMSEA) were utilized to evaluate adequate fit as well. SRMR values $< .08$ and RMSEA values $< .06$ are considered to indicate good model fit (Hu & Bentler, 1999; Kline, 2011; Schreiber et al., 2006). Kline (2011) stated the differences in chi-square (X^2) values among models should not be interpreted alone, and so the use of Akaike information criterion (AIC) is a good choice for evaluating fit. Therefore, when conducting model trimming, this value was utilized.

Using these indicators and the information from the model modification indices (MI), the model was trimmed for a more parsimonious fit. Fit indices of $X^2_{1281} = 2769.076$, CFI = .923, TLI = .915, SRMR = .052, RMSEA = .043 [CI₉₀ .042, .046] refer to the original hypothesized model in Appendix A. The poor loading items of Question 25.6 (support construct) and Question 27.1 (program construct) were eliminated from the survey analyses, leaving a final survey of 55 questions. Cross loadings indicated by MI recommendations from the Lagrange Multiplier (LM) and Wald test from MPlus were also added. The final CFA indicated a good fit between the model and the observed data, with an $X^2_{1278} = 2540.711$, CFI = .952, TLI = .946,

SRMR = .048, and RMSEA = .035 [CI₉₀ = .034, .038]. Table 6 reports all iterations for the model fit.

Table 6

Confirmatory Factor Analysis Model Fitting Values

Iteration	AIC*	RMSEA	CFI/TLI	SRMR
0: CFA**	123406.214	.043	.923/.915	.052
1: CFA** (<i>v41 w/poor loading .023, removed from analyses</i>)	123149.373	.041	.932/.925	.051
2: CFA** (added V5 WITH V4 MI 230.773)	123007.080	.039	.937/.930	.051
3: CFA** (added V27 WITH V26 MI 230.845)	122881.924	.038	.942/.935	.050
4: CFA** (added V53 WITH V52 MI 143.463)	122799.153	.037	.945/.938	.048
5: CFA** (V8 with V7 152.271)	122716.802	.036	.948/.942	.048
6: CFA** (V56 with V54 102.930)	122659.334	.035	.950/.944	.048
7: CFA** (<i>V43 w/poor loading .022, removed from analysis</i>)	120611.241	.035	.952/.946	.048

Note. *Akaike information criterion AIC, smaller is better, good for model comparison (Schreiber et al., 2006)

**Confirmatory Factor Analysis

Additionally in SPSS 22.0, reliability of the survey scale and all survey subscales was analyzed using Cronbach’s alpha (α). Cronbach’s α is a measure of the internal reliability of a survey tool, and a score above .70 indicates relatively high reliability (Field, 2013). Cronbach’s α scores of .816 for the survey as a whole and $>.70$ for all survey subscales (after removal of the two poorly fitting items 25.6 and 27.1) supported the internal reliability of the tool. Table F (in Appendix G) reports each subscale’s Cronbach’s α , mean, and standard deviation, along with those for the overall survey tool.

Research Question 1

Core Research Question 1

Do environmental stressors such as financial issues, support issues, program stressors, outside demands, time issues, and health issues predict students’ intent to leave nursing doctoral programs? Statistical analyses using Mplus 7.4 (Muthén & Muthén, 1998–2012) were conducted and models employed robust ML and estimation maximization. The data was analyzed to assess the predictive value of these direct variables on currently enrolled PhD and DNP students’ intent to leave their program of study (outcome).

The initial RQ1 model indicated good fit, with $X^2_{277} = 824.65$, CFI = .956, TLI = .948, SRMR = .040, and RMSEA = .050[CI₉₀.046, .053], though nonsignificant predictive effects were observed. This model indicated there were two critical factors that influenced retention. Support issues ($\beta = -.126, p = .001$) significantly predicted intent to leave and was inversely related. Therefore, as support from friends and family increased, intent to leave declined, which indicated a small effect. Program stressors ($\beta = .366, p < .000$) significantly predicted intent to leave and was positively related. Therefore, as stressors related to differing expectations between faculty/advisor and student and the isolating/overwhelming nature of the program increased, so did intent to leave the program of study, which indicated a medium effect. It is important to note that values of .1 = small effects, .3 = medium effects, and .5 = large effects (Field, 2013).

Whereas the literature suggested a variety of stressors influence nursing students' intentions to leave doctoral programs, these results indicated that only a subset of these stressors—issues related to program stressors and support issues—predicted intention to leave when all were modeled simultaneously. Further exploration of this finding follows in the discussion chapter. Figure 12 (in Appendix H) shows the full model and Figure 13 (in Appendix H) the constrained model, containing only significant predictors. Table 7 reports all standardized, unstandardized, and significance values for the full model. Table 8 reports all standardized, unstandardized, and significance values for the constrained model.

Table 7

Research Question 1: Full Model – Standardized, Unstandardized, and Significance Values

Predictors – Direct Effects	β	SE	<i>p</i>	B	SE	<i>p</i>
Financial Issues to Intent	-.070	.046	.132	-.039	.026	.132
Support Issues to Intent	-.126	.042	.001**	-.102	.038	.001**
Program Stressors to Intent	.366	.081	.000**	.358	.087	.000**
Outside Demands to Support	.005	.149	.976	.003	.109	.976
Time Issues to Support	.011	.157	.944	.009	.130	.944
Health Issues to Support	.134	.075	.070	.084	.047	.076

Note. *Significant at $p < .05$

**Significant at $p < .01$.

Table 8

Research Question 1: Constrained Model – Standardized, Unstandardized, and Significance Values

Predictors – Direct Effects	β	SE	p	B	SE	p
Support Issues to Intent	-.135	.041	.001**	-.120	.037	.001**
Program Issues to Intent	.424	.040	.000**	.485	.060	.000**

Note. *Significant at $p < .05$

**Significant at $p < .01$.

Subresearch Question 1a

Prior to assessing the model for Subresearch Question 1a (SRQ1a), within groups analyses were run for each of the environmental stressors that the literature review indicated impact doctoral nursing students’ intent to leave their program of study. This was conducted through one way ANOVA in SPSS 22.0. These stressors were analyzed for mean and effect sizes. Table G (in Appendix G) reports this data. It is noteworthy that the items that demonstrated greater effect sizes were from the themes of support issues and program support, the themes that significantly predicted intention to leave in the model. This provided support for the use of a constrained model for the remaining analyses. The constrained model that contained the two themes demonstrating significance for predicting doctoral nursing students’ intent to leave their program of study in the RQ1 model was utilized to address the remaining research questions. Fit indices for the constrained model indicated good fit, with $X^2_{32} = 56.705$, CFI = .986, TLI = .974, SRMR = .029, and RMSEA = .031[CI₉₀.027, .033].

SRQ1a Analyses. Are these relations mediated by students’ motivations for learning? The constrained model from RQ1, utilizing significant predictors of support issues and program stressors, was tested with the four utility value motivational constructs from EVT as mediators to examine this. These mediators encompassed the following: (a) expectancies for success, which related to the individual’s belief and confidence in their own abilities and competence, their expectations for success, and their perception of their own locus of control over outcomes

(Eccles et al., 1983); (b) attainment value, which concerned the personal importance an individual places on doing well on tasks (Eccles et al., 1983); (c) intrinsic value, which connected to the personal interest or enjoyment an individual has in completing an activity (Eccles et al., 1983); and (d) utility value, which related to how tasks correlated with an individuals' current and future goals (Eccles et al., 1983).

Statistical analyses using Mplus 7.4 (Muthén & Muthén, 1998–2012) were conducted, and models employed robust ML and estimation maximization. The data was analyzed to assess the mediating effects of the utility value constructs on currently enrolled PhD and DNP students' intent to leave their program of study (outcome). This model fit did not meet acceptable fit cutoff indices ($X^2_{280} = 1891.698$, CFI = .946, TLI = .940 SRMR = .042, RMSEA = .042[CI₉₀ .039, .044]), thus one cross-loading was added to obtain acceptable fit ($X^2_{279} = 1806.478$, CFI = .950, TLI = .945, SRMR = .049, RMSEA = .040[CI₉₀ .038, .042]). Table 9 reports model fit indices. Table 10 reports all standardized, unstandardized, and significance values for the model. The model is presented in Figure 14 (in Appendix H).

Table 9

Subresearch Question 1a: Full Model Fit Values

Iteration	AIC*	RMSEA	CFI/TLI	SRMR
0: SRQ1a	91133.112	.042	.946/.940	.049
1: SRQ1a	91049.892	.040	.950/.945	.042

Note. *Akaike information criterion AIC, smaller is better, good for model comparison (Schreiber et al., 2006).

Table 10

Subresearch Question 1a: Value Mediators – Standardized/Unstandardized Coefficients and Significance Values

	β	SE	p	B	SE	p
Predictors – Direct Effects						
Support Issues to Intent	-.433	.155	.005**	-.391	.141	.006**
Program Stressors to Intent	.815	.684	.008**	.739	.855	.009**
Value Mediators – Direct Effects						
Expectancies for Success	.113	.042	.008**	.122	.146	.008**
Attainment Value	.034	.054	.536	.028	.045	.537
Intrinsic Value	.192	.068	.005**	.221	.079	.005**
Utility Value	.288	.149	.053	.294	.152	.053
Effect of Value Mediators on Predictors (Indirect)						
Expectancies for Success on Support	.143	.054	.008**	.120	.045	.008**
Expectancies for Success on Program	-.888	.108	.000**	-.819	.143	.000**
Attainment Value on Support	.311	.063	.305	.341	.070	.342
Attainment Value on Program	-.372	.131	.263	-.440	.227	.263
Intrinsic Value on Support	.342	.069	.000**	.269	.057	.000**
Intrinsic Value on Program	-.550	.143	.000**	-.439	.227	.000**
Utility Value on Support	.413	.086	.062	.269	.057	.063
Utility Value on Program	-.919	.177	.055	-.879	.261	.055

Note. *Significant at $p < .05$

**Significant at $p < .01$.

Multiple motivational factors had significant indirect effects that mediated the effect of stressors on students' intention to leave their nursing doctoral program. The path through intrinsic value had significant and indirect effects on intention to leave, which partially offset the negative effect of support issues on intention to leave the program, and partially accentuated the impact of program stressors on intention to leave the program. This finding indicates that intrinsic value can have a small, protective effect where feelings of value decrease individuals' intentions to leave a program despite perception of issues related to support and program.

The path through expectancies of success had significant and indirect effects on intention to leave, which partially offset the effects of program stressors and support issues on intention to leave the program. This indicates that as perceptions of value decrease, intention to leave increases. Therefore, this finding indicates that expectancies for success can have a medium, protective effect where increased feelings of value and interest in the task can decrease

individuals' intent to leave a program of study, despite perception issues related to support and program.

Additionally, the remaining paths through both attainment value and utility value had nonsignificant but also nonzero relationships. These relationships should not be dismissed when considering the collective influence of perceptions of value on intention to leave a program. This finding indicates that as the personal importance individuals place in tasks and how the tasks correlate to their goals can have an indirect impact on intention to leave a program of doctoral study despite support and program related issues, even though it does not reach significance.

Research Question 2

Core Research Question 2

How do different kinds of perceived costs contribute to nursing doctoral students' intent to leave? The data was analyzed to assess the mediating effects of the cost constructs on currently enrolled PhD and DNP students' intent to leave their program of study (outcome). The three indirect mediators of cost from EVT were added to the constrained model, which included effort cost, opportunity cost, and psychological cost. Effort cost represented the effort required for successful completion of a task (Eccles et al., 1983). Opportunity cost represented the opportunities an individual must forego to engage in other tasks (Eccles et al., 1983). The final cost factor was psychological cost, which represented the risk for or actual emotional cost associated with engaging in a task.

Statistical analyses using Mplus 7.4 (Muthén & Muthén, 1998–2012) were conducted, and models employed robust ML and estimation maximization. This developed a model with good fit ($\chi^2_{268} = 640.981$, CFI = .967, TLI = .961, SRMR = .040, RMSEA = .040[CI₉₀ .036,

.044]). Table 11 reports values for model RQ2. Figure 15 (in Appendix H) shows the final model.

Table 11

Research Question 2: Cost Mediators – Standardized/Unstandardized Coefficients and Significance Values

	β	SE	<i>p</i>	B	SE	<i>p</i>
Predictors – Direct Effects						
Support Issues to Intent	-.091	.041	.025*	-.081	.036	.026*
Program Stressors to Intent	.070	.154	.650	.078	.171	.650
Cost Mediators – Direct Effects						
Effort Cost	.441	.060	.000**	.421	.061	.000**
Opportunity Cost	.015	.061	.805	.012	.048	.805
Psychological Cost	.106	.083	.202	.166	.131	.207
Effect of Cost Mediators on Predictors (Indirect)						
Effort Cost on Support	-.163	.044	.000**	-.152	.041	.000**
Effort Cost on Program	.793	.078	.000**	.924	.116	.000**
Opportunity Cost on Support	-.053	.037	.160	-.059	.042	.161
Opportunity Cost on Program	.576	.068	.000**	.808	.120	.000**
Psychological Cost on Support	-.015	.041	.711	-.009	.024	.711
Psychological Cost on Program	.773	.078	.000**	.551	.086	.000**

Note. *Significant at $p < .05$

**Significant at $p < .01$.

Effort cost had significant indirect effects that mediated the effect of stressors on students' intention to leave their nursing doctoral program of study. The path through effort cost had significant and indirect effects on intention to leave, which partially offset the negative effect of support on intention to leave the program of study. This path also had significant and indirect effects on program stressors, and it is important to note that in this model program stressors no longer significantly predicted intention to leave doctoral program of study. This indicated that as the effort required to complete a task successfully decreased, intent to leave doctoral study also decreased. Opportunity cost and psychological cost also significantly mediated program stressors, although they did not have a significant relationship to intention to leave.

The remaining two mediators had nonsignificant but also nonzero relationships with support issues that should not be dismissed when considering the combined influence of perceptions of cost on intention to leave a program. This finding indicates that as the

opportunities an individual must forego to complete a task decreases and the psychological cost of the task decreases, this can have an indirect, although nonsignificant impact on intention to leave a program of doctoral study, despite support and program related issues.

Subresearch Question 2a

This research question compared students enrolled in PhD programs (34.3%) and DNP programs (65.7%): Do these relationships hold constant across populations of students (PhD and DNP)? Comparison of means for groups was conducted as MANOVA tests in SPSS, comparing means across groups looking at all stressor scales, all value scales, and all cost scales. Table H (in Appendix G) lists the group means and standard deviations for all scales, and reports significant differences across means and effect sizes using contrast and effect sizes in Cohen's *d*. In addition, it is important to note there were no significant differences in the scores for PhD ($M = 1.95$, $SD = 1.444$) and DNP ($M = 1.87$, $SD = 1.479$) for intention to leave a nursing doctoral program of study ($t = 2.206_{(833)}$, $p = .148$).

SRQ2a Analyses. A multigroup path analysis using Mplus 7.4 (Muthén & Muthén, 1998–2012) was conducted, and models employed robust ML and estimation maximization. The constrained model with cost constructs from EVT contained 11 pathways for each group, a total of 22 pathways for the model. With the requirement from Streiner (2005) for a minimum of five per pathway, the sample sizes of $n = 286$ for the PhD group and $n = 549$ for the DNP group (total $n = 835$) obtained were sufficient to fit the prescribed path model and evaluate the solutions produced.

Using the model with good fit developed for RQ2, the grouping variable for PhD and DNP was added. This model included the two significant predictors of intention to leave, support issues and program stressors and the indirect mediators of effort cost, opportunity cost,

and psychological cost. The grouping variable PhD = 1, DNP = 2 was added to the model. This developed a model for the indirect variables of cost that exhibited good fit ($X^2_{576} 1112.070$, CFI = .953, TLI = .949, SRMR = .051, RMSEA .046[CI₉₀ .042, .051]). Table 12 shows the standardized coefficients and significance values for SRQ2a, PhD and DNP groups. Figure 16 (in Appendix H) contains the SRQ2a model.

Table 12

Subresearch Question 2a: PhD and DNP Grouping Model Cost Mediators – Standardized Coefficients and Significance Values

	PhD β	PhD SE	PhD p	DNP β	DNP SE	DNP p
Predictors – Direct Effects						
Support Issues to Intent	-.127	.066	.049*	-.060	.056	.043*
Program Stressors to Intent	.441	.490	.368	.051	.168	.763
Cost Mediators – Direct Effects						
Effort Cost	.450	.101	.000**	.381	.081	.000**
Opportunity Cost	.002	.127	.989	-.007	.076	.923
Psychological Cost	.029	.200	.885	.112	.092	.225
Effect of Value Mediators on Predictors (Indirect)						
Effort Cost on Support	-.111	.085	.195	-.174	.054	.001*
Effort Cost on Program	.910	.244	.000**	.805	.080	.000**
Opportunity Cost on Support	.084	.077	.274	-.102	.046	.027*
Opportunity Cost on Program	.816	.216	.000**	.527	.071	.000**
Psychological Cost on Support	.054	.085	.523	-.025	.050	.615
Psychological Cost on Program	.994	.204	.000**	.701	.080	.000**

Note. *Significant at $p < .05$

**Significant at $p < .01$.

The path through effort cost had significant and indirect effects on program stressors for both the PhD and DNP groups. The path through effort cost on support issues had significant and indirect effects on intention to leave for the DNP group only, which partially offset the negative effect of support issues on intention to leave the program of study for this group. As with RQ2, it is important to note that in this model program stressors no longer significantly predicted intention to leave doctoral program of study. This indicates that as the effort required to complete a task successfully decreases, intent to leave doctoral study also decreases.

The remaining two mediators had nonsignificant but also nonzero relationships in this model that should not be dismissed when considering the collective influence of perceptions of

cost on intention to leave a program. Opportunity cost and psychological cost significantly mediated program stressors for both groups, although they did not have a significant relationship to intention to leave. Finally, opportunity cost significantly mediated support issues for the DNP group only, although this did not have a significant relationship to intention to leave. This finding indicates that as the opportunities an individual must forego to complete a task decreases and the psychological cost of the task decreases, this can have an indirect, although nonsignificant impact on intention to leave a program of doctoral study, despite support and program related issues.

Core Research Question 3

Does perceived cost offset perceived subjective task value? Gaining a better understanding of this matter will allow schools of nursing to decide where resources designed to promote persistence should best be implemented. A path analysis using Mplus 7.4 (Muthén & Muthén, 1998–2012) was conducted, and models employed robust ML and estimation maximization. This model contained direct pathways from all seven motivational constructs from EVT to intention to leave. This model fit did not meet acceptable fit cutoff indices ($X^2_{433} = 1382.721$, CFI = .941, TLI = .933 SRMR = .050, RMSEA = .051[CI₉₀ .048, .055]), thus one cross-loading was added to obtain acceptable fit ($X^2_{432} = 1168.027$, CFI = .954, TLI = .948, SRMR = .050, RMSEA = .045[CI₉₀ .042, .049]). Additionally, β values for the constructs of value and the constructs of cost were totaled and compared. Table 13 reports all model fit indices. Table 14 reports standardized, unstandardized, and significance values for model RQ3. Figure 17 (in Appendix H) shows the final model.

Table 13

Research Question 3: Full Model Fit Values

Iteration	AIC*	RMSEA	CFI/TLI	SRMR
0: RQ3	66171.973	.051	.941/.933	.050
1: RQ3	65959.279	.045	.954/.948	.050

Note. *Akaike information criterion AIC, smaller is better, good for model comparison (Schreiber et al., 2006).

Table 14

Research Question 3: Direct Effects of Value and Cost Mediators – Standardized and Unstandardized Coefficients and Significance Values

Effect of Cost and Value Mediators on Intent (Direct)	β	SE	<i>p</i>	B	SE	<i>p</i>
Expectancies for Success	-.137	.048	.004**	-.149	.052	.004**
Attainment Value	-.150	.069	.030*	-.179	.083	.030*
Intrinsic Value	.047	.058	.021*	.054	.067	.022*
Utility Value	-.013	.087	.880	-.013	.089	.880
Effort Cost	.365	.094	.000**	.336	.088	.000**
Opportunity Cost	.045	.065	.487	.033	.048	.488
Psychological Cost	.080	.077	.298	.124	.120	.302

Note. *Significant at $p < .05$

**Significant at $p < .01$.

The combined β for value constructs was .253 (-.137, -.150, .047, -.013). The three value constructs of expectancies for success, attainment value, and intrinsic value all significantly relate to intention to leave a program of doctoral study, while utility value was nonsignificant. The combined β for cost constructs was .490 (.365, .045, .080). The cost construct of effort cost significantly related to intention to leave a program of doctoral study, while the remaining two cost constructs of opportunity cost and psychological cost were nonsignificant.

Content Analysis

The final survey question was: Are there any other factors that have impacted your doctoral experience? This provided participants the opportunity to share any additional information about factors that had impacted their doctoral study. Three hundred and sixty-one participants answered this question; of these 48 were excluded from analysis as each stated either “no” or “n/a”. All remaining responses were analyzed utilizing inductive content analysis to

determine common themes. Using the procedural steps as outlined by Colaizzi (Streubert & Carpenter, 2011), once data was collected through the open-ended survey question, the statements from the participants were read to identify all significant statements, with the goal to explain the meaning of each statement. These defined meanings were organized into clusters of themes to identify if new themes were developed or if the participants' answers fell into the six themes of environmental stressors established by the survey tool (i.e., financial issues, support issues, program stressors, outside demands, time issues, health issues).

Numerous answers included more than one theme, and therefore final counts of themes exceeded the total number of participants as responses addressing multiple themes were counted in all applicable categories. When separating out comments with more than one theme, there were 375 responses. Of these responses, 366 fit into the survey's six established themes. Table I (in Appendix I) shows the numbers of comments by established theme. The majority of these comments listed factors which were stressful or negatively impactful on the student. It is important to note that 39 of these were positive comments. Table J (in Appendix I) provides numbers of positive comments separated by established theme with a subcategory listed for support issues. In addition, there were several comments which related exclusively to unique issues experienced by DNP students. These comments primarily tied to the difficulties of PhD faculty working with DNP students and concerns related to scheduling practice hours and sites.

Program Stressors Comments

It is also important to note that, anecdotally, the highest number of comments made were in the area of program stressors, which the study identified as a significant predictor of intent to leave. As the students' stress level rose, so did their intent to leave their current program of doctoral study. Students who addressed the open-ended question voiced their concerns and

frustration regarding various program issues, such as lack of structure in programs, lack of guidance from faculty, and stress related to the isolation of doctoral study. Table K (in Appendix I) presents a sampling of student comments regarding these program stressors. Tables L–P (in Appendix I) contain sample statements of content from the remaining five themes of financial issues, support issues, outside demands, times issues, and health issues. Table Q lists 11 comments from a potential additional theme unique to DNP students.

Summary

This chapter presented the results of a national survey of 835 students currently enrolled in PhD and DNP programs across the United States. The demographics of the sample were reported, followed by a confirmatory factor analysis, which developed the internal consistency of the Nursing Doctoral Stressors and Motivation survey tool and built the initial model. Then, a path analysis was utilized to answer Research Question 1, Subresearch Question 1a, Research Question 2, Subresearch Question 2a, and Research Question 3. Subresearch Question 2a analyzed consistencies in survey results across two groups, PhD and DNP students. This section was concluded with an inductive content analysis of students' comments for the open-ended question that ended the survey. Chapter 5 will further interpret these findings and their implications for nursing practice.

CHAPTER 5: DISCUSSION

The final chapter contains a discussion of the study results. The study methodology is briefly summarized. Each research and subresearch question is presented with a summary and interpretation of the findings. The results of the content analysis are discussed with a summary of the support this provides for the findings. Next, conclusions are drawn from these study findings and implications concerning nursing education/academia, nursing students, and nursing practice. Study limitations are also discussed. The chapter concludes with a summary and recommendations for future studies.

Study Summary

A comprehensive literature review was conducted which yielded six themes of environmental stressors that impact the population of nursing doctoral students. An online descriptive survey design was utilized to conduct this study. The surveys, consisting of a demographic form and the Nursing Doctoral Stressors and Motivation survey tool with modified and developed questions was sent via email to deans and directors of all accredited doctoral nursing PhD and DNP programs across the United States, asking them to forward the survey to their PhD and/or DNP students to complete. Returned data was examined and analyzed using a combination of descriptive and inferential statistics that featured a confirmatory factor analysis and a path analyses.

Demographic Descriptions of the Sample

Demographics of the 835 study participants indicated a high percentage of Caucasian and female participants, which is a fairly good representation of the current nursing population in the United States (United States Department of Labor, 2010). While not a focus of this study, it is important to note the need to recruit a more diverse workforce of nurse educators, as nurse

educators are a group that should be reflective of the students they teach. Current statistics indicate that 15% of students in basic nursing programs are male, with males comprising only 5% of current full-time nurse faculty and 6% of current part-time nurse faculty (NLN, 2009, 2014). When looking at minority status of students, 28% of students in basic nursing programs are reported as members of minority groups, which has grown from 18% in 1995. However, only 12.5% of full-time faculty members are reported as members of minority groups (NLN, 2009, 2014).

The demographics showed that the largest group of student participants (32.6% ages 26–35) was younger than the national average age of nurses, which is 47 (HRSA, 2010). This bodes well for the nursing profession and the public, as nurses who complete their doctoral degrees at younger ages will have longer careers, with some remaining in practice for decades after their doctoral program completion. The demographic data further specified that 65.7% of participants were enrolled in DNP programs with 34.3% enrolled in PhD programs. This is consistent with national averages, as the AACN (2015b) reported the majority of students currently enrolled in doctoral programs are in DNP programs. Additionally, the majority of participants indicated that more than half of them worked greater than 30 hours outside of their nursing doctoral program, which is consistent with the CGS (2009) study. Although it is interesting to note that in this study, outside demands from factors such as work did not significantly predict intent to leave nursing doctoral study.

Interpretation of the Findings

This study was undertaken to investigate the multiple factors that impact current doctoral nursing students and if these factors can predict intent to leave their program of study. Furthermore, to examine if the motivational constructs from the EVT (Eccles, 1987; Eccles et al.,

1983; Wigfield & Eccles, 2000) mediate intent to leave for this population. The study was designed to answer three core research questions and two subresearch questions. This section summarizes and interprets the results of the research.

Core Research Question 1

RQ1. Do environmental stressors such as financial issues, support issues, program stressors, outside demands, time issues, and health issues predict students' intent to leave nursing doctoral programs?

Hypothesis. Environmental stressors of financial issues, support issues, program stressors, outside demands, time issues, and health issues will have significant direct impact on students' intent to leave nursing doctoral programs.

This initial research question analyzed if the environmental stressors developed in the targeted literature review would predict nursing doctoral students' intent to leave their current program of study. This study only partially supported the hypothesis, as only two of these stressors, support issues and program stressors, significantly predicted intent to leave. Support issues had a small inverse effect ($-.135, p = .001$) when using the constrained model. This indicates that as support from friends and family decreases, intent to leave increases. When looking at the effect of the questions from the survey, Question 25.3: "Support from my family has been critical to my success in my nursing doctoral program" had the largest effect size ($M = 5.11, p = .035, \text{effect size } .204$). This suggests that support from family is critical for students' successful persistence. Previous studies confirm the importance of family support issues, stating policies which accommodate students with families are crucial to minimize attrition (CGS, 2010), since lack of support from family creates difficulties for students which impacts persistence

(Cohen, 2011). Reilly and Fitzpatrick (2009) indicated the most common type of stress identified by students is associated with family relationships.

Program stressors had a medium effect on intent to leave (.424, $p < .001$) when using the constrained model. This indicates that as stress related to differing expectations between faculty/advisor and student and the isolating/overwhelming nature of the program increase, so does intent to leave the program of study. Two questions had large effect sizes, Questions 26.1 and 27.2. Question 27.2 stated “Differing expectations between myself and program faculty/adviser(s) has caused me stress during my nursing doctoral program.” This question had the largest effect size ($M = 6.34$, $p = .038$, effect size .680). This signifies that as expectations between the doctoral student and their adviser or faculty member differ, high amounts of stress develop for the student increasing their intention to leave. This finding supports the study by Hadjioannou et al. (2007), who stated that different expectations between students and their program faculty or advisers can cause anxiety and stress. Jackson et al. (2009) also indicated that these relationships, by their very nature, have differences in power that can cause stress and anxiety when expectations differ. Lee (2009) outlined difficulties created by feedback or direction from faculty members for students. Often students feel this direction can be disproportionate, either scanty or excessive (Cohen, 2011), which is problematic for the student. Lee (2009) also stated students frequently hold the perception that faculty do not seem to care about them or their work sincerely. Hadjioannou et al. (2007) indicated many students believe faculty feel the dissertation (or capstone) process should be uncomfortable and difficult.

Question 26.1 stated, “The overwhelming nature of my capstone or dissertation phase has caused me stress.” This question also had a large effect size (Mean = 23.31, $p = .044$, effect size .470). This indicates that for students in the final phases of their program, their capstone or

dissertation, it feels like an overwhelming experience that can significantly impact persistence. Underwood (2002) indicated that the overwhelming nature of doctoral study was particularly impactful for women who were also mothers while in their program. Hadjioannou et al. (2007) found that doctoral students' own need for high levels of achievement and their sense of competition can create overwhelming feelings for the student that can become self-defeating and impact persistence.

It is noteworthy that this study's results are inconsistent with the findings of previous studies, which indicated financial issues, such as lost or decreased wages during school (Alexander et al., 2002; Carlson, 1999; Squires et al., 2014), the high cost of tuition (Alexander et al., 2002; Cathro, 2011; Squires et al., 2014), and the distractions and stress caused by financial concerns (CGS, 2009; Lee, 2006; Reilly & Fitzpatrick, 2009) were significant barriers for doctoral study. It is likely that increased funding sources allocated to nursing doctoral students such as those from the U.S. government (e.g., the National Health Services Corps, the Nurse Corps Loan Repayment Program, and Nurse Faculty Loan Programs [AACN, 2016a]) or other funding sources (e.g., individual programs/financial assistance) may ease this concern for students.

Subresearch Question 1a

SRQ1a. Are these relations mediated by students' motivations for learning?

Hypothesis. These relations will be significantly mediated by students' motivation for learning.

This subresearch question analyzed if these pathways were mediated by students' motivation for learning, as measured by constructs from the EVT. Findings only partially supported the hypothesis, as not all motivational beliefs significantly mediated the relationships.

The constrained model from RQ1, utilizing the significant predictors of support issues and program stressors, was tested with the four utility value motivational constructs from EVT as mediators to examine this. The path through expectancies for success had significant and indirect effects on intention to leave, which partially offset the effect of program stressors on intention to leave the program. This indicated that as perceptions of value decreased, intention to leave increased. Therefore, this finding indicates that expectancies for success can have a medium, protective effect where increased feelings of value and interest in the task can decrease the individuals' intent to leave a program of study, despite perception issues related to support and program.

Studies found that expectancies for success offer solid reasons for achievement and persistence with students in the demanding fields of engineering (Jones, Paretti, Hein, & Knott, 2010) and physics (Abraham & Barker, 2015). Kahn and Nauta's (2001) study of college students indicated that academic achievement, particularly the students' past performance, was a significant predictor correlated to persistence. Trautwein et al. (2012) found that expectancy beliefs were a stronger predictor of achievement academically when contrasted against value beliefs. Lee (2015) determined that self-efficacy beliefs, defined as student perceptions of confidence and competence, change over time with commitment to tasks increasing as students successfully interact with course content. Lee (2015) also indicated that this greater persistence also relates to enhanced performance. This suggests that since motivation beliefs can increase over time, students' degree of motivation can be encouraged. These studies indicated that perception of valued tasks relates to student achievement, which can only be successful if the student persists in the pursuit of the given task. This study found that perception of valued tasks

significantly mediates intention to leave a program of study, with increased persistence relating to decreased intention to leave a program.

Additionally, the path through intrinsic value had significant and indirect effects on intention to leave. This finding indicates that intrinsic value can have a small, protective effect where feelings of value decrease individuals' intentions to leave a program, despite perception of issues related to support issues and program stressors. Also, the remaining paths through both attainment value and utility value had nonsignificant but also nonzero relationships that should not be dismissed when considering the collective influence of perceptions of value on intention to leave a program. This is consistent with Bong's (2001) results, which found that intrinsic value significantly predicted intentions to persist and enroll in future similar courses. Khezri-azar, Lavasani, Malahmadi, and Amani (2011) discussed that students who have higher perceptions of task values, such as intrinsic value, approach learning from a deeper way; this will result in more achievement. This also ties to the students' goals (utility value), as the more a student perceives a task as useful, the more value they ascribe to the task (Khezri-azar et al., 2011). This study is also consistent with Liem, Lau, and Nie's (2008) findings, which indicated that goals mediate relations between feelings of competence and students' perception of personal interest and perception of importance for the task. All of these are important pieces when considering persistence.

Core Research Question 2

RQ2. How do different kinds of perceived costs contribute to nursing doctoral students' intent to leave?

Hypothesis. Perceived cost will significantly predict a students' intent to leave a nursing doctoral program after accounting for subjective values and expectancies for success.

Research Question 2 analyzed the impact of the three types of cost from EVT, as these mediated the stressors on participants. First, the pathways were analyzed for the entire study sample. Again, this hypothesis was partially supported as only effort cost significantly mediated the stressors. Question 2a contrasted differences and similarities between the separate samples of PhD students with DNP students. Effort cost had significant indirect effects that mediated the effect of stressors on students' intention to leave their nursing doctoral program of study. The path through effort cost had significant and indirect effects on intention to leave, which partially offset the negative effect of support on intention to leave the program of study. This path also had significant and indirect effects on program stressors. It is important to note that in this model, program stressors no longer significantly predicted intention to leave doctoral program of study. This indicates that as the effort required to complete a task successfully decreases, intent to leave doctoral study also decreases. This is consistent with Conley's (2012) study, which indicated that while there is no one way to motivate students, cost value along with performance-avoidance goals consistently determine more adaptive student performance motivation patterns.

Opportunity cost and psychological cost also significantly mediated program stressors, although they did not have a significant relationship to intention to leave. This is consistent with the findings from Perez et al. (2013), who suggested that intention to leave differed among the three types of cost. This study indicated the primary significant construct of cost that impacted intention to leave was effort cost, while Perez et al. (2013) indicated both effort cost and opportunity cost significantly increased the intentions of students to leave their major area of study. Therefore, as the opportunities an individual must forego to complete a task decreases and the psychological cost of the task decreases, this can have an indirect, although

nonsignificant impact on intention to leave a program of doctoral study, despite support and program related issues.

Subresearch Question 2a: PhD and DNP Groups

SRQ2a. Do these relationships hold constant across populations of students (PhD and DNP)?

Hypothesis. These relationships will hold constant across varieties of nursing doctoral student populations (PhD and DNP students).

Findings were similar to the results listed above for RQ2, with two between groups differences. Therefore, the hypothesis was not fully supported. The path through effort cost had significant and indirect effects on program stressors for both the PhD and DNP groups, as it did in the full analysis. As with the full model, program stressors no longer significantly predicted intention to leave doctoral study, suggesting that as the effort required to complete a task successfully decreased, intention to leave also decreased. As with the full model opportunity cost and psychological cost significantly mediated program stressors for both groups, although they did not have a significant relationship to intention to leave.

Differences between groups were found with effort cost and opportunity cost. The path through effort cost had significant and indirect effects on intention to leave for the DNP group only, which partially offset the negative effect of support issues on intention to leave the program of study for this group. Also, opportunity cost significantly mediated support issues for the DNP group only, although this did not have a significant relationship to intention to leave. As discussed in the full RQ2 findings, this indicates that as the opportunities an individual must forego to complete a task decreases and the psychological cost of the task decreases, there is an indirect, although nonsignificant impact on intention to leave a program of doctoral study,

despite support and program related issues for DNP students only. The findings from PhD students did not indicate that these motivational beliefs were as impactful on this sample population.

There is a lack of empirical evidence outlining the characteristics, both similarity and differences, between students in PhD and DNP programs. Loomis, Willard, and Cohen's (2006) study regarding the decision between a PhD or DNP program only looked at this from the DNP students' perspectives and, at the time, there were very few programs and all of them were new. The primary reasons students presented for not choosing a PhD was the lack of interest to pursue a research-intensive degree or career. These students primarily chose a DNP as a path to advance in clinical practice.

Hlabse, Dowling, Lindell, Underwood, and Barsman's (2016) more recent study of DNP students looked at factors which are either supportive or become barriers for students in these programs. This study found the predominant barriers were reported as family, school, and work, with students feeling overwhelmed, and 37% considering quitting their program of study. These findings were consistent with this study as students reported the support of friends and family were critical elements for success. Findings that were also consistent reported the need for flexible program design, the importance of student/faculty relationships, and the feeling students' have of being overwhelmed (Hlabse et al., 2016). Barriers discussed by Hlabse et al. (2016) were consistent with this study, in that program factors including poor adviser relationships made persistence in programs challenging.

In reviewing the key differences between PhD and DNP programs from the AACN (2014d), the primary distinctions lay in the differing approaches to research and the need of the DNP student to complete a minimum of 1,000 faculty-supervised practice hours, as an essential

part of their educational program. PhD students commit to a research-focused student and professional career devoted to the generation of new scholarly knowledge. This focus usually starts at the beginning of their programs, most of which are well established and long running programs. Many DNP programs are still in their early phases, with the first DNP programs starting in 2004. Issues regarding the explosive numbers of programs and the lack of clarification regarding DNP roles may account for why these students are more heavily impacted by negative cost constructs, as seen in this study with effort cost and psychological cost.

Core Research Question 3

RQ3. Does perceived cost offset perceived subjective task value?

Hypothesis. Effect of perceived cost will significantly offset perceived effect of subjective task value.

This model supported the hypothesis, as the perceptions of cost significantly offset the perceptions of value as represented by the constructs from EVT. This would suggest that it is beneficial to focus more intervention efforts on helping students to lessen the impact of the costs they experience. While it is important to also focus on efforts to help students see the value in their program, these factors have less of an impact on current doctoral nursing students. There is a dearth of information in the literature regarding the differing impact of these task values. As Conley (2012) stated, cost is the least studied student task value component, particularly as the majority of studies look at cost as one bundled construct.

This study's findings were consistent with Perez et al. (2013), who indicated that differing types of cost relate differently to students' intentions. Although Perez et al. (2013) found that both effort cost and opportunity cost were both significant predictors of retention, this study found significant impacts only from effort cost. Luttrell et al. (2010) and Battle and

Wigfield (2003) addressed perceived cost as a separate construct and found that perceived cost is negatively correlated to students' academic choices. Luttrell et al. (2010) stated students' interest in a task or topic may increase as the perceived cost of completing the task diminishes. Battle and Wigfield (2003) indicated that perceived cost was a negative predictor in a study of female students' intentions to attend graduate school. Conley (2012) stated that it is apparent that cost values play a crucial role in understanding the motivational patterns of the students in the study, since it is likely that enhanced interest in a topic lessens the impact of cost and is a contributory factor related to happiness.

Content Analysis

Anecdotally, the comments in response to the final open-ended question were useful to support these findings, as the majority of responses related to the impact of program stressors. These comments were also useful in determining ideas for recommendations and to spark ideas for further research.

Additional Theme: DNP Issues

As comments were sorted into themes, it very quickly became evident that there was an additional category not addressed in the survey. This relates to the unique issues faced by DNP students. Recently, DNP programs have seen rapid national growth, with 264 programs offering DNP degrees as of 2015 and 60 more programs currently in the planning stages (AACN, 2015c). This type of unprecedented growth can cause concerns for students. The recent white paper from the AACN (2015a) recommended a clarification between research- and practice-focused doctoral degrees, in that practice-focused graduates should be prepared to generate knowledge through practice change, translational research, and implementing quality improvement processes in various practice settings. It was stressed that translational research should not be seen as a lesser

level of research, but one that is currently lacking in healthcare settings.

Implications and Recommendations

Recommendations for Academia and Schools of Nursing

Nurse faculty preparation. Schools of nursing must prepare nursing faculty to meet the expectations and needs of current and future students in both DNP and PhD programs. This includes the need to function as role models and mentors for students as they progress through their programs of study. As Jackson et al. (2009) outlined, student/adviser relationships differ in power. It should be the responsibility of the faculty member to acknowledge this differential power structure and then model both communication and relational skills that provide for successful negotiation of these relationships throughout the program.

An innovative idea would be to designate a faculty member or members as student coaches or student mentors. This role would be designed to provide hands on, consistent support for students as they work through their programs, beginning with an introductory meeting between students and the coach prior to the start of the program. This type of support program could be conducted with personalized success coaches, as discussed by Farrell (2007). Dalton and Crosby (2014) discussed the benefits of personal coaching for first year college students, as way to help students connect with and commit to their university early on. It will be crucial for already overburdened faculty members to have these responsibilities calculated into their workload, so that they have the time and resources to fulfill these coaching/mentoring roles. Administrators in schools of nursing must make the case to senior university administration to acquire additional resources that will support students and faculty and minimize attrition rates in doctoral nursing programs.

Minimizing effort cost. As this study found, the effort required of the student to complete tasks had the greatest impact on students. It is crucial that schools of nursing implement supportive measures which minimize the effort students need to put forth to complete their courses and final capstone or dissertation successfully. While it is not the recommendation for schools to scale back their academic expectations, since rigorous programs of study are required for doctoral degrees (Florczak, Poradzisz, & Kostovich, 2014; Ketefian & Redman, 2015), it is the recommendation to lessen the impact of extraneous variables, such as registering for courses and applying for financial aid/scholarships.

For example, although financial issues were not a significant predictor of intent to leave in this study as they were in previous studies (Alexander et al., 2002; Carlson, 1999; Chism, 2009; Cohen, 2011; CGS, 2009; Lee, 2006; Reilly & Fitzpatrick, 2009; Squires et al., 2014), it is still an important subject to consider. It may be that financial issues were not significant predictors in this study because there are more funding opportunities than ever available for students in nursing doctoral programs. It will be beneficial for schools of nursing to ensure that all students are continually aware of funding opportunities, both external and internal, and to provide assistance for students that need funding to complete their programs. This could be implemented with minimal cost through a department-managed webpage that is kept updated, which clearly lists and provides links to different scholarship, fellowship, and external funding opportunities. A listed point of contact within the nursing department for students with questions will also assist students who seek out financial assistance. Taking this one step further, early semester or presemester workshops could be conducted online or in person which guide students through the steps of applying for available financial assistance.

Social support. Students in this study were significantly impacted by family support (Cohen, 2011; CGS, 2010; Hlabse et al., 2016; Reilly & Fitzpatrick, 2009). It is not the nature of an educational program to ensure well-functioning families. However, schools of nursing can ensure that social system supports are put in place that help to build supportive relationships for the student and their significant others/family members. One creative idea is to develop inclusion of families during early days in the program, such as gatherings for families that occur during orientation and continue throughout the program through graduation. In this current study, only 14.5% of students had no on-campus requirements. Students in the remaining programs, even those solely based online could implement these during required on-campus attendance. Schools of nursing can institute milestone celebrations that reward students throughout the program, such as at the end of their first year, with some type of low-cost ceremony, luncheon, or even a simple picnic on university grounds. This helps build buy-in and creates meaning for the students' families. Inviting significant others/family members to orientation allows the faculty and program administrators to educate the family regarding the rigorous demands and expectations of the program. Including family members also provides the opportunity for them to meet their students' cohort and family members, which may provide a source of support through common experiences and shared friendships throughout the students' careers.

Program and course expectations. Another important recommendation for schools of nursing is to ensure that program and course expectations are clear and transparent to both students and faculty alike from the beginning. Changing expectations and requirements within the program create considerable amounts of stress for the student (Hlabse et al., 2016), and ensuring there is clarity for students is crucial. Doctoral programs are lengthy and labor

intensive, and students should understand these expectations up front. Changes to program and/or course content should be minimal.

Ketefian and Redman (2015) indicated that in a random survey of DNP programs, most schools only offered one statistics and one research course, which may be insufficient when expecting high quality research, even of a translational nature. Schools of nursing must clearly look at the expectations their programs have for students, as guided by the nursing professions' standards and expectations (AACN, 2010, 2014d, 2015a), and ensure curricular offerings provide sufficient information and experiences for the student to be successful.

Schools of nursing should also strive to ensure course content is interesting and relevant as students progress through their program. The National League for Nursing Board of Governors (2011) recommended that schools of nursing include academic pathways that build on the students' current skill set, do not require lengthy prerequisites, and are flexible and user-friendly. Programs should focus on helping students feel competent and confident by minimizing efforts required to complete tasks. Clear expectations for the program and all courses including meaningful student learning outcomes are important. There should be consistency between courses, including things like syllabus templates and similar online course structures, for example with the use of Quality Matters guidelines (Adair & Shattuck, 2015). This allows students to interact with course content immediately, rather than having to relearn how to navigate through courses each semester. Courses, including prerequisites, should be clearly outlined and enrollment should be easily accessible as students begin planning their programs of study. It is also beneficial for advisers to meet with their advisees each semester to ensure the student is on track for all future courses. Advisers can assist students with any questions and deadline setting during these meetings.

Collegial scholarly events. Involving students in collegial scholarly events, such as conferences and presentations, helps the student become part of a larger intellectual community. Litalien and Guay's (2015) findings showed that the more often PhD students presented at and attended research conferences and related events, the less likely they were to consider leaving their program of study.

Family friendly leave policies. Doctoral programs, whether for a PhD or DNP degree, take students several years to complete. Students in these doctoral programs often have situations develop which require leaves of absence from their programs of study. As many students are females in their childbearing years, the impact of childbirth and childrearing impacts many doctoral students. Participants in this study indicated that 8.5% of them had taken breaks from active study, with 44.8% taking a semester break and 31.3% taking a 1–1.5 year break. Students can quickly be lost to attrition when taking breaks from active study. Ensuring that programs have policies that are family friendly (Cathro, 2011; Cohen, 2011; CGS, 2009; Kenty, 1997) will help minimize attrition of students who experience extenuating personal or family circumstances during their program of study. Lee's (2009) study indicated students who do not finish their final dissertations or projects within 2 years are more likely not to finish. Therefore schools of nursing should strive to stay in active contact with students who find it necessary to take a break from study. When students are ready to return, efforts to reenroll should be minimal and seamless, incorporating assistance from a department designated contact.

DNP program issues. The final recommendation is for schools of nursing with DNP programs. The lack of clarity expressed by students in this study regarding the expectations with PhD faculty teaching in DNP programs is consistent with earlier findings (Ketefian & Redman, 2015; Sebastian & Delaney, 2013). It is important that schools of nursing which have PhD-

educated faculty teaching in DNP programs ensure that these faculty are provided opportunities and training to understand the expectations clearly as well as differences for students completing capstones versus dissertations. This becomes even more important for PhD faculty serving on DNP capstone committees. Finally, DNP programs must also carefully avoid changing expectations for students, which can be difficult as DNP programs are evolving in response to current recommendations (AACN, 2015a). Any changes or modifications should be quickly communicated to the student as transparently as possible.

Recommendations for Students

In addition to the importance of schools of nursing ensuring students have adequate support throughout their entire doctoral programs, it is important that nursing doctoral students become informed and active participants in their own educational careers.

Student responsibilities to research degree and program. Nurses should do their own comprehensive research before enrolling in a doctoral program. When considering doctoral study, nurses' most common choice is between a PhD or DNP program. With the abundance of online programs, doctoral education is more accessible than ever before. It would behoove them to explore clearly what types of program they find interesting. This should begin with developing a greater understanding of the type of research they want to conduct. Loomis et al. (2006) reported the primary reason students opt not to complete a PhD is the lack of desire to focus on a research-intense program of study or career. It is important for all potential doctoral students to understand that all doctoral nurses participate in research, either through the generation of new research or the translation of research into practice. Bednash, Breslin, Kirschling, and Rosseter (2014) stated the primary question potential students should ask

themselves in relation to research is if they want to develop new knowledge or use existing knowledge to influence nursing practices and healthcare systems.

Seeking out advice and guidance from individuals with current nursing doctoral degrees will help potential students understand the differences between the two types of programs. They should also become familiar with relevant professional nursing organizations' recommendations for doctoral nursing programs, through numerous articles that outline key program facts and differences (AACN, 2010, 2014d, 2015a; Bednash et al., 2014; Florczak et al., 2014; Grey, 2013; Ketefian & Redman, 2015; Loomis et al., 2006; Melnyk, 2013; Oermann, Lynn, & Agger, 2016; Rodriguez, 2016; Squires et al., 2014). Once potential students have chosen the program type that best suits their goals, they should turn their efforts into researching specific programs. They should focus on their areas of expertise and interest and seek out the programs that most closely align with their interests. Having a greater interest in their topic will help offset the potential emotional, psychological, and effort costs related to participation. Anecdotally, several responses to the final open-ended question indicated a mismatch between student interests and faculty or schools of nursing's areas of expertise, causing stress for the student. Finding a program that meets the students' needs and by doing their own research and work before beginning a program of study may save students' and schools of nursing time, money, and stress.

Student led social connections/relationships. Students also need to engage with their cohort and university, striving to become socially connected to their program. Interacting with students in their cohort will help build connection and presence, even for students enrolled in online programs. Students in hybrid, traditional, and online programs can institute recommendations from previous studies, such as support from student peers (Litalien & Guay, 2015), faculty-designed and -led support (Jackson et al., 2009), or student-led support groups

(Hadjioannou et al., 2007; Pancheri et al., 2013). These groups can become formal processes, such as journal clubs or dissertation/capstone writing groups (Walker et al., 2008), and even promote collaboration between students in PhD and DNP programs (Buchholz, Yingling, Jones, & Tenfelde, 2015; Murphy, Staffileno, & Carlson, 2015). These collaborations can occur at any point in student coursework, although instituting these collaborative relationships early in the program may lead to continued collaboration throughout students' doctoral study and into their careers after graduation. These collaborations have the potential to be vitally important in the future. As Bellini, McCauley, and Cusson (2012) stated, academia can become separate from clinical practice. These collaborative partnerships initiated during educational programs may help bridge the gap between education and practice.

Students should also initiate supportive relationships informally with their cohort peers, exchanging email and telephone numbers at orientation. Students in any program can interact through varieties of social media, such as Facebook, Twitter, and Instagram. Hrastinski and Stenbom (2013) suggested online student-to-student coaching, where a beginning student can be mentored or coached by a more experienced student. With creativity, any of these interventions could be implemented into any program delivery type, whether live, hybrid, or online.

Recommendations for Nursing Practice

Academic-practice partnerships. Each year, qualified students are turned away from nursing schools at all entry levels because of the shortage of qualified nursing faculty (AACN, 2014b). Everett (2016) stated that additional factors that impact this are the lack of clinical sites and classroom space. The demand for more nurses is only growing, as the Affordable Care Act continues to increase the number of Americans with insurance, and as baby boomers age, they continue to need more access to healthcare. Additional factors are that doctoral nurses currently

in the workforce are approaching retirement age in near record numbers (Berlin & Sechrist, 2002). Schools of nursing also have difficulty competing with clinical sites to hire doctoral nurses at competitive salaries (AACN, 2016b; Nalley, 2016). AACN (2014b) reported that 89.6% of vacant faculty positions require or prefer nurses with doctoral degrees. Schools of nursing report noncompetitive salaries and limited pools of doctorally-prepared faculty as the most critical issues related to faculty retirement facing schools at this time (Li & Fang, 2015).

As these factors continue to impact the nursing profession, it is crucial that nursing practice organizations begin partnering with academia in greater numbers. Academic-practice partnerships create opportunities at a variety of levels. These partnerships can create access to much-needed clinical sites for schools of nursing in both undergraduate and graduate programs. This will help address the issue raised by this study: DNP students have difficulties finding clinical sites for their practicum hours. In areas where academic classroom space is limited, practice partners can provide access to classroom/teaching spaces in exchange for continuing education opportunities for their nursing staff.

Academic-education partnerships can create positions for doctoral nurses after graduation and provide opportunities for clinical research. These partnerships can also help address the issues related to salary gaps, as practice partners can supplement academic salaries for schools of nursing. McNett, Fusilero, and Mion (2009) discussed an academic partnership model where doctoral nurses hold joint appointments, as school of nursing faculty and hospital researcher. These collaborative partnerships can help bridge the education to practice gap. An appropriately educated nursing workforce benefits nurses/administrators working in practice and, ultimately, the public. Recent studies have clearly tied improved patient outcomes to a more educated nursing workforce (Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Blegen, Goode, & Park,

2013, Van den Heede et al., 2009). It is crucial that practice supports academia as they strive to meet the demands for more doctorally-educated nurses.

Increased funding for doctoral education. While this study did not see a significant impact from financial issues, it is projected that this is because of the multitude of funding opportunities available for students in nursing doctoral programs. The Department of Health and Human Services (HRSA, 2016) stated that the need to address the shortage of health care professionals is greater than ever, as millions of people lack access to basic health services. Their website clearly lists several funding opportunities. There is detailed information regarding how to apply and sign-up areas for webinars and informational meetings that provide guidance through the application process. Additional information lists job openings that are eligible for the service commitment required for many of the funding opportunities. These funding sources need to be continued or even increased, as the United States strives to build the field of qualified nurses, particularly those at doctoral levels. These doctoral nurses will become leaders in industry, practice, and academia and the need to provide support and funding for this pool of nurses is greater than ever before.

Aiken, Cheung, and Olds (2009) called for increased federal funding for schools and universities through both Title VII and Title VIII funding, which would help compensate for budget cuts and allow schools of nursing to increase admissions to nursing programs. It is crucial that in times of decreased funding at colleges and universities that house schools of nursing, that federal and state governments take a unified approach to address the shortages of nurses and nursing faculty which impact the health of the nation. Increasing the numbers of researchers at both the PhD and DNP level will increase the relevancy and scientific contribution within the profession of nursing and healthcare.

Limitations

This study has several identified limitations. As requests to participate were sent to deans/directors of programs, no direct access was obtained to the population of nursing doctoral students. As such, it is not possible to determine how many students initially received the invitation, making it impossible to gauge if the response rate was high or low. As students answered all questions on a self-report basis, participants may have exhibited a self-report bias, answering questions in a manner they perceived as socially desirable rather than reflective of their true thoughts or feelings. Responses to one open-ended question allowed students to share any further information about their nursing doctoral experience. However, because responses were gathered through an anonymous online survey, there was no opportunity for interviews to enhance clarity of the answers or build depth and understanding.

It is also important to note that this survey tool only assessed students' intention to leave their current program of study. This did not provide information to determine which students will actually leave their doctoral programs, or from those who have already left. In addition, the study utilized a tool with modified and developed questions. Face validity was established and CFA was used to assess the internal consistency of the tool. The CFA findings resulted in removal of two poorly loaded questions, prior to completion of analyses.

This study utilized a convenience sample. Schools of nursing from all 50 states in the United States were solicited for voluntary participation. This lack of random sampling may have limited the extent that this population was a representative sample of doctoral nursing students. Further, respondents were primarily Caucasian and female, therefore findings must be considered in light of this lack of sample diversity. Finally, it is important to note that of the participants who chose to answer the demographic question regarding clinical background, the

majority chose “other” (305), providing little meaningful data for this question. Future recommendations would be to revise questions such as this one to increase clarity.

Future Research Recommendations

This study helps to build understanding regarding the effect of stressors on doctoral nursing students and the impact that motivational constructs have on persistence. Based on both the findings and the limitations of this study, future research recommendations are as follows.

Test-retest reliability study. As this study did not have direct access to students, a study with direct access to students would be desirable. This could be completed in two different ways. First, the researcher could conduct stratified random sampling of schools in the United States, then gain IRB approval at each of the chosen schools. A second method would be to recruit participants directly at conferences that draw large numbers of doctoral students, such as those held by the Western Institute of Nursing Research, the Southern Nursing Research Society, the Eastern Nursing Research Society, the Midwestern Nursing Research Society, and the AACN Doctoral Education Conference.

Greater detail of significant stressors. Why were the support issues and program stressors significant for this population of students? What more can be learned about these constructs? A qualitative or mixed-method study designed to analyze these stressors and the EVT motivational constructs that successfully mediated these stressors with more depth would provide increased understanding.

Unique issues of DNP students. There were differences seen between groups of PhD and DNP students in relation to constructs of cost. A qualitative or mixed-method study of this student population would help build depth of understanding regarding the unique issues experienced by this student population. As DNP programs are in a time of exponential growth

and change, understanding the needs of this student population with more clarity will be beneficial.

Longitudinal study. To assess if intent to leave changes over time, conduct a longitudinal study with students in current doctoral programs. This could begin with student participation in the first year of doctoral study. There would be follow-up surveys on a yearly basis. This type of study would provide a clearer picture regarding the impact of environmental stressors and motivational beliefs constructs at multiple points of time during doctoral study. This will help provide greater understanding regarding which students actually follow through and leave their programs and which students persist.

Faculty and schools of nursing perceptions of student stressors. Survey administration and faculty working in schools of nursing to see what these individuals perceive nursing doctoral student stressors are and how their motivational constructs impact these perceptions. This will help to assess if there is a disconnect between faculty and students. Gardner's (2009) study assessing reasons for student attrition in a doctoral program discovered students and faculty reported differing reasons for students' lack of persistence. Almost half of students cited personal problems, followed by departmental issues and students' lack of fit with the program as reasons for attrition. The majority of faculty responses were related to students' lacking certain attributes, and that these students should not have been enrolled in the program at all. The final and lowest percentage of faculty opinions regarding student attrition cited students' personal issues.

Students who have withdrawn. Researchers should strive to access populations of students who did not successfully complete their programs of doctoral study. This could include students who left during their coursework phase or who have yet to complete their final projects

or dissertations after 2–3 years in their capstone or dissertation phase. This will help to assess the impact of stressors on students who did not successfully persist in their programs of study. This may also provide greater understanding about additional support needs from students who have already left.

Summary

This final chapter summarized the findings and recommendations for this national study of nursing doctoral students. The goal of this path analysis was to gain a greater understanding of issues related to persistence of students in PhD and DNP programs. The research questions analyzed the impact of environmental stressors and the mediation provided by students' motivational beliefs. The main findings of the study indicated significant predictors of intention to leave their programs of study that impacted students related to support issues and program stressors. When analyzing which factors had a greater impact on students' intention to leave, direct comparison of values constructs and cost constructs supported the hypothesis that students would be more impacted by the constructs of cost. This indicated that it is more important to focus intervention efforts on helping students to lessen the impact of costs on the doctoral nursing school experience. Interventions that minimize attrition and build the persistence of nursing doctoral students are crucial, as the profession of nursing strives to increase the numbers of nurses holding doctoral degrees drastically. These findings may help to guide recommendations for change in academia and schools of nursing, for nursing students, and for nursing practice. In addition, these findings may help to guide further research to continue to build the knowledge of this important population of nursing doctoral students.

APPENDIX A

Annotated Theoretical Diagrams for Restricted and Ideal Models

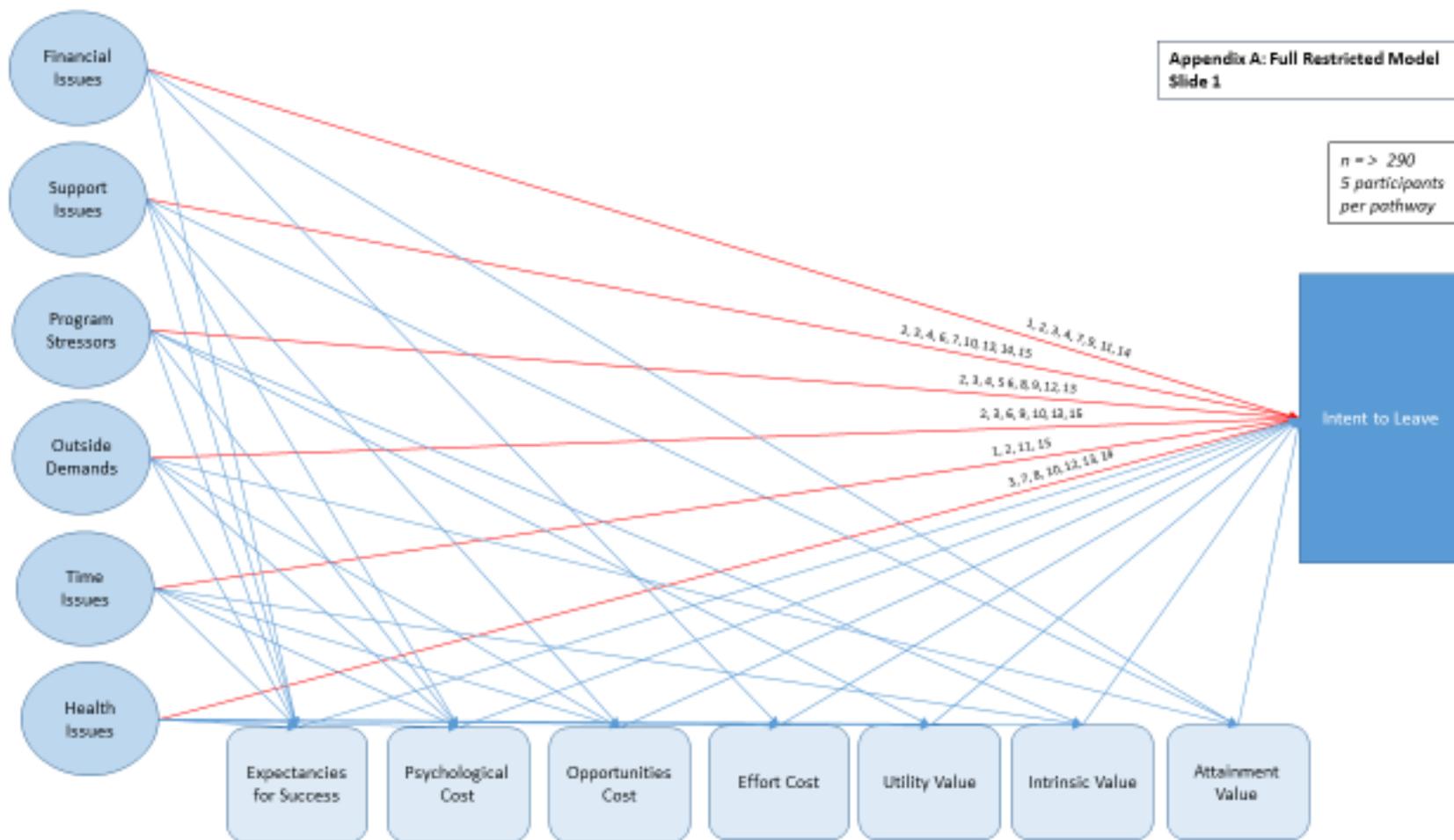


Figure 1. Full Theoretical Restricted Model.

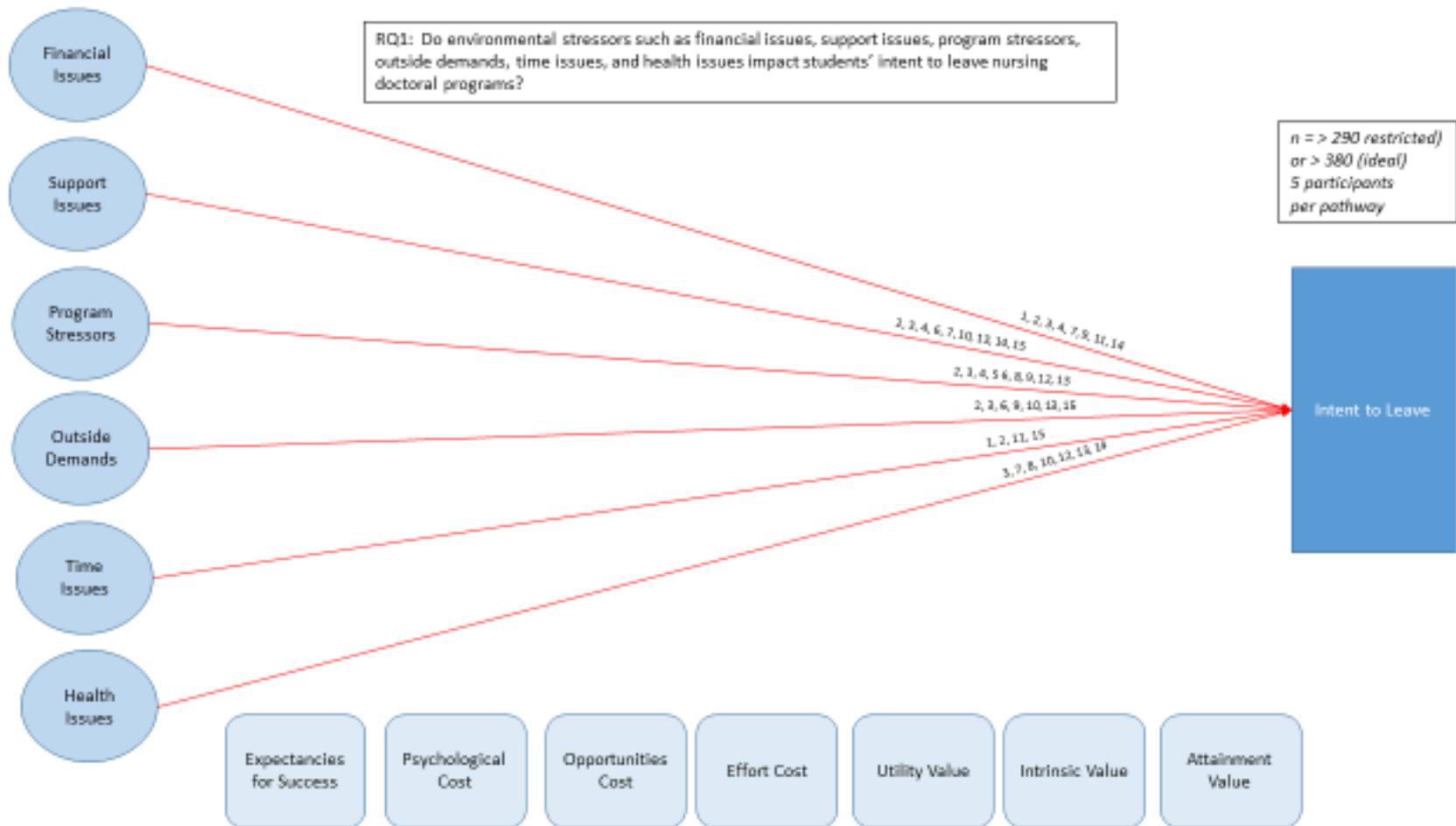


Figure 2. Research Question 1 Theoretical Restricted Model.

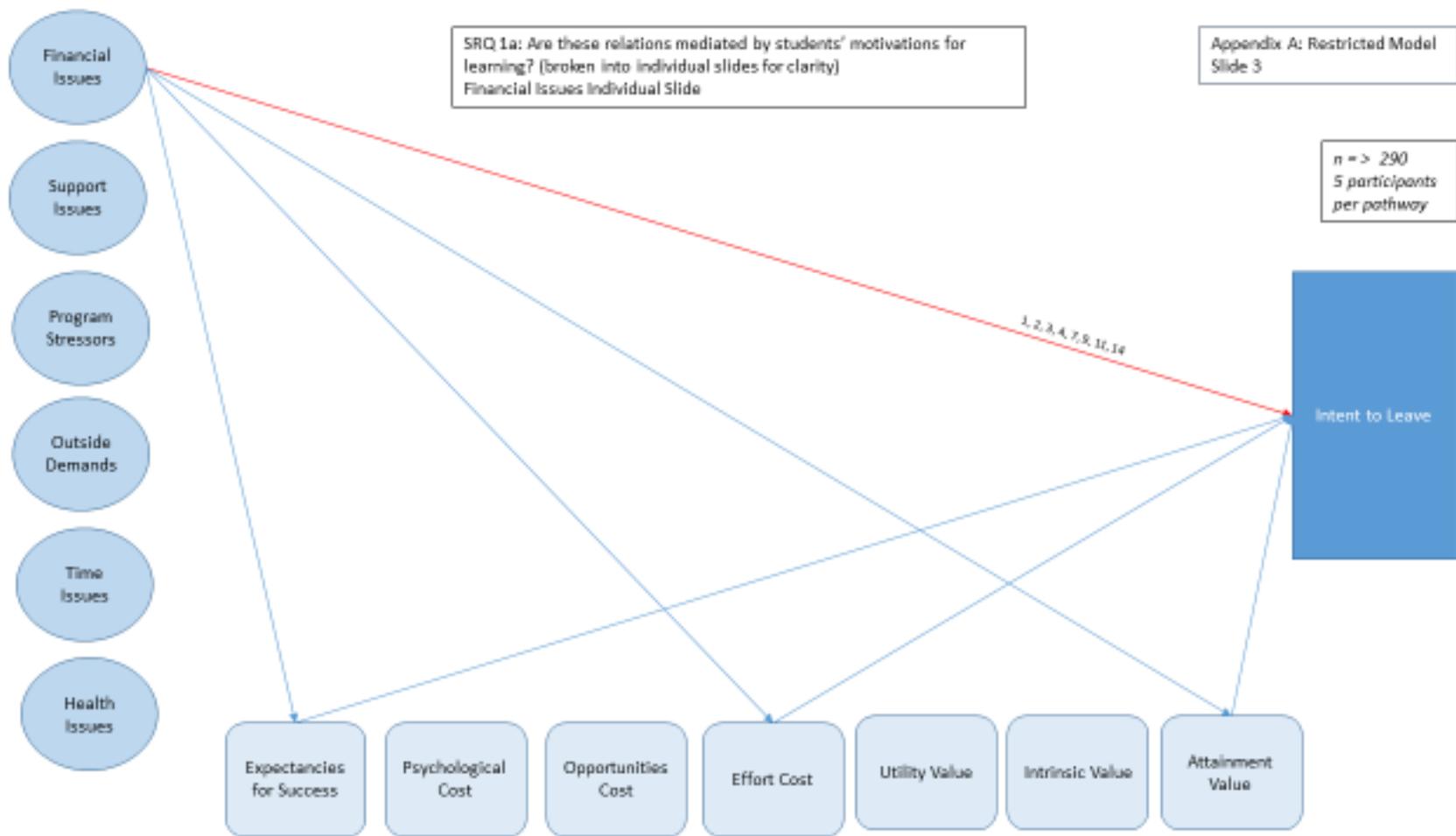


Figure 3. Subresearch Question 1a Theoretical Restricted Model: Financial Issues Individual Slide.

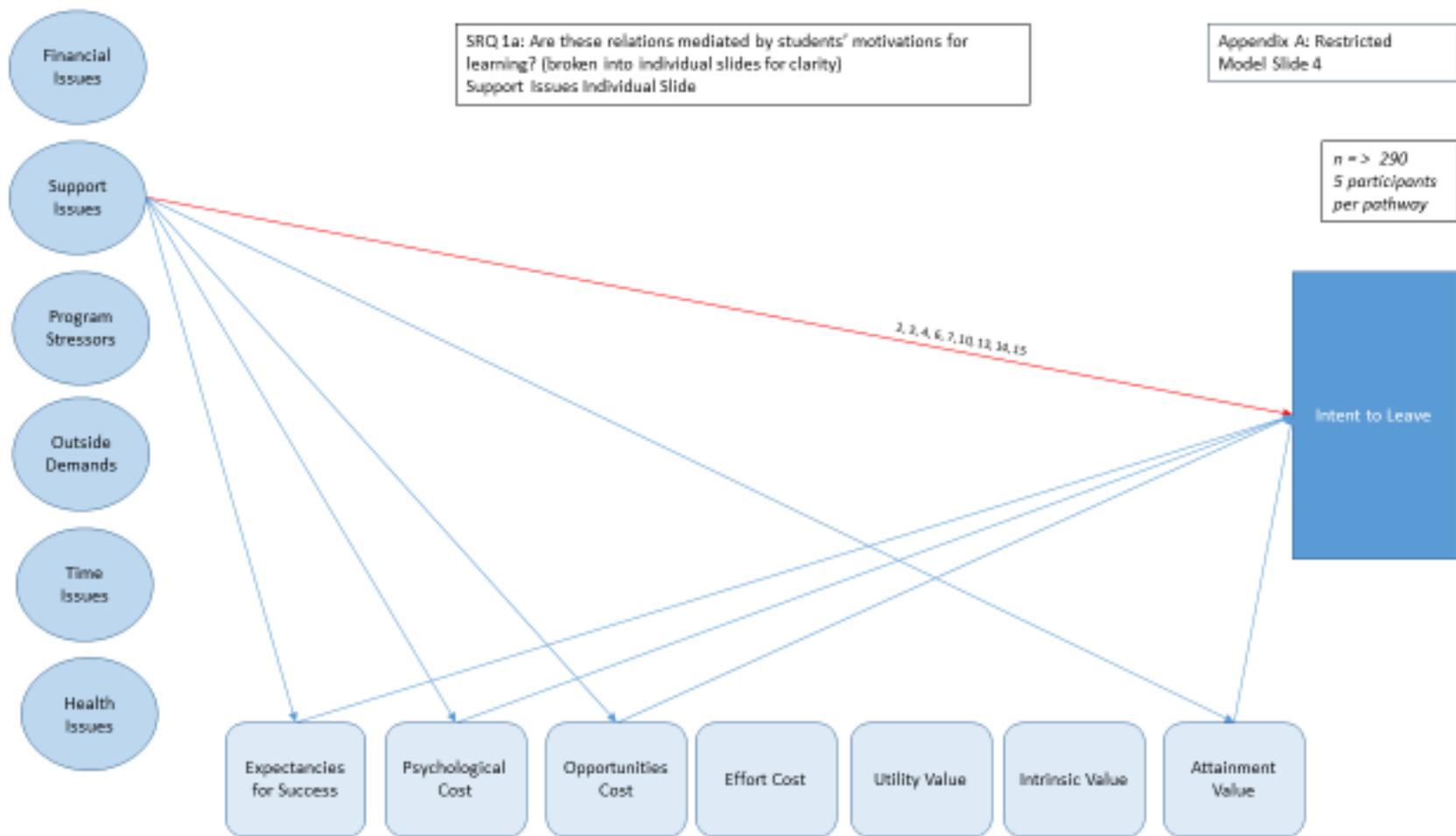


Figure 4. Subresearch Question 1a Theoretical Restricted Model: Support Issues Individual Slide.

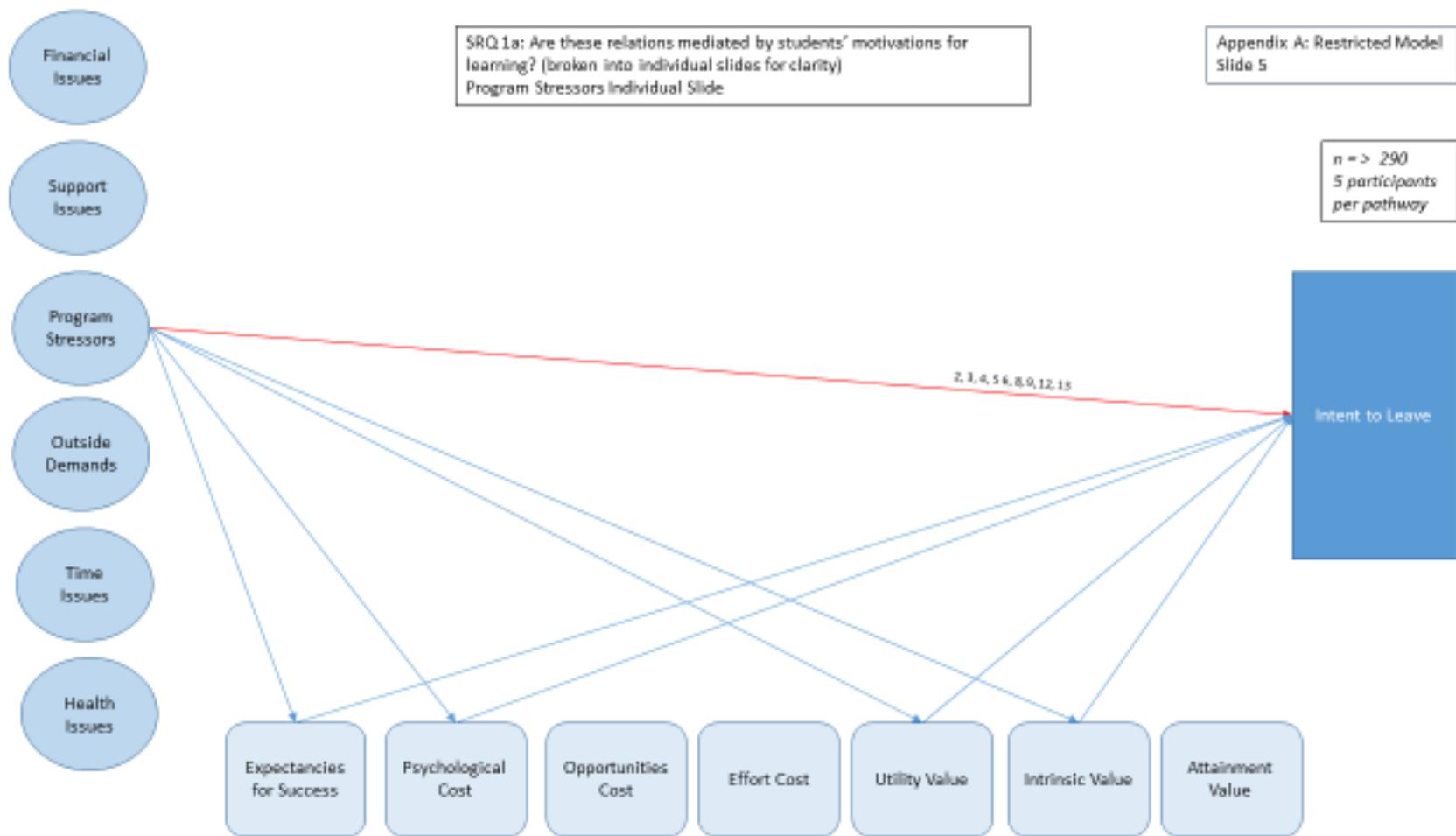


Figure 5. Subresearch Question 1a Theoretical Restricted Model: Program Stressors Individual Slide.

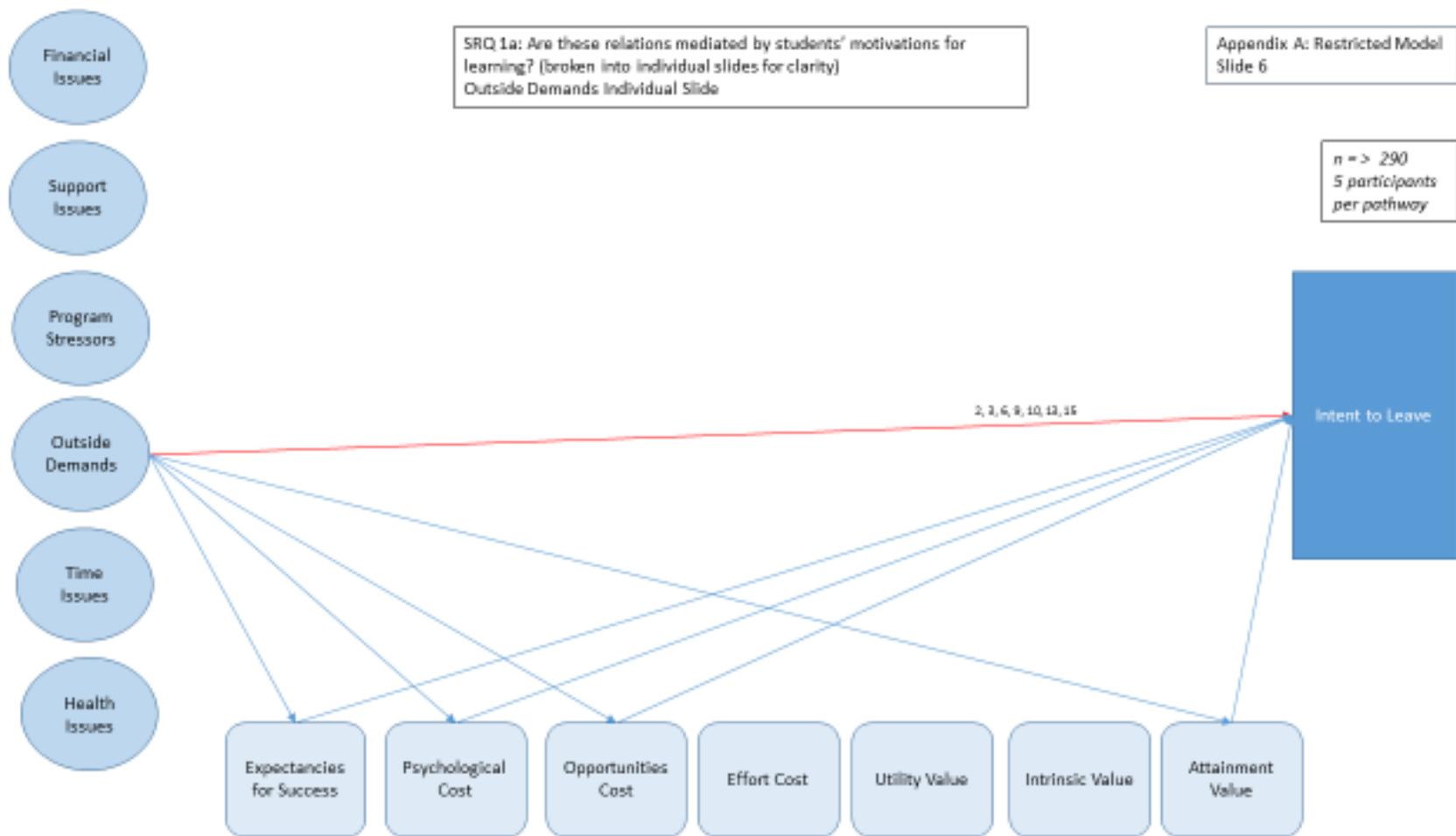


Figure 6. Subresearch Question 1a Theoretical Restricted Model: Outside Demands Individual Slide.

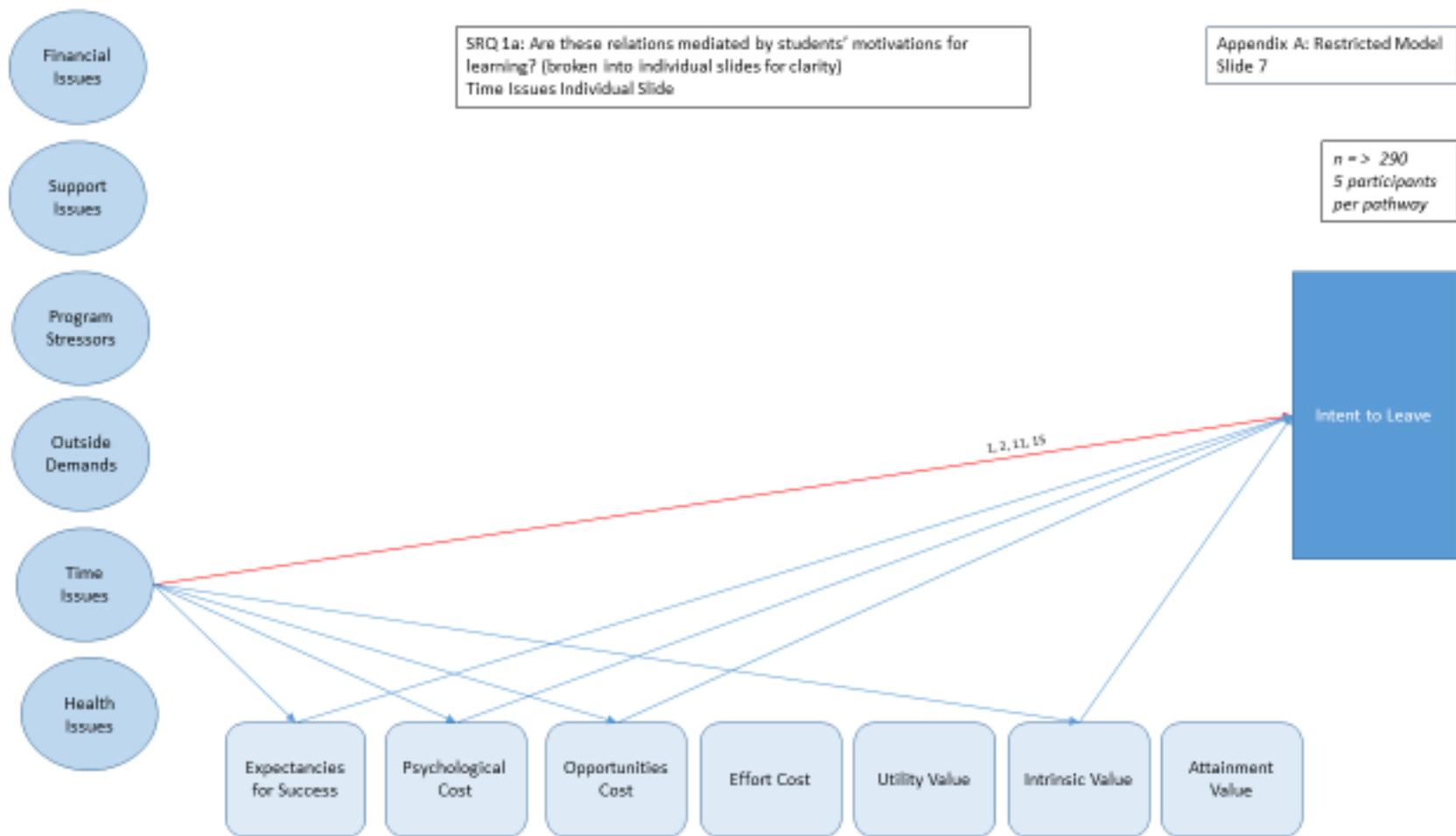


Figure 7. Subresearch Question 1a Theoretical Restricted Model: Time Issues Individual Slide.

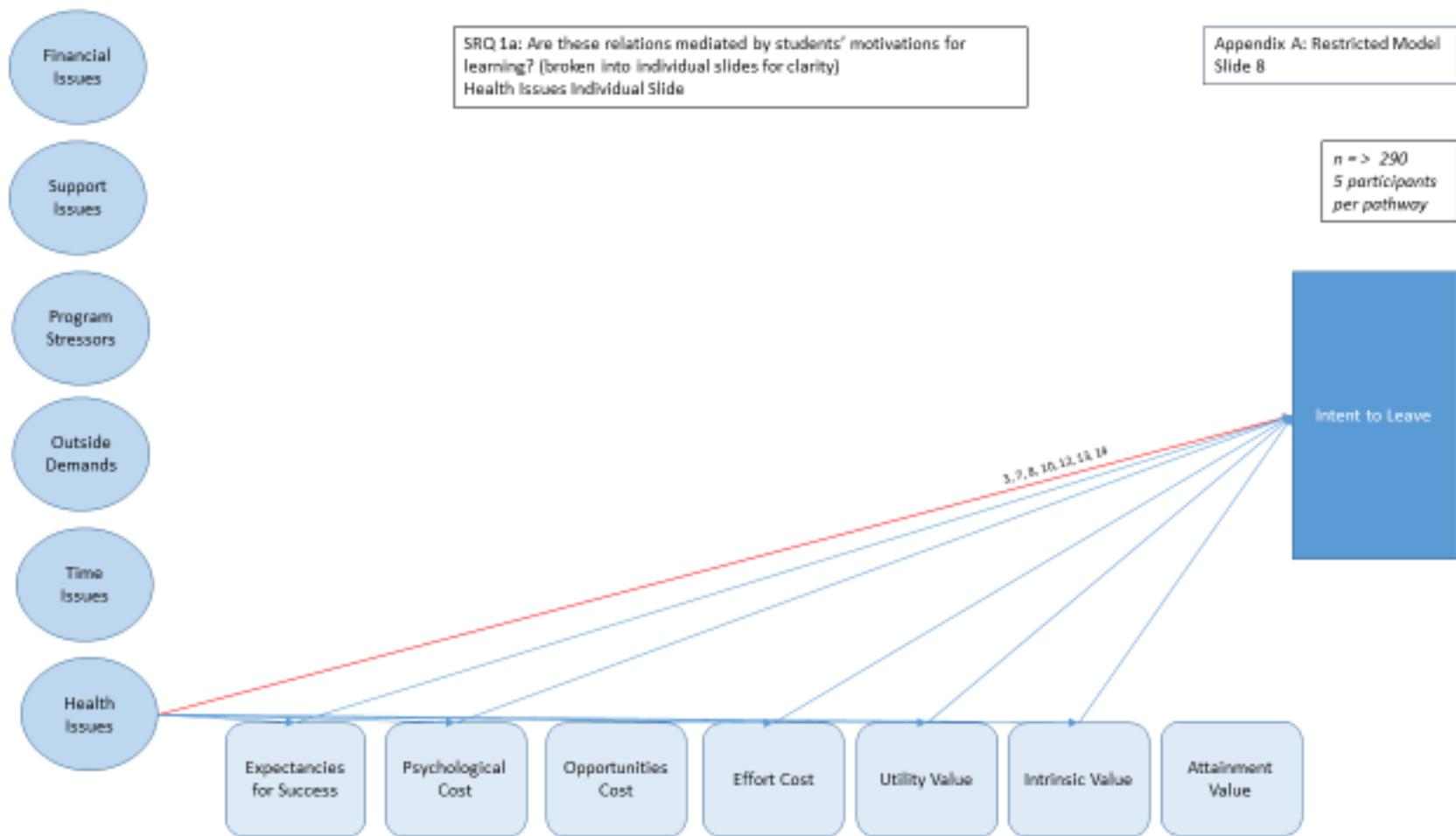


Figure 8. Subresearch Question 1a Theoretical Restricted Model: Health Issues Individual Slide.

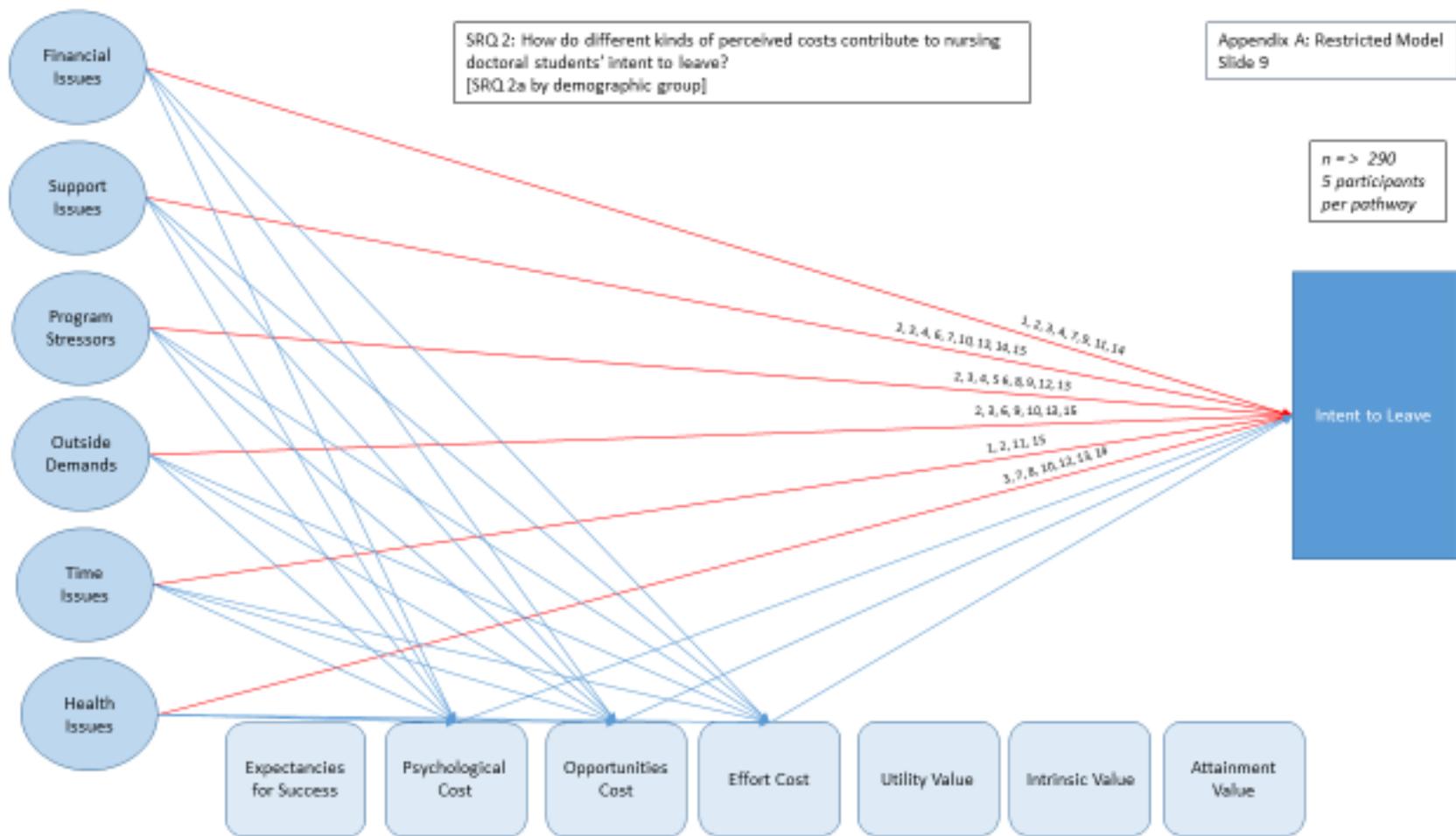


Figure 9. Subresearch Question 2 and Subresearch Question 2a Theoretical Restricted Model.

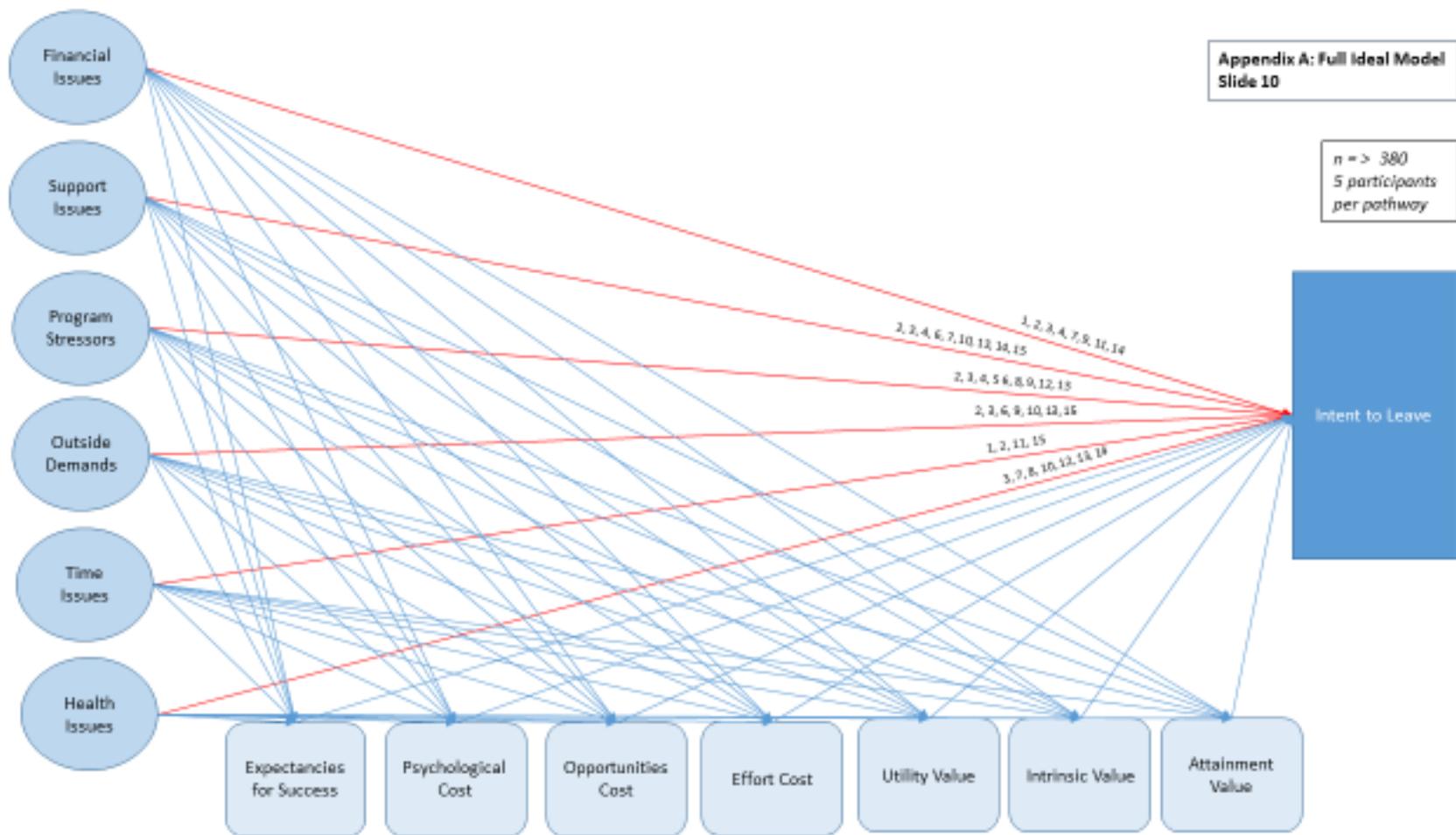


Figure 10. Full Theoretical Ideal Model.

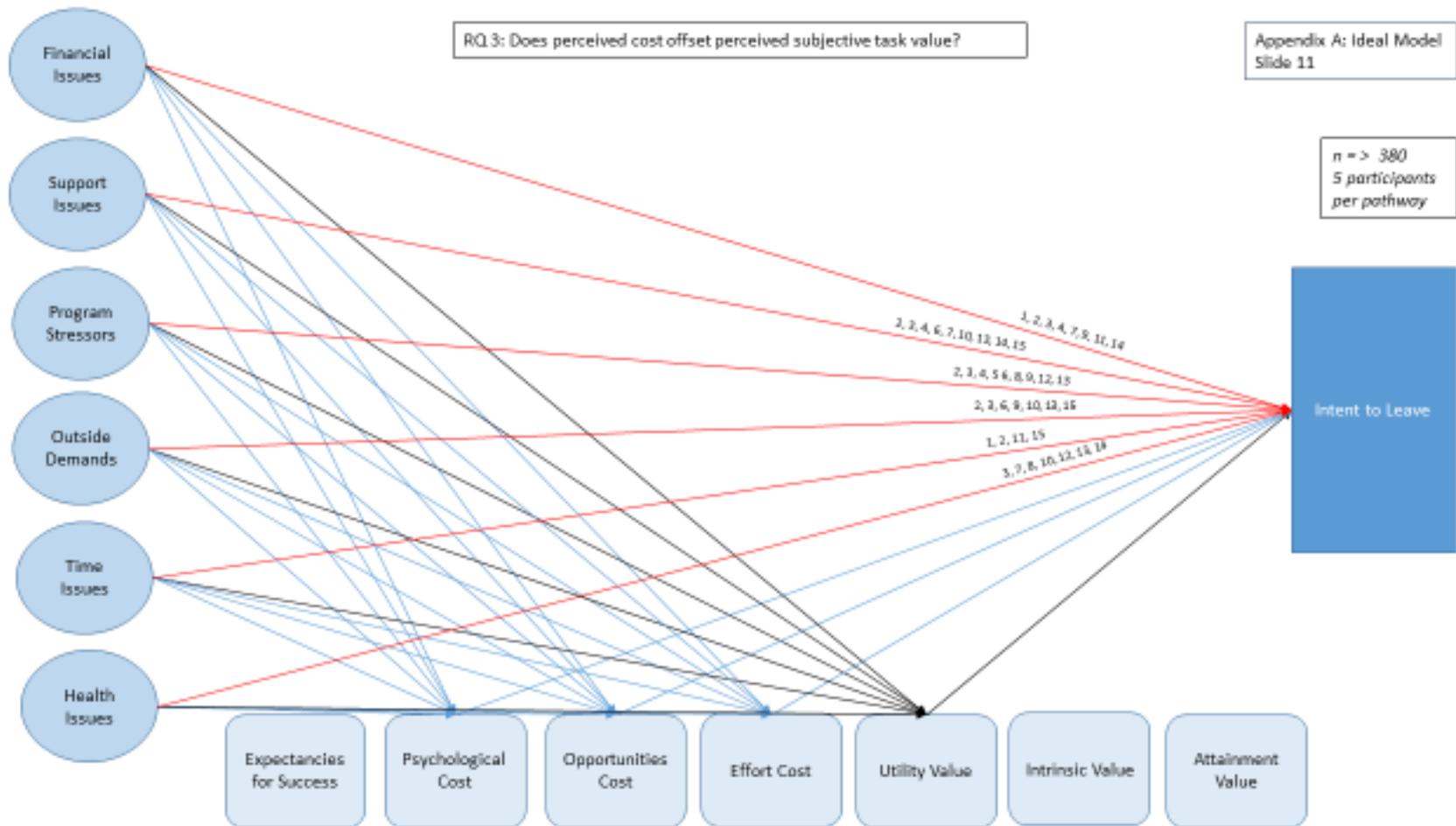


Figure 11. Research Question 3 Theoretical Ideal Model.

Ideal and Restricted Model's Annotations

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- ¹⁰ Jarnagin, T. E. (2005). *The meaning of the experience of doctoral course work for midlife female nursing faculty* (Doctoral dissertation). Available from Proquest Dissertations & Theses Database. (Accession Order No. 3164916)
- ¹¹ Alexander, G. R., Chadwick, C., Slay, M., Peterson, D. J., & Pass, M. A. (2002). Maternal and child health graduate and continuing education needs: A national assessment. *Maternal &*

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- ¹³ Kenty, J. R. (2000). Stress management strategies for women doctoral students. *Nurse Educator*, 25(5), 251–254. Retrieved from <http://journals.lww.com/nurseeducatoronline/pages/default.aspx>
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APPENDIX B

IRB Approval



**UNLV Biomedical IRB - Exempt Review
Exempt Notice**

DATE: February 2, 2016

TO: Lori Candela, EdD
FROM: Office of Research Integrity - Human Subjects

PROTOCOL TITLE: [864029-1] STUDENT MOTIVATION, STRESSORS, AND INTENT TO LEAVE
A NURSING PhD OR DNP PROGRAM: A NATIONAL STUDY USING PATH
ANALYSIS

ACTION: DETERMINATION OF EXEMPT STATUS
EXEMPT DATE: February 2, 2016
REVIEW CATEGORY: Exemption category # 2

Thank you for your submission of New Project materials for this protocol. This memorandum is notification that the protocol referenced above has been reviewed as indicated in Federal regulatory statutes 45CFR46.101(b) and deemed exempt.

We will retain a copy of this correspondence with our records.

PLEASE NOTE:

Upon final determination of exempt status, the research team is responsible for conducting the research as stated in the exempt application reviewed by the ORI - HS and/or the IRB which shall include using the most recently submitted Informed Consent/Assent Forms (Information Sheet) and recruitment materials. The official versions of these forms are indicated by footer which contains the date exempted.

Any changes to the application may cause this protocol to require a different level of IRB review. Should any changes need to be made, please submit a **Modification Form**. When the above-referenced protocol has been completed, please submit a **Continuing Review/Progress Completion report** to notify ORI - HS of its closure.

If you have questions, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 702-895-2794. Please include your protocol title and IRBNet ID in all correspondence.

Office of Research Integrity - Human Subjects
4505 Maryland Parkway . Box 451047 . Las Vegas, Nevada 89154-1047
(702) 895-2794 . FAX: (702) 895-0805 . IRB@unlv.edu

APPENDIX C

Nursing Doctoral Stressors and Motivation Survey Tool, including Demographic Questions

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Please answer the following demographic questions.

Q1. Please indicate your gender.

- Male (1)
- Female (2)

Q2. How old are you?

- ≤ 25 years of age (1)
- 26-35 years of age (2)
- 36-45 years of age (3)
- 46-55 years of age (4)
- 56-65 years of age (5)
- > 65 years of age (6)

Q3. What is your ethnicity?

- Caucasian (1)
- African-American (2)
- Asian-American (3)
- Hispanic/Latino (4)
- Mixed (5)
- Other (6)

Q4. What nursing doctoral program are you currently enrolled in?

- PhD (1)
- DNP (2)

Q5. What semester and year in your nursing doctoral program are you currently enrolled in?

- Semester (1)
- Year (2)

Q6. Are you enrolled in the coursework phase of your nursing doctoral program or in the capstone or dissertation phase?

- Coursework (1)
- Capstone/Dissertation (2)

Q7. Are you considered a full-time or part-time student in the nursing doctoral program you are currently enrolled in?

- Full time (1)
- Part time (2)

Q8. How many hours a week do you work, if any:

- 0-5 hours (1)
- 5-10 hours (2)
- 10-15 hours (3)
- 15-20 hours (4)
- 20-25 hours (5)
- 25-30 hours (6)
- 30+ hours (7)

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Q9. Have you taken any breaks from active enrollment in your nursing doctoral program? (For this question, a break from study is defined as one or more semesters that you were not enrolled in either nursing doctoral program coursework or doctoral dissertation/capstone work)

- Yes (1)
- No (2)

Q10. If yes, how long was this break?

Q11. Are you enrolled in an online program, a traditional on-campus program, or a hybrid nursing doctoral program (both online and on-campus features)?

- Online (1)
- Traditional (2)
- Hybrid (3)

Q12. If you are enrolled in an online program, how frequently are you required to physically be on campus?

- Never (1)
- Once a semester (2)
- 2-3 during the program (3)
- 4-5 times during the program (4)

Q13. What is your clinical nursing background? (Select all that apply)

- ER (1)
- Medical-surgical (2)
- Pediatrics (3)
- OB/Gyn (4)
- ICU (5)
- Community Health (6)
- Other (7)

Q14. What past nursing educational degrees have you earned? (Select all that apply)

- Diploma (1)
- ADN (2)
- RN-to-BSN (3)
- Accelerated BSN (4)
- BSN (5)
- MSN (6)
- Doctoral (Please list credential) (7) _____

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Q15. The following statements concern your attitudes toward learning and your nursing doctoral program, which includes your coursework, the capstone phase (for DNP students) and/or dissertation phase (for PhD students). All questions refer to the PhD or DNP program that you are currently enrolled in. Please respond to the following items by indicating the degree to which the statement reflects your views and experiences using the scales provided. All data will be handled anonymously; your responses will not be associated with your name or any other identifying information.

Q16. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I'm certain I can master the skills taught in this nursing doctoral program. (1)	<input type="radio"/>					
I'm certain I can figure out how to do the most difficult doctoral program work. (2)	<input type="radio"/>					
I can do almost all the work in the nursing doctoral program if I don't give up. (3)	<input type="radio"/>					
I can do even the hardest work in this nursing doctoral program if I try. (4)	<input type="radio"/>					

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Q17. The following questions are answered on a 6-point scale, from not at all worthwhile to very worthwhile.

	Not at all worthwhile (1)	Not worthwhile (2)	Somewhat not worthwhile (3)	Somewhat worthwhile (4)	Worthwhile (5)	Very Worthwhile (6)
Is the amount of effort it will take to do well in your nursing doctoral program worthwhile to you? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that, to me, being good at solving the problems in my nursing doctoral program is: (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How important is it to you to get good grades in your nursing doctoral courses? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important for me to be someone who is good at solving problems in my nursing doctoral program. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Q18. Answer with the 6-point scale listed below.

	Very boring (1)	Boring (2)	Somewhat boring (3)	Somewhat interesting (4)	Interesting (5)	Very interesting (6)
In general, I find working on assignments/studying for nursing doctoral courses to be: (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q19. Answer with the 6-point scale listed below.

	Dislike very much (1)	Dislike (2)	Somewhat dislike (3)	Somewhat like (4)	Like (5)	Like very much (6)
How much do you like your nursing doctoral program? (1)	<input type="radio"/>					

Q20. Answer with the 6 point scale listed below.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Somewhat agree (4)	Agree (5)	Strongly agree (6)
Learning the material covered in my nursing doctoral program is enjoyable. (1)	<input type="radio"/>					
The concepts and principles taught in my nursing doctoral program are interesting. (2)	<input type="radio"/>					

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Q21. The following questions are answered on a 6-point scale, from not at all useful to very useful.

	Not at all useful (1)	Not useful (2)	Somewhat not useful (3)	Somewhat useful (4)	Useful (5)	Very useful (6)
How useful is your nursing doctoral program for what you want to do after you graduate and go to work? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How useful is what you learn in your nursing doctoral program for your daily life outside school? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What I learn in my nursing doctoral program will be useful for me later in life. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being good at generating and/or translating nursing research will be important when I get a job. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Q22. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Somewhat agree (4)	Agree (5)	Strongly agree (6)
Considering what I want to do with my life, taking nursing doctoral courses is just not worth the effort. (1)	<input type="radio"/>					
Taking nursing doctoral courses would not be worth it if I had to work hard after graduating to re-pay a long-term tuition loan. (2)	<input type="radio"/>					
When I think about the hard work needed to get through my nursing doctoral courses, I am not sure that getting a nursing doctoral degree is going to be worth it in the end. (3)	<input type="radio"/>					
Taking nursing doctoral courses sounds like it really requires more effort than I'm willing to put into it. (4)	<input type="radio"/>					
I worry about losing track of some valuable friendships if I'm taking a lot of nursing doctoral courses and my friends are not. (5)	<input type="radio"/>					
I'm concerned my nursing doctoral program may cost me some treasured friendships. (6)	<input type="radio"/>					

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Q23. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I'm concerned my nursing doctoral program may cause a serious love relationship of mine to suffer. (1)	<input type="radio"/>					
I'm concerned my nursing doctoral program may cause my family relationships to suffer. (2)	<input type="radio"/>					
My self-esteem would suffer if I tried in my nursing doctoral program and was unsuccessful. (3)	<input type="radio"/>					
I would be embarrassed if I found out that my work in my nursing doctoral program was inferior to that of my peers. (4)	<input type="radio"/>					
I'm concerned that I won't be able to handle the stress that goes along with my nursing doctoral program. (5)	<input type="radio"/>					
It frightens me that my nursing doctoral courses are harder than courses required for other programs that could advance my career. (6)	<input type="radio"/>					

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Q24. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
At the present time, I am likely to leave my nursing doctoral program. (1)	<input type="radio"/>					
It is UNLIKELY that I will leave my nursing doctoral program before I graduate. (2)	<input type="radio"/>					
I am likely to leave my nursing doctoral program eventually. (3)	<input type="radio"/>					
At the present time, I am likely to remain in my nursing doctoral program. (4)	<input type="radio"/>					
The high cost of tuition/education has caused me stress during my nursing doctoral program. (5)	<input type="radio"/>					
I worry constantly about the debt I've incurred while enrolled in my nursing doctoral program. (6)	<input type="radio"/>					

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Q25. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
Not working or working less during my nursing doctoral program has caused financial stress. (1)	<input type="radio"/>					
Paying for my doctoral program tuition has caused substantial financial stress. (2)	<input type="radio"/>					
Support from my family has been critical to my success in my nursing doctoral program. (3)	<input type="radio"/>					
I would not be successful without support from a committed spouse/partner. (4)	<input type="radio"/>					
I wouldn't be successful in my nursing doctoral program without support from my friends and family. (5)	<input type="radio"/>					
Support from program faculty and/or program advisers is critical for success. (6)	<input type="radio"/>					

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Q26. The following question is answered on a 6-point scale, from strongly disagree to strongly agree (choose N/A if this question does not apply to you).

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)	N/A (7)
The overwhelming nature of my capstone or dissertation phase has caused me stress. (1)	<input type="radio"/>						

Q27. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
Having a program that provides flexibility is crucial for reducing the stress of my nursing doctoral program. (1)	<input type="radio"/>					
Differing expectations between myself and program faculty/adviser(s) has caused me stress during my nursing doctoral program. (2)	<input type="radio"/>					
Working in isolation during my nursing doctoral coursework, or in my capstone or dissertation phase has caused me stress. (3)	<input type="radio"/>					

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Q28. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
The conflict I feel between school and other responsibilities has caused high amounts of stress for me. (1)	<input type="radio"/>					
The needs of my family have caused stress for me while in my nursing doctoral program. (2)	<input type="radio"/>					
The competing responsibilities as student and also employee, friend, family member, and/or parent/caretaker has caused stress for me while in my nursing doctoral program. (3)	<input type="radio"/>					
Self-sacrifice is the only way I can meet all the demands placed on me at this time. (4)	<input type="radio"/>					
My nursing doctoral program doesn't allow me to spend enough time with my friends and family. (5)	<input type="radio"/>					
It is hard to balance the time that I spend on work, school, and family responsibilities. (6)	<input type="radio"/>					

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Q29. The following questions are answered on a 6-point scale, from strongly disagree to strongly agree.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I often don't have enough time to complete my nursing doctoral work as well as I would like. (1)	<input type="radio"/>	<input checked="" type="radio"/>				
It feels like there is never enough time in the day to fully complete everything I have to do for school, work, and home. (2)	<input type="radio"/>					
I have had issues and/or concerns about my own physical or emotional health while in my nursing doctoral program. (3)	<input type="radio"/>					
Self-neglect has led to physical or emotional health issues for me, while I've been working in my nursing doctoral program. (4)	<input type="radio"/>					
I have been persistently stressed and had very little time for self-care while in my nursing doctoral program. (5)	<input type="radio"/>					
Health issues/concerns of family members have created substantial stress for me during my nursing doctoral program. (6)	<input type="radio"/>					

Q30. Are there any other factors that have impacted your doctoral experience?

APPENDIX D

Recruitment Email

Dear Nursing Dean or Director:

My name is Delene Volkert and I am a PhD in Nursing student at the University of Nevada, Las Vegas. I am conducting a dissertation study entitled *Student motivation, stressors, and intent to leave a nursing PhD or DNP program: a national study using path analysis* that will help build our understanding of the population of PhD and DNP doctoral students. My study is a descriptive survey aimed at determining the support needs of nursing doctoral students. Hopefully, the recommendations can lead to strategies aimed at increasing motivation, persistence and program completion.

As you well know, never in the history of the nursing profession has there been such an exponential explosion in the numbers of doctoral nursing students. Students' in both PhD and DNP programs are rapidly increasing. While the issue of student motivation is always relevant, it has not been studied in nursing PhD or DNP students. We do know that these budding scholars require the support of their programs as they balance the multiple responsibilities of their work, school, and personal lives. Unfortunately, a recent ten-year longitudinal study from the Council of Graduate Schools indicates mean attrition rates in doctoral programs across the U.S. are approximately 43%.

My study has been fully approved by the Institutional Review Board of the University of Nevada, Las Vegas. I plan to use a survey and a path analysis to determine the impact of environmental stressors, as mediated by students' motivational beliefs, on nursing doctoral students' intent to leave their program of study. I will be disseminating preliminary results by the middle of this summer so please e-mail me if you would like to receive those results.

Attached is the link to this study, which I am asking you to forward to all students currently enrolled, either part-time or full-time, in your doctoral nursing program. The survey, completed through Qualtrics, will take approximately 15-20 minutes for students to complete and is completely anonymous. Students will first read an online consent form, if they agree to participate they will be automatically directed to the online survey.

I appreciate your support by forwarding this email and study link to your current nursing doctoral students. Please do not hesitate to let us know if you have any additional questions. Thank you for your consideration!

Sincerely:

Delene Volkert, MSN, RN, CNE
Student Investigator
PhD in Nursing Student
University of Nevada, Las Vegas
Phone number: 775-397-7250

Lori Candela, EdD, RN, CNE, FNP-BC
Principal Investigator
Associate Professor
University of Nevada, Las Vegas
702-895-2443

[Please click here to read the informed consent form for the study and link to the survey](#)

APPENDIX E

Informed Consent



INFORMED CONSENT

Department of Nursing

TITLE OF STUDY: STUDENT MOTIVATION, STRESSORS, AND INTENT TO LEAVE A NURSING PhD OR DNP PROGRAM: A NATIONAL STUDY USING PATH ANALYSIS

INVESTIGATOR(S): Principal Investigator: Lori Candela, EdD, RN, APRN, FNP-BC, CNE Student Investigator: Delene Volkert, MSN, RN, CNE

For questions or concerns about the study, you may contact Lori Candela at 702-895-2443 or Delene Volkert at 775-397-7250.

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted, contact **the UNLV Office of Research Integrity – Human Subjects at 702-895-2794, toll free at 877-895-2794 or via email at IRB@unlv.edu.**

Purpose of the Study

You are invited to participate in a research study. The purpose of this study is to determine (a) what external stressors impact students currently enrolled in PhD or DNP doctoral programs of study, (b) how these stressors are mediated by the students' motivational beliefs, and (c) the impact on the nursing doctoral students' intent to leave their current program of doctoral study.

Participants

You are being asked to participate in the study because you fit this criteria: Doctoral Nursing Students enrolled either part-time or full-time in the coursework phase, dissertation/capstone writing and/or implementation phase in one of the 311 CCNE or ACEN accredited PhD or DNP programs in the United States.

Procedures

If you volunteer to participate in this study, you will be asked to do the following: complete an online survey consisting of 14 demographic questions 56 Likert-style questions and one open-ended question.

Benefits of Participation

There may be no direct benefits to you as a participant in this study. However, you may feel positive about providing input on improving the knowledge base related to the impact of stressors on current nursing doctoral students.

Risks of Participation

There are risks involved in all research studies. This study includes only minimal risks. It is possible that you may feel some discomfort with answering one or more questions in the survey. You may skip any question you choose not to answer. You may also withdraw from the study at any time by simply clicking out of the survey.

Cost /Compensation

There will be no financial cost to you to participate in this study. The study will take 15 – 20 minutes of your time. You will not be compensated for your time.

Confidentiality

All information gathered in this study will be kept as confidential as possible. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility in the office of the principal investigator at UNLV and in the locked office of the student investigator for 3 years after completion of the study. After the storage time the information gathered will be destroyed.

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may skip any question you do not wish to answer. You may withdraw from the study at any time without prejudice to your relations with UNLV. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Participant Consent:

I have read the above information and agree to participate in this study. I am at least 18 years of age. A copy of this form has been given to me. By clicking on the "I agree to participate" link at the bottom of this page, you indicate your consent to participate in this study. You will then be automatically directed to the study survey.

I agree to participate in the study

APPENDIX F

Reminder Email

Dear Nursing Dean or Director:

Several days have passed since I sent you a request for assistance in a research project on the support needs of nursing doctoral students. Thank you so much if you already forwarded this link to students in your DNP and/or PhD programs. If you have not forwarded this information to students, I would be very grateful if you would read on and consider sending this link for students to participate in the study now. If you do not want to receive future email reminders, please choose the “opt-out” link at the bottom of the email.

My name is Delene Volkert and I am a PhD in Nursing student at the University of Nevada, Las Vegas. I am conducting a dissertation study entitled *Student motivation, stressors, and intent to leave a nursing PhD or DNP program: a national study using path analysis* that will help build our understanding of the population of PhD and DNP doctoral students. My study is a descriptive survey aimed at determining the support needs of nursing doctoral students. Hopefully, the recommendations can lead to strategies aimed at increasing motivation, persistence and program completion.

As you well know, never in the history of the nursing profession has there been such an exponential explosion in the numbers of doctoral nursing students. Students’ in both PhD and DNP programs are rapidly increasing. While the issue of student motivation is always relevant, it has not been studied in nursing PhD or DNP students. We do know that these budding scholars require the support of their programs as they balance the multiple responsibilities of their work, school, and personal lives. Unfortunately, a recent ten-year longitudinal study from the Council of Graduate Schools indicates mean attrition rates in doctoral programs across the U.S. are approximately 43%.

My study has been fully approved by the Institutional Review Board of the University of Nevada, Las Vegas. I plan to use a survey and a path analysis to determine the impact of environmental stressors, as mediated by students’ motivational beliefs, on nursing doctoral students’ intent to leave their program of study. I will be disseminating preliminary results by the middle of this summer so please e-mail me if you would like to receive those results.

Attached is the link to this study, which I am asking you to forward to all students currently enrolled, either part-time or full-time, in your doctoral nursing program. The survey, completed through Qualtrics, will take approximately 15-20 minutes for students to complete and is completely anonymous. Students will first read an online consent form, if they agree to participate they will be automatically directed to the online survey.

I appreciate your support by forwarding this email and study link to your current nursing doctoral students. Please do not hesitate to let us know if you have any additional questions. Thank you for your consideration!

Sincerely:

Delene Volkert, MSN, RN, CNE
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Lori Candela, EdD, RN, CNE, FNP-BC
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APPENDIX G

MPlus Analyses Tables

Table A

Demographic Statistics: Means, Standard Deviations, and Percentages

Characteristics of the Doctoral Nursing Student Sample	Mean	SD	<i>n</i>	%
Gender	1.91	.283	835	
Male			73	8.7%
Female			762	91.3%
Age	3.03	1.17	834	
≤ 25 years of age			54	6.6%
26–35 years of age			272	32.6%
36–45 years of age			214	25.6%
46–55 years of age			186	22.2%
56–65 years of age			103	12.3%
> 65 years of age			6	0.7%
Ethnicity	1.43	1.124	835	
Caucasian			700	83.8%
African-American			40	4.8%
Asian-American			27	3.2%
Hispanic/Latino			32	3.9%
Mixed			15	1.8%
Other			21	2.5%
Program type	1.66	.475	834	
PhD			286	34.3%
DNP			548	65.7%
Phase of program	1.45	.498	833	
Coursework			455	54.6%
Capstone/Dissertation			378	45.4%
Enrollment	.146	.499	833	
Full-time			447	53.7%
Part-time			386	46.3%
Hours work weekly	5.60	2.076	833	
1–5 hours			79	9.5%
5–10 hours			36	4.3%
10–15 hours			50	6.0%
15–20 hours			35	4.2%
20–25 hours			79	9.5%
25–30 hours			52	6.2%
30+ hours			502	60.3%
Breaks from active enrollment	1.91	.280	831	
Yes			71	8.5%
No			760	90.8%
Length of break	2.00	1.044	67	
1 semester			30	44.8%
2 semesters			12	17.9%
1–1.5 years			21	31.3%
2–3 years			3	4.5%
> 4 years			1	1.5%
Type of program delivery	2.04	.389	830	
Online			312	37.3%
Traditional			173	20.7%
Hybrid			345	41.2%
Online students' campus requirements	2.81	1.044	495	
Never			72	14.5%
Once a semester			109	22%
2–3 times during the program			155	31.3%
4–5 times during the program			159	32.1%

Note. **n* varied, based on missing data.

Table B

Demographic Statistics: Clinical Background and Past Degrees

Characteristics of the Doctoral Nursing Student Sample	<i>n</i>
Clinical nursing background (select all that apply)*	
ER	124
Medical-surgical	273
Pediatrics	126
OB/Gyn	83
ICU	257
Community Health	113
Other	305
Past nursing degrees (select all that apply)*	
Diploma	64
ADN	159
RN-to-BSN	159
Accelerated BSN	69
BSN	451
MSN	496
Doctoral	24

Note. *Select all that apply questions.

Table C

Demographic Statistics: Categories and Numbers of Participants with Prior Doctoral Degrees

Categories of Participants with Previous Doctoral Degrees	<i>n</i>
Clinical nursing background (select all that apply)*	
Doctor of Nursing Practice (DNP)	8
Doctor of Education (EdD)	2
Nursing Doctorate (ND)	1
PhD other than nursing	3
Not specified	10
Total	24

Table D

Confirmatory Factor Analysis: Correlations for CFA and Model Analyses

	FI	SI	PS	OD	TI	HI	EFS	A	I	U	Eff	Opp	Psy	Int
Financial Issues (FI)	1.00													
Support Issues (SI)	.10	1.00												
Program Stressors (PS)	.49	.14	1.00											
Outside Demands(OD)	.49	.22	.68	1.00										
Time Issues (TI)	.45	.23	.66	.91	1.00									
Health Issues (HI)	.46	.10	.68	.73	.77	1.00								
Expectancies for Success (EFS)	-.15	.02	-.32	-.21	-.21	-.22	1.00							
Attainment Value (A)	-.14	.09	-.35	-.22	-.24	-.29	.32	1.00						
Intrinsic Value (I)	-.24	.13	-.40	-.19	-.22	-.26	.36	.48	1.00					
Utility Value (U)	-.19	.12	-.39	-.20	-.23	-.29	.31	.57	0.72	1.00				
Effort Cost (EFF)	.30	-.05	.56	.37	.38	.45	-.33	-.59	-.57	-.76	1.00			
Opportunity Cost (Opp)	.41	.06	.57	.64	.68	.65	-.21	-.29	-.31	-.31	.52	1.00		
Psychological Cost (Psy)	.37	.12	.66	.58	.60	.62	-.44	-.30	-.37	-.35	.57	.66	1.00	
Intent to Leave (Int)	.17	-.08	.40	.30	.30	.35	-.34	-.42	.36	-.45	.58	.37	.43	1.00
Mean	3.63	4.91	4.15	4.71	4.65	3.94	5.23	5.26	4.78	4.87	2.53	2.85	3.76	1.62
Standard Deviation	1.76	1.36	1.52	1.33	1.33	1.65	.89	.86	1.03	1.09	1.37	1.64	1.47	1.10

Table E

Confirmatory Factor Analysis: Standardized Factor Loadings (in the 14-Factor Model), Sample Means, and Standard Deviations for All Items

Item	Factor Loadings	SD	<i>p</i>
Expectancies for Success (EFS)			
I'm certain I can master the skills taught in this nursing doctoral program.	0.848	.013	.000
I'm certain I can figure out how to do the most difficult doctoral program work.	0.931	.010	.000
I can do almost all the work in the nursing doctoral program if I don't give up.	0.745	.018	.000
I can do even the hardest work in this nursing doctoral program if I try.	0.805	.015	.000
Attainment Value (Val_A)			
Is the amount of effort it will take to do well in your nursing doctoral program worthwhile to you?	0.859	.034	.000
I feel that, to me, being good at solving the problems in my nursing doctoral program is:	0.873	.015	.000
How important is it to you to get good grades in your nursing doctoral courses?	0.662	.028	.000
It is important for me to be someone who is good at solving problems in my nursing doctoral program.	0.798	.018	.000
Intrinsic Value (Val_I)			
In general, I find working on assignments/studying for nursing doctoral courses to be:	0.789	.015	.000
How much do you like your nursing doctoral program?	0.946	.028	.000
Learning the material covered in my nursing doctoral program is enjoyable.	0.935	.007	.000
The concepts and principles taught in my nursing doctoral program are interesting.	0.921	.008	.000
Utility Value (Val_U)			
How useful is your nursing doctoral program for what you want to do after you graduate and go to work?	0.800	.016	.000
How useful is what you learn in your nursing doctoral program for your daily life outside school?	0.707	.020	.000
What I learn in my nursing doctoral program will be useful for me later in life.	.837	.014	.000
Being good at generating and/or translating nursing research will be important when I get a job.	0.610	.025	.000
Effort Cost (CostEff)			
Considering what I want to do with my life, taking nursing doctoral courses is just not worth the effort.	0.806	.016	.000
Taking nursing doctoral courses would not be worth it if I had to work hard after graduating to repay a long-term tuition loan.	0.772	.026	.000
When I think about the hard work needed to get through my nursing doctoral courses, I am not sure that getting a nursing doctoral degree is going to be worth it in the end.	0.809	.015	.000
Taking nursing doctoral courses sounds like it really requires more effort than I'm willing to put into it.	0.789	.015	.000
Opportunity Cost (CostOpp)			
I worry about losing track of some valuable friendships if I'm taking a lot of nursing doctoral courses and my friends are not.	0.666	.021	.000
I'm concerned my nursing doctoral program may cost me some treasured friendships.	0.771	.020	.000
I'm concerned my nursing doctoral program may cause a serious love relationship of mine to suffer.	0.858	.013	.000
I'm concerned my nursing doctoral program may cause my family relationships to suffer.	0.874	.015	.000
Psychological Cost (CostPsy)			
My self-esteem would suffer if I tried in my nursing doctoral program and was unsuccessful.	0.793	.023	.000
I would be embarrassed if I found out that my work in my nursing doctoral program was inferior to that of my peers.	0.770	.024	.000
I'm concerned that I won't be able to handle the stress that goes along with my nursing doctoral program.	0.859	.017	.000
It frightens me that my nursing doctoral courses are harder than courses required for other programs that could advance my career.	0.729	.021	.000
Intent to Leave (Intent)			
At the present time, I am likely to leave my nursing doctoral program.	0.834	.015	.000
It is UNLIKELY that I will leave my nursing doctoral program before I graduate.	0.774	.020	.000
I am likely to leave my nursing doctoral program eventually.	0.825	.015	.000
At the present time, I am likely to remain in my nursing doctoral program.	0.841	.014	.000

	Item	Factor Loadings	SD	<i>p</i>
Financial Issues				
	The high cost of tuition/education has caused me stress during my nursing doctoral program.	0.891	.010	.000
	I worry constantly about the debt I've incurred while enrolled in my nursing doctoral program.	0.873	.011	.000
	Not working or working less during my nursing doctoral program has caused financial stress.	0.589	.025	.000
	Paying for my doctoral program tuition has caused substantial financial stress.	0.882	.011	.000
Support Issues				
	Support from my family has been critical to my success in my nursing doctoral program.	0.738	.024	.000
	I would not be successful without support from a committed spouse/partner.	0.746	.023	.000
	I wouldn't be successful in my nursing doctoral program without support from my friends and family.	0.759	.022	.000
Program Stressors				
	The overwhelming nature of my capstone or dissertation phase has caused me stress.	0.781	.028	.000
	Differing expectations between myself and program faculty/adviser(s) has caused me stress during my nursing doctoral program.	0.650	.027	.000
	Working in isolation during my nursing doctoral coursework, or in my capstone or dissertation phase has caused me stress.	0.702	.025	.000
Outside Demands				
	The conflict I feel between school and other responsibilities has caused high amounts of stress for me.	0.869	.011	.000
	The needs of my family have caused stress for me while in my nursing doctoral program.	0.790	.015	.000
	The competing responsibilities as student and also employee, friend, family member, and/or parent/caretaker have caused stress for me while in my nursing doctoral program.	0.883	.010	.000
	Self-sacrifice is the only way I can meet all the demands placed on me at this time.	0.680	.021	.000
Time Issues				
	My nursing doctoral program doesn't allow me to spend enough time with my friends and family.	0.769	.017	.000
	It is hard to balance the time that I spend on work, school, and family responsibilities.	0.862	.013	.000
	I often don't have enough time to complete my nursing doctoral work as well as I would like.	0.623	.024	.000
	It feels like there is never enough time in the day to fully complete everything I have to do for school, work, and home.	0.717	.019	.000
Health Issues				
	I have had issues and/or concerns about my own physical or emotional health while in my nursing doctoral program.	0.842	.012	.000
	Self-neglect has led to physical or emotional health issues for me, while I've been working in my nursing doctoral program.	0.917	.008	.000
	I have been persistently stressed and had very little time for self-care while in my nursing doctoral program.	0.907	.009	.000
	Health issues/concerns of family members have created substantial stress for me during my nursing doctoral program.	0.630	.023	.000

Note. *Confirmatory factor analysis.

Table F

Confirmatory Factor Analysis: Cronbach's Alpha Reliability Scores for Survey Scale/Subscales

Item Constructs	Number of Items	Cronbach's Alpha
Expectancies for Success (EFS)	4	.914
Attainment Value (Val_A)	4	.821
Intrinsic Value (Val_I)	4	.894
Utility Value (Val_U)	4	.815
Effort Cost (CostEff)	4	.804
Opportunity Cost (CostOpp)	4	.785
Psychological Cost (CostPsy)	4	.735
Intent to Leave (Leave)	4	.788
Financial Issues	4	.878
Support Issues*	3	.743
Program Stressors*	3	.726
Outside Demands	4	.851
Time Issues	4	.738
Health Issues	4	.889
Total	54	.816

Note. *Question 25.6 (support construct) and Question 27.1 (program construct) dropped for poor loading.

Table G

Environmental Stressors: Means, Standard Deviations, and Effect Sizes

Question Number and Subscale	Means	SD	F	p	Effect Size
24.5 Financial	4.08	1.745	5.171	.001**	.013
24.6 Financial	3.50	1.777	7.188	.000**	.013
25.1 Financial	19.59	125.889	2.340	.047*	.018
25.2 Financial	7.29	60.867	2.088	.049*	.007
25.3 Support	5.11	1.328	1.779	.035*	.204
25.4 Support	12.14	85.803	1.805	.025*	.106
25.5 Support	4.86	1.325	1.774	.036*	.168
26.1 Program	23.31	118.399	.939	.044*	.470
27.2 Program	6.34	49.723	6.886	.038*	.680
27.3 Program	13.56	99.053	1.828	.021*	.240
28.1 Outside	5.88	35.160	1.668	.048*	.006
28.2 Outside	9.33	70.171	.915	.046*	.006
28.3 Outside	7.41	49.656	3.880	.004**	.008
28.4 Outside	9.85	70.130	3.359	.010*	.015
28.5 Time	5.59	35.171	2.414	.048*	.006
28.6 Time	7.28	49.664	1.188	.026*	.008
29.1 Time	4.39	1.471	18.083	.000**	.015
29.2 Time	5.04	1.186	13.127	.000**	.012
29.3 Health	5.50	35.187	8.932	.000**	.018
29.4 Health	5.05	35.205	13.571	.000**	.006
29.5 Health	6.59	49.707	2.035	.049*	.004
29.6 Health	3.57	1.696	8.695	.000**	.005

Note. *Significant at $p < .05$

**Significant at $p < .01$.

Table H

*Subresearch Question 2a: PhD/DNP – All Survey Questions by Subgroup
with Significance and Effect Sizes*

	PhD		DNP		F	Statistical Differences		
	M	SD	M	SD		<i>p</i>	Cohen's <i>d</i>	<i>r</i>
Environmental Stressors								
24.5 Financial	3.64	1.757	4.31	1.699	2.638	.105	.387	.191
24.6 Financial	3.12	1.796	3.70	1.741	.627	.429	.322	.159
25.1 Financial	21.59	134.012	18.56	121.620	.477	.490	.023	.012
25.2 Financial	10.46	85.254	5.67	43.302	.627	.018*	.071	.035
25.3 Support	5.11	1.295	5.13	1.346	.213	.645	.015	.007
25.4 Support	12.06	85.116	12.19	86.235	.004	.948	.002	.001
25.5 Support	4.90	1.345	4.84	1.315	.442	.506	.045	.023
26.1 Program	23.50	131.207	22.93	111.686	3.691	.055	.006	.003
27.2 Program	7.61	60.356	5.69	43.301	.848	.357	.037	.018
27.3 Program	14.81	104.141	12.92	96.428	.179	.672	.019	.010
28.1 Outside	4.74	1.358	6.47	43.257	1.040	.308	.056	.028
28.2 Outside	8.11	60.323	9.96	74.778	.575	.448	.027	.014
28.3 Outside	8.64	60.285	6.78	43.237	.918	.338	.035	.018
28.4 Outside	4.88	1.28	12.40	86.208	7.345	.007*	.123	.061
28.5 Time	4.38	1.419	6.22	43.268	.958	.328	.060	.030
28.6 Time	8.60	60.286	6.60	43.249	.917	.339	.038	.019
29.1 Time	4.59	1.385	4.28	1.503	5.355	.021*	.214	.107
29.2 Time	5.18	1.067	4.96	1.236	5.119	.024*	.191	.095
29.3 Health	4.53	1.612	6.00	43.288	.844	.358	.048	.024
29.4 Health	7.65	60.356	3.71	1.688	4.997	.026*	.092	.047
29.5 Health	4.26	1.585	7.78	61.140	2.787	.095	.081	.041
29.6 Health	3.80	1.705	3.45	1.680	.939	.848	.205	.102
Value Mediators								
16.1 EFS	5.17	1.017	8.97	61.054	3.388	.026*	.088	.044
16.2 EFS	5.01	10.45	6.92	43.225	1.331	.049*	.061	.030
16.3 EFS	8.99	60.258	5.41	.751	6.568	.010**	.084	.420
16.4 EFS	5.28	9.26	7.19	43.211	1.362	.044*	.061	.031
17.1 Val_A	8.78	60.271	5.22	.891	6.385	.012*	.084	.042
17.2 Val_A	8.86	60.264	12.74	86.173	1.753	.186	.052	.026
17.3 Val_A	5.11	.962	5.38	.822	.293	.588	.302	.149
17.4 Val_A	5.31	.876	5.37	.768	2.713	.890	.073	.036
18.1 Val_I	4.95	.889	6.62	43.240	1.472	.025*	.055	.027
19.2 Val_I	4.81	1.255	4.72	1.141	.354	.552	.075	.038
20.1 Val_I	4.80	1.255	4.65	.981	2.404	.121	.133	.664
20.2 Val_I	8.65	60.279	4.77	.960	6.305	.012*	.091	.045
21.1 Val_U	5.21	.971	5.10	1.090	1.968	.161	.107	.053
21.2 Val_U	4.00	1.277	4.39	1.160	.214	.644	.320	.158
21.3 Val_U	5.12	1.00	7.05	43.220	1.326	.250	.063	.032
21.4 Val_U	8.91	60.262	4.80	1.190	5.989	.015*	.096	.048
Cost Mediators								
22.1 CostEff	2.02	1.215	5.79	61.254	3.215	.073	.087	.043
22.2 CostEff	14.61	104.162	3.29	1.611	21.055	.000**	.154	.077
22.3 CostEff	2.67	1.585	4.45	43.347	.987	.321	.058	.029
22.4 CostEff	9.47	85.331	9.60	86.451	.004	.948	.002	.001
22.5 CostOpp	3.10	1.783	2.70	1.603	8.798	.003**	.236	.117
22.6 CostOpp	2.76	1.668	2.44	1.529	7.043	.008**	.200	.100
23.1 CostOpp	2.94	1.689	2.76	1.597	1.592	.207	.109	.055
23.2 CostOpp	3.31	1.688	3.13	1.629	.777	.378	.109	.054
23.3 CostPsy	4.67	1.488	6.52	43.257	.962	.327	.060	.030
23.4 CostPsy	4.45	1.379	4.23	1.401	.073	.787	.158	.079
23.5 CostPsy	3.37	1.550	3.13	1.466	2.259	.133	.159	.079
23.6 CostPsy	10.11	85.281	2.85	1.483	13.235	.000**	.120	.060

Note. Total *n* = 835; PhD *n* = 286, DNP *n* = 549. *Significant at *p* < .05; **Significant at *p* < .01.

APPENDIX H

Final Models

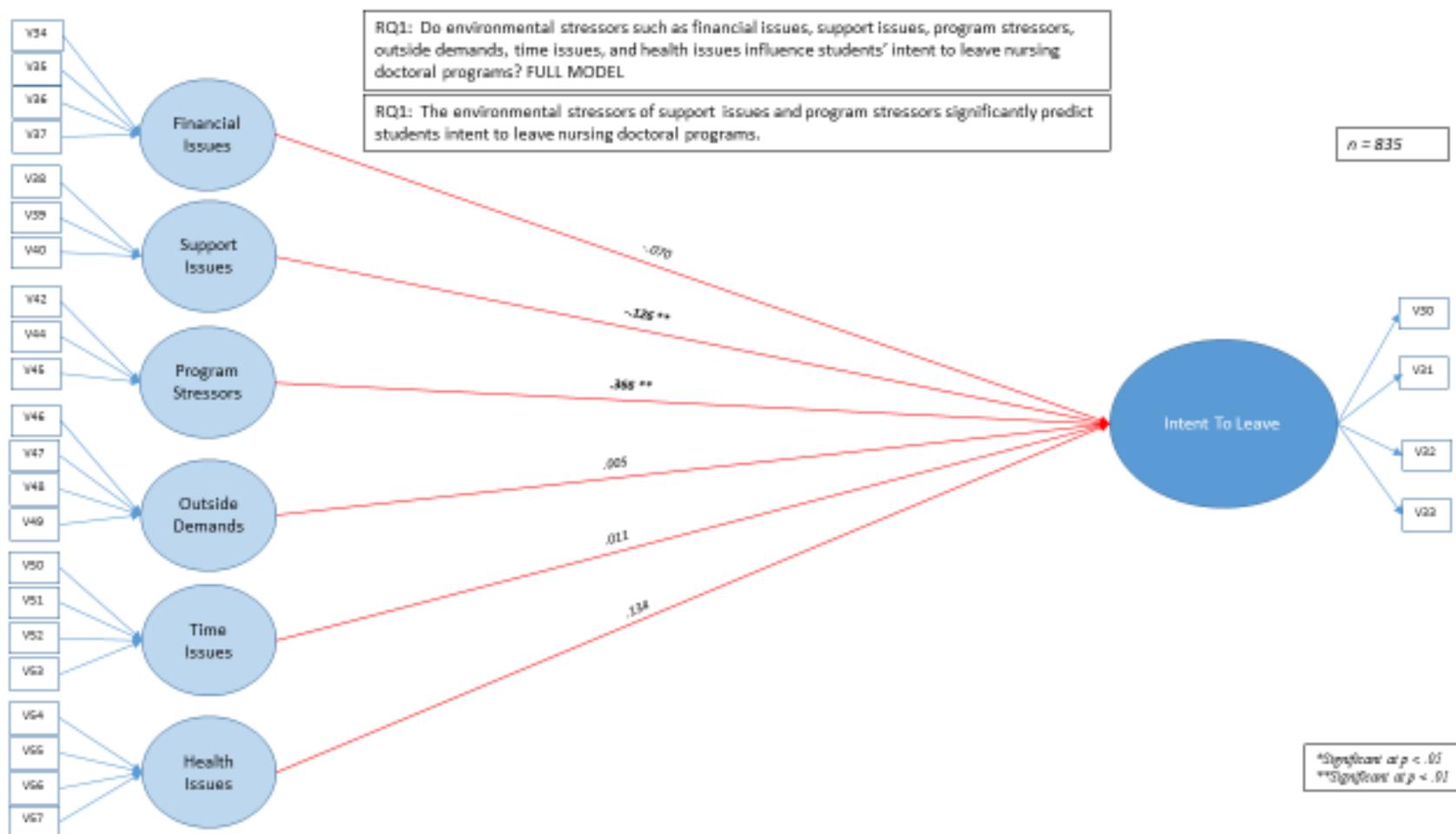


Figure 12. Research Question 1 full model.

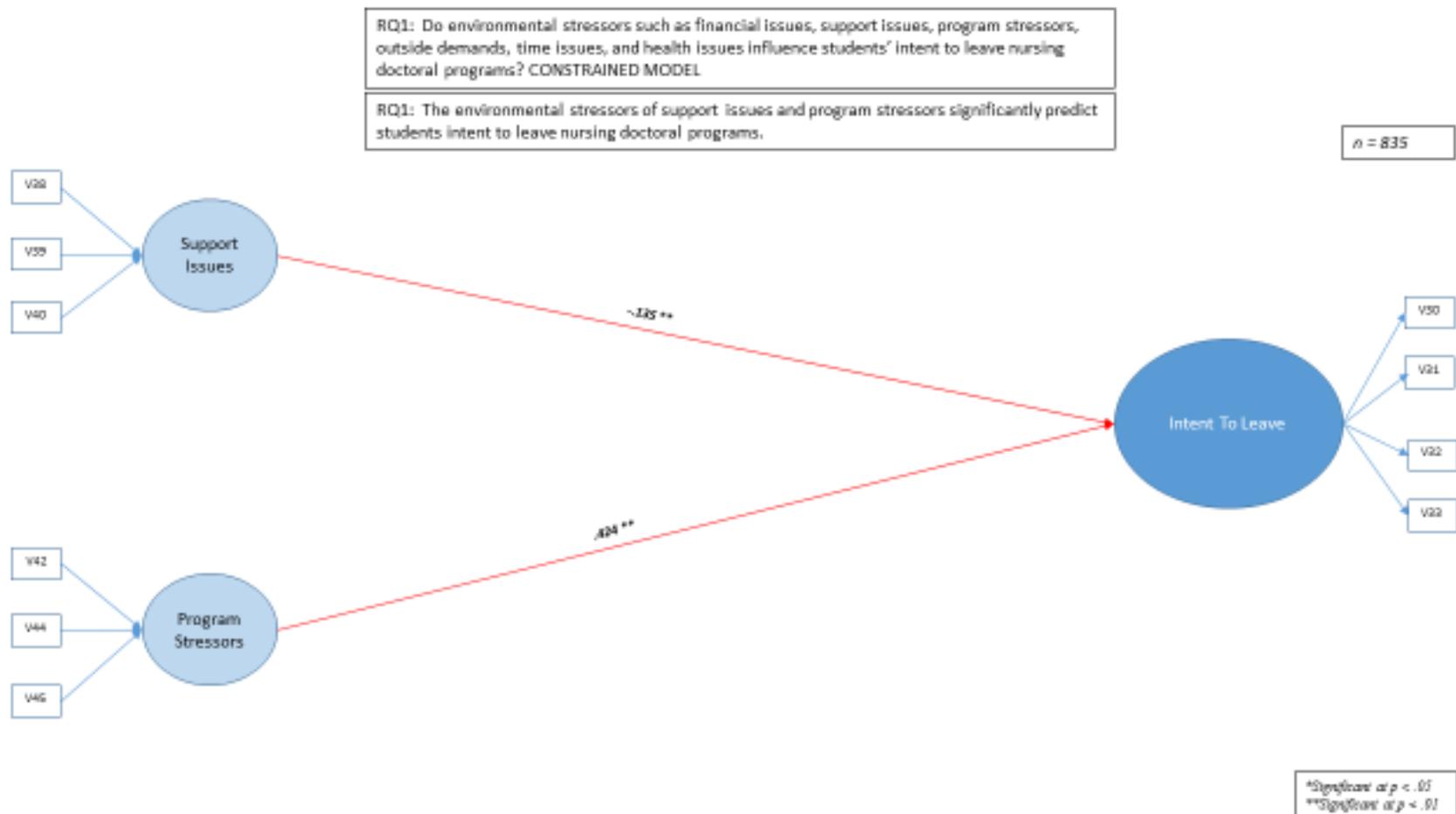


Figure 13. Research Question 1 constrained model.

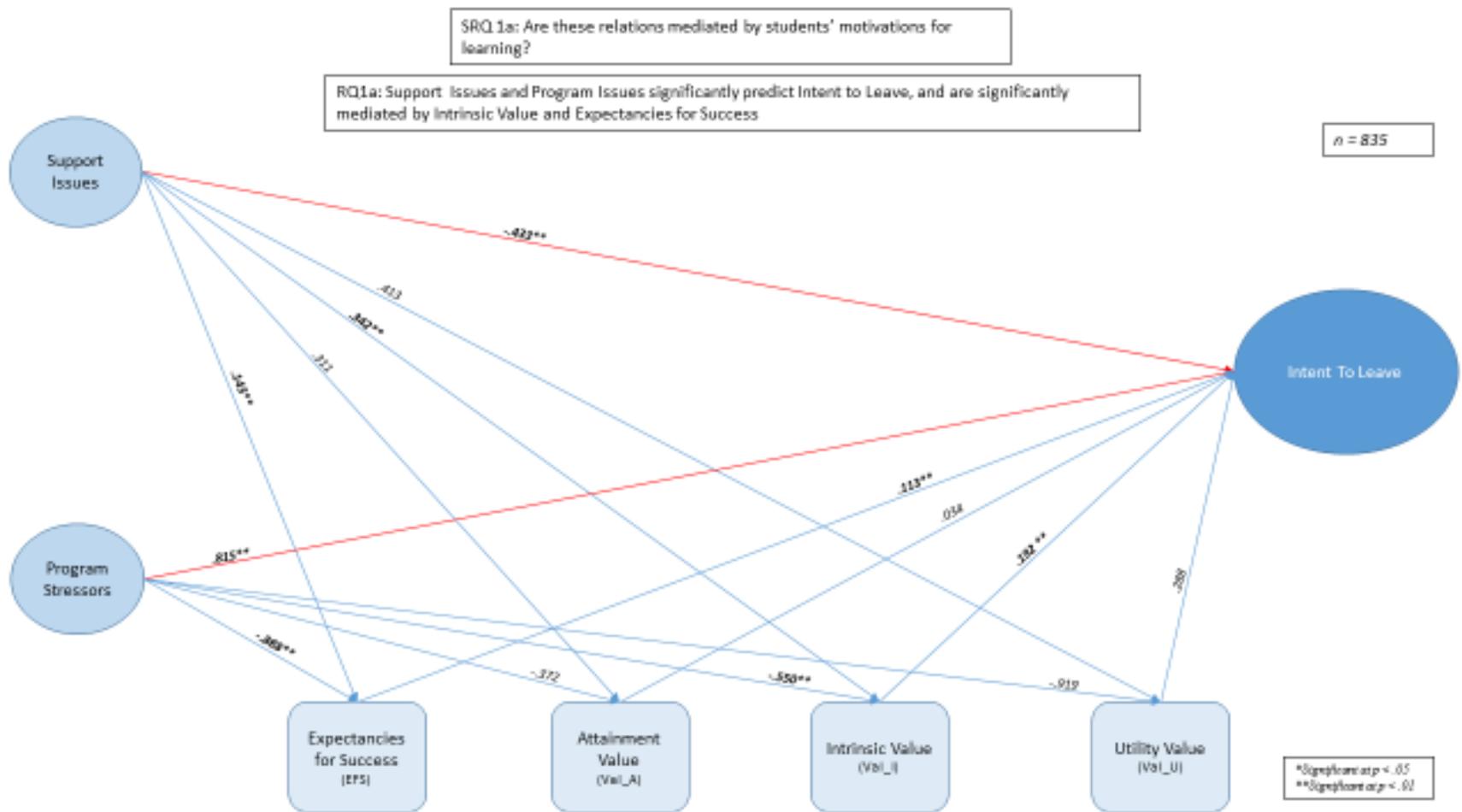


Figure 14. Subresearch Question 1a model.

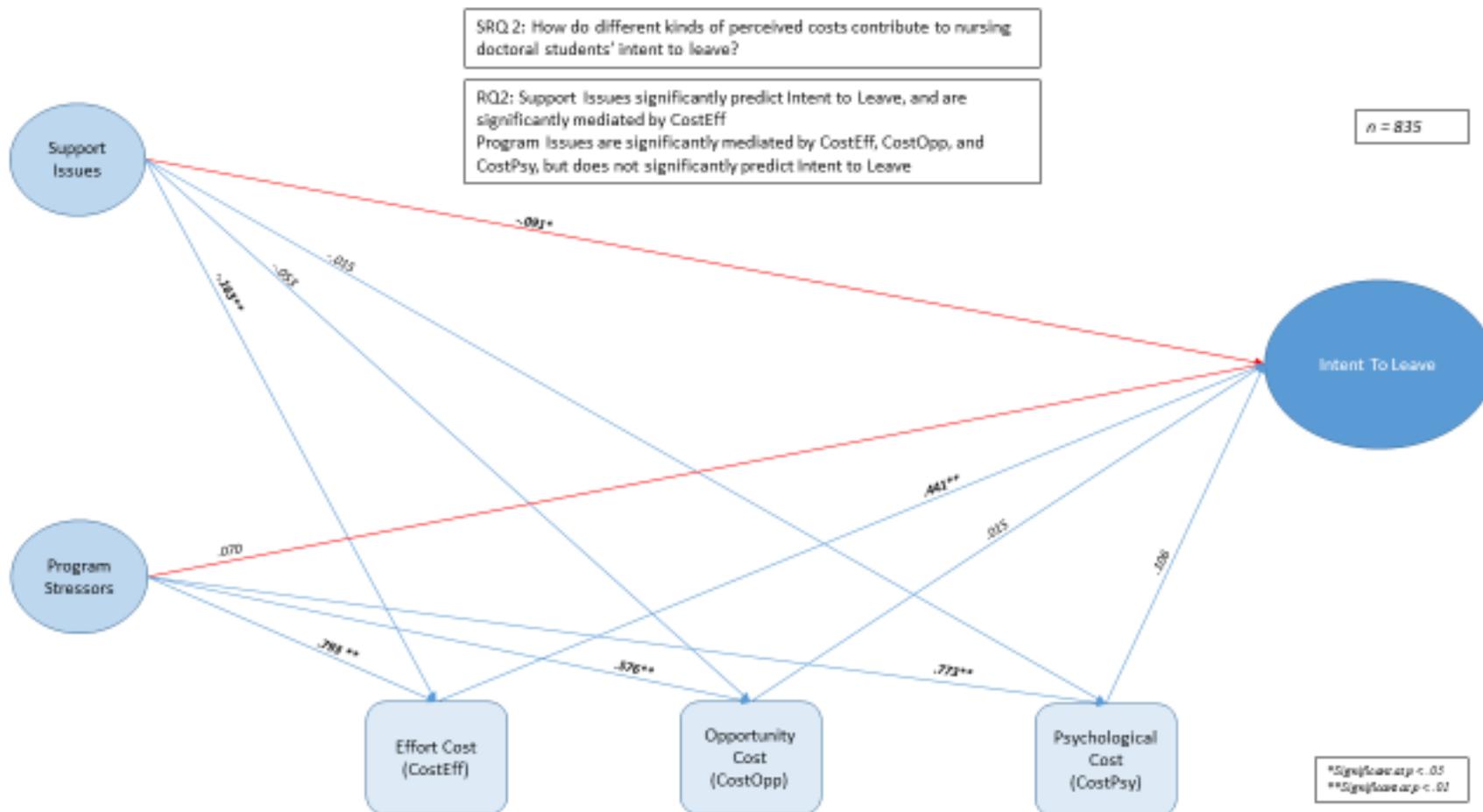


Figure 15. Research Question 2 model.

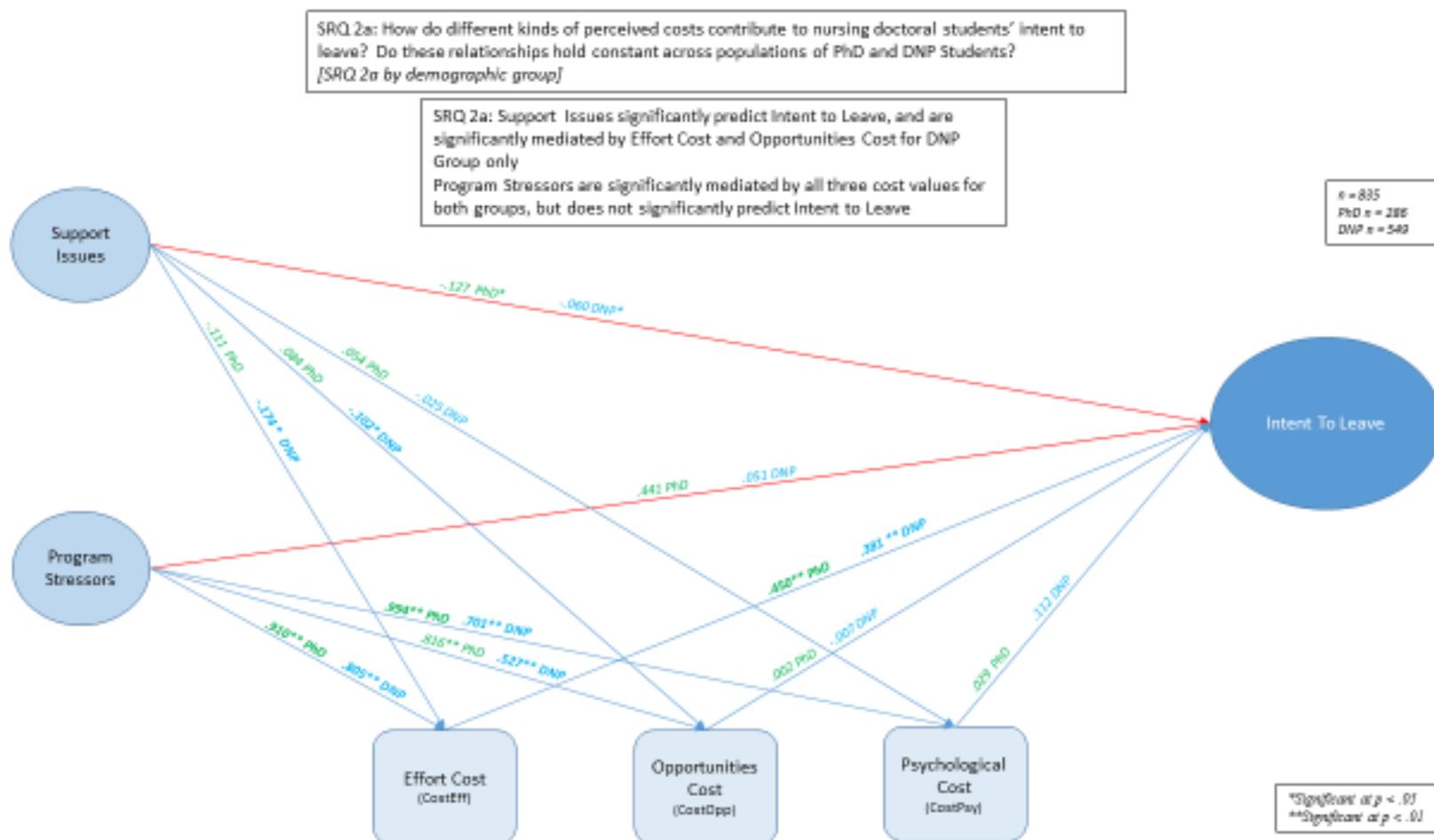


Figure 16. Subresearch Question 2a model.

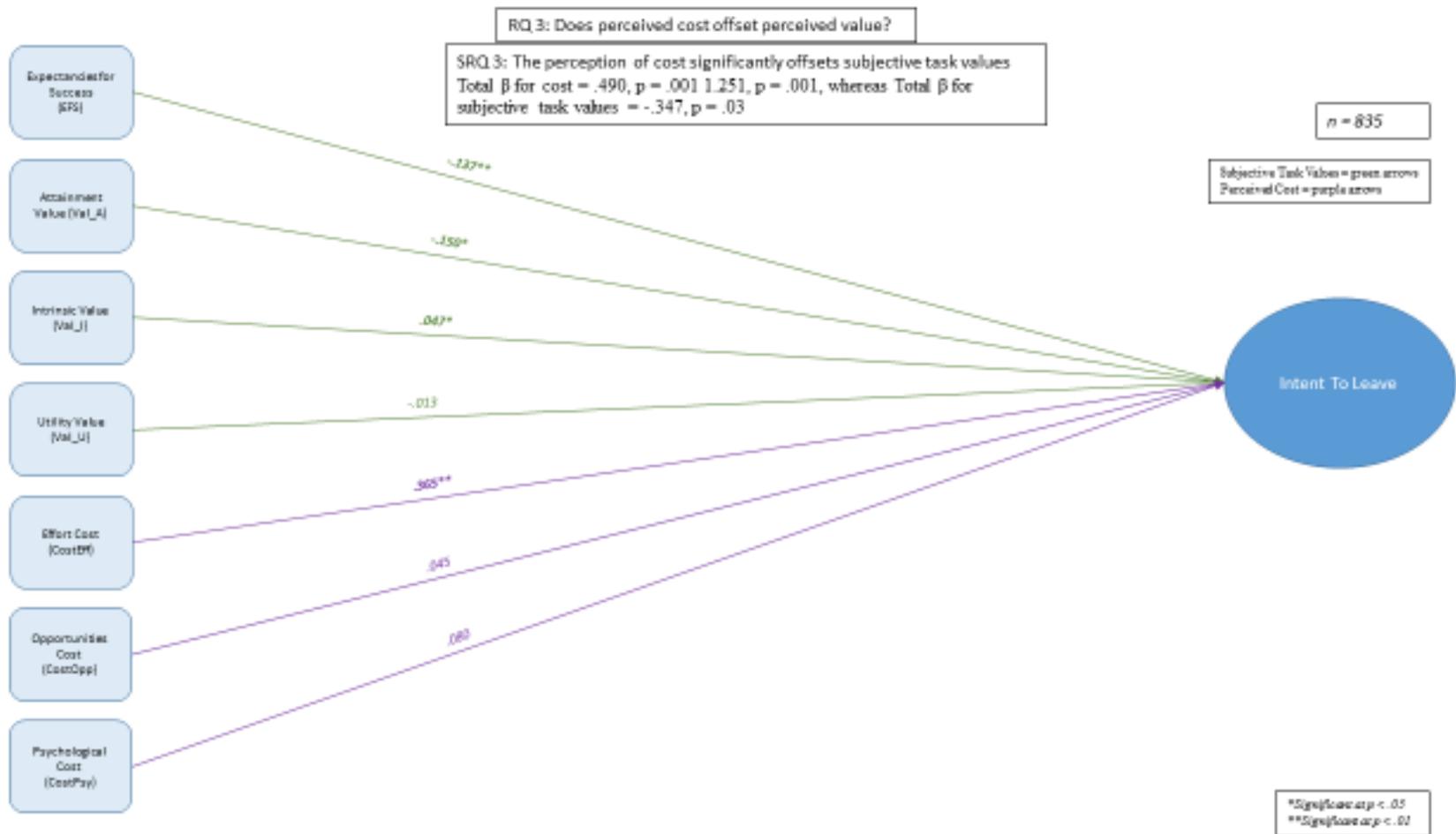


Figure 17. Research Question 3 model.

APPENDIX I

Content Analyses Tables

Table I

Open-Ended Questions, Frequency of Themes Across Groups – Full Sample

Categories	Number of Responses
Financial Issues	35
Support Issues	66
Program Stressors	135
Outside Demands	66
Time Issues	19
Health Issues	45
Total	366

Note: Positive comments included in number of responses

Table J

Positive Comments, Sorted by Category and Subcategory for Support Issues

Category/Subcategory	Number of Comments
Financial Issues	10
Program Stressors	4
Outside Demands	2
Time Issues	0
Health Issues	2
Support Issues Total	20
Peer/Cohort*	(6)*
Advisor/Faculty*	(7)*
Work*	(1)*
Family/Friends*	(6)*
Total	38

**Subcategories comments for support issues added on in support issues total*

Table K

Content Analysis: Program Stressors – Sample Statements

<p>“I have had a poor relationship with my advisor/dissertation chair. This has led to increased stress and conflict. I think about quitting this program daily.” Feeling of isolation”</p> <p>“It is a very long time to be this stressed. I do not think my professors understand this type of stress, especially the isolation.”</p> <p>“Inconsistent and competing faculty expectations across the program.”</p> <p>“Sense of indifference or even hostility from faculty. Very few faculty involved so one or two negatives have a huge impact.”</p> <p>“One thing I think that can also affect doctoral students is the degree of match between the advisor's research and the student's research. If there is not a good match, then it might be more frustration with both the student and advisor being on a learning curve in the content area, rather than just the student on the learning curve.”</p>
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Table L

Content Analysis: Financial Issues – Sample Statements

“I personally have reached the maximum federal student loan amount that is allowed and private loans, despite having received well over \$200,000 altogether in scholarships, GA positions, fellowships and community childcare support during my 8 years of continuous nursing school.”

“Giving up a high paying job to take a lower paying job to accommodate the hours the program is available for live classes.”

“Oldest child started college and that has added to the financial—working one full time and two part time jobs.”

“The biggest stress is the lack of financial support from the academic institution I’m enrolled in and the loan burden that will be awaiting me upon completion. Most times I feel like I could toss the towel and choose a clinical position that doesn’t have the pressures of a terminal degree.”

“You have to be poor and study only. We’re shooting ourselves in the foot to make it so hard for anyone who is not 23, single and doesn’t mind being poor.”

Table M

Content Analysis: Support Issues – Sample Statements

“Lack of understanding from family of what I am doing.”

“Friends are angry that I am not available for fun.”

“My partner of 10 years [sic] left me during my second year causing a personal earthquake.”

“All of my classmates are at a different life stage than I am and are more established, so I don’t feel I have the camaraderie that I had hoped for.”

“Lack of support from some faculty.”

Table N

Content Analysis: Outside Demands – Sample Statements

“I sacrifice sleep to work on school assignments. This leads me no tie to spend with family before I depart for military duty. When I return home from military obligations, I am exhausted. I then have to sacrifice sleep again to catch-up. I once again neglect family in order to focus on school.”

“Being on call in addition to 40 hours of work.”

“Aging parents and children all needing financial help and other support.”

“The unbalance between school and personal life causes so much stress I believe I will be divorced after 22 years marriage. I feel like I need drugs to stay up 24/7 to complete it all.”

“It’s difficult to maintain full engagement with the courses and find time to interact with my peers but I manage it (often by sacrificing self-care).”

Table O

Content Analysis: Time Issues – Sample Statements

“I have to work greater than 40 hours per week to keep up with my job duties, which leaves little time for school.”

“For the first three semesters of my PhD program, I was working full-time on nightshift as a staff nurse as an ER/trauma nurse. I found myself very stressed and with little time for anything besides school and work.”

“Balancing home, work, school, and financial responsibilities. Time is precious and scarce.”

“Two young children ages 6 and 8 require a lot of my time!”

“Mostly family—having two children makes it hard and oftentimes I feel extremely ‘spread thin’.”

Table P

Content Analysis: Health Issues – Sample Statements

“Pregnancy and delivery of first child; mother diagnosed with cancer; father had endarterectomy for TIAs; my health has plummeted due to lack of time for exercise, resorting to eating fast food to save time, and constant stress; sleep deprivation; health issues.”

“My husband had a heart attack, my father was diagnosed with brain cancer and then died. I accidentally killed my cat in the garage door because I was in a rush to take my online pharmacology final. I’ve started smoking cigarettes after quitting for 3 years and drink alcohol every night.”

“Death of my mother; children not sleeping.”

“Diagnosed with cancer, had surgery, chemo, and radiation. Continued my doctoral studies but with lighter load during treatment.”

“Caring for dying loved one; family member with addiction issues.”

Table Q

Content Analysis: DNP Issues Comments

“Poor guidance from project advisor, who has PhD and is not as familiar with the DNP project process.”

“The AACN white paper changes caused confusion among students as to what our DNP projects should be. This led to a delay in the process which heightened stress levels.”

“Not enough DNP faculty. PhD faculty do not think like the DNP and it’s difficult to reach common ground. In addition, faculty support and encouragement is often lacking from the PhDs. It’s almost as if DNP is inferior.”

“The lack of DNP chairs and committee members to advise DNP students. Expectations regarding capstones and thesis are different for PhD versus DNP, but most chairs and committee members are PhD and therefore cause confusion when selecting and conducting the final project.”

“Funding/resource issues with my Capstone community partner.”

“Having to find my own preceptor is insane. It is unethical so many programs require students to find their own placement. This is the aspect I am most irritated by. Pursuing a doctorate is difficult enough, without the added pressure of securing your own clinical site.”

“Difficulty finding clinical experiences on my own; everything about the Capstone.”

“Responsibility of setting up clinical schedule.”

“Finding my own preceptors for all clinical hours is very stressful, and could result in my leaving the program.”

“Health care facilities in the area do not know much about DNPs or Capstone. It was difficult to ‘trail blaze’ this new degree on top of navigating graduate school and home life responsibilities. Capstone is very difficult and I did not feel like I was well supported from faculty or the clinic site where I performed my project.”

“Finding preceptors was like pulling teeth and I still do not have any for fall residency yet. I just do not understand why students have to do so much work to find preceptors, course work, clinical, RISE, CSI and everything else. I think preceptors should have already been in the works or process when students were admitted into the program, not make the students find their own. Finding my own preceptors has been just about the most stressful part of this project. Very upset about that.”

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CURRICULUM VITAE

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EDUCATION

2016	PhD , Nursing Education, University of Nevada, Las Vegas (Anticipated summer 2016)
2012	MSN , Nursing, Specialization in Education, Walden University (<i>Summa cum laude</i>)
2010	BSN , Great Basin College (<i>Magna cum laude</i> , Dean's List – four semesters)
2002	AAS , Nursing (<i>Magna cum laude</i> , Dean's List – four semesters)

TEACHING BACKGROUND

2016	Online Adjunct Instructor Linfield College Portland, OR <ul style="list-style-type: none">Teach NURS 321 (RN-BSN): Evidence-Based Nursing (2 3-credit sections).
2014 – 2015	Online Adjunct Instructor Nevada State College Henderson, NV <ul style="list-style-type: none">Taught NURS 310 (RN-BSN): Cultural Diversity in Healthcare (3 credits).
2014	Online Theory Instructor, Graduate Assistant University of Nevada, Las Vegas Las Vegas, NV <ul style="list-style-type: none">Taught NURS 299: Nutrition and Development across Lifespan (prenursing course).
2013, 2011, 2010	Volunteer Trainer Horizon Hospice Mobile, AL <ul style="list-style-type: none">Trained hospice volunteers in expectations and boundaries for end-of-life patients and their families, as well as daily living activities for patients.
2011 – Present	Faculty, Nursing Department Great Basin College Elko, NV <ul style="list-style-type: none">Teach didactic, clinical, and lab courses to first- and second-year AAS-RN students and first- and second-year online RN-BSN students.Fulfill various roles, including Online Theory Instructor & Co-Instructor, Online Practicum Instructor, Lab Instructor, Clinical Instructor, Online Teaching Assistant, and Adjunct Assistant. Courses range from 2-4 credits.Courses include:

- **NURS 443** (RN-BSN): Nursing Leadership and Management Theory, *Fall 2015*.
- **NURS 429** (RN-BSN): Community Health Nursing in the Rural Setting, *Fall 2012, Fall 2013, Fall 2014, and Spring 2015*.
- **NURS 436** (RN-BSN): Community Health Nursing in the Rural Setting Practicum, *Fall 2014, Spring 2015*.
- **NURS 159** (AAS-RN): Nursing Care of Individuals with Mental Health Problems, *Spring 2015*.
- **NURS 135** (AAS-RN): Fundamental Concepts Nursing, *Fall 2011 - 2014*.
- **NURS 420** (RN-BSN): Evidence-Based Practice and Research in Nursing, *Fall 2014*.
- **NURS 158** (AAS-RN): Building on Fundamentals of Nursing, *Spring 2012 - 2015*.
- **NURS 303** (AAS-RN): Health and Physical Assessment, *Spring 2014*.
- **NURS 257** (AAS-RN): Nursing Process throughout Lifespan III, *Fall 2011 - 2013*.
- **NURS 241** (AAS-RN): Nursing Process in Mental Health, *Fall 2012, 2013*.
- **NURS 285**: Train the Trainer, *Spring 2013, Fall 2013*.
 - Nevada State Board of Nursing (NSBN) designated course as required for Registered Nurses to attain a Certified Nursing Assistant Instructor License. This course was a hybrid class, with 75% online component.
- **NURS 130**: Certified Nursing Assistant, *Summer 2012*.
 - Three week, fast track CNA class. Developed and introduced online component making this a hybrid course instituted at all five GBC campuses.
- **NURS 429** (RN-BSN): Community Health in Nursing in the Rural Setting, *Fall 2011*.
- **NURS 258** (AAS-RN): Nursing Process throughout Lifespan IV.
 - MSN Practicum Experience, *Spring 2012*; Master's project and practicum completed in conjunction with instruction of this class. Master's project topic: Inquiry Based Learning; this course utilized this teaching method.
- Developed curriculum for:
 - **NURS 443** (RN-BSN): Nursing Leadership and Management Theory, developed *Spring 2015*.
 - **NURS 449** (RN-BSN): Nursing Leadership and Management Practicum, developed *Fall 2015*.
 - **NURS 429** (RN-BSN): Population-Focused Community Health Nursing, developed *Fall 2014*.
 - **NURS 436** ((RN-BSN): Population-Focused Community Health Practicum, developed *Fall 2014*.
 - **NURS 420** (RN-BSN): Evidence-Based Practice and Research in Nursing, developed *Spring 2014*.
 - **NURS 285** - Train the Trainer, developed into a hybrid course Fall 2013 (NSBN designated course, 1 credit)

- **NURS 130** - Developed and introduced online component making this a hybrid course instituted at all five GBC campuses Summer 2012. (NSBN designated CNA course)

2011

Nursing Staff Trainer

Golden Health Clinic | Elko, NV

- Designed and implemented annual training for registered nurses, licensed nurses, and medical assistant staff.
- Training included EKG, IV starts, infusion management, assessment, PFT, hearing tests, adult and child immunization, and nebulizer treatments.

PROFESSIONAL EXPERIENCE

1/2016 – Present

Nursing Faculty, Adjunct

Linfield College | Portland, OR

- Teach online RN-BSN courses.
- Oversee courses through use of discussion boards, assignments, and grading.

8/2015 – Present

Nursing Faculty, Part-Time

Great Basin College | Elko, NV

- Teach online RN-BSN courses.
- Develop RN-BSN curriculum; participate in departmental oversight through committee engagement.

1/2014 – Present

Nursing Faculty, Adjunct

Nevada State College | Henderson, NV

- Instruct online RN-BSN students and general online students (core diversity course).
- Oversee courses through use of discussion boards, assignments, and grading.

9/2013 – 8/2015

Nursing Faculty, Full-Time

Great Basin College | Elko, NV

- Taught RN-BSN and AAS-RN courses both online, in classroom (including using interactive video), and in clinical settings.
- Developed curriculum and participated in department oversight and committee work; conducted extensive curriculum revision of both programs.

6/2012 – 9/2013

Nursing Faculty, Part-Time; CNA Program Coordinator, Part-Time

Great Basin College | Elko, NV

- Taught online, classroom, and clinical RN-BSN/AAS-RN courses.
- Acted as part-time CNA Program Coordinator as detailed below.
- Participated in curriculum development and departmental administration through committee appointments.

9/2011 – 9/2013

CNA Program Coordinator, Full-Time

Great Basin College | Elko, NV

- Scheduled CNA classes for five GBC campuses.

- Oversaw financial and budget management of CNA program; recruited, trained, and supervised all CNA instructors.
- Ensured compliance with all State Board training and accreditation.
- Managed State CNA testing at all campuses, including training evaluators.
- Taught RN-BSN and AAS-BSN lab and clinical courses (2012 – 2013).

2/2011 – 9/2011

Clinical Services Manager

Golden Health Clinic | Elko, NV

- Trained, scheduled, and supervised all RN, LPN, MA, and Lab/Radiology staff.
- Coordinated safety and OshaGuard information for medical site.
- Collaborated with Site Medical Director and Health Center Manager for quarterly/annual site audits.
- Planned annual staff education day and monthly competency training for clinical staff.
- Handled disciplinary actions in conjunction with Human Resources.
- Conducted monthly clinical, Risk Management, and Occupational reporting.

1/2010 – 2/2011

Clinical Supervisor

Home Care Plus | Elko, NV

- Oversaw all RN/CNA clinical staff.
- Scheduled home visits with RN/CNA staff.
- Interfaced with MD offices and community agencies.
- Completed Medicare recertification for all clients.

11/2007 – 1/2010

Emergency Department RN (Per Diem)

Northeastern Nevada Regional Hospital | Elko, NV

- Conducted physical and psychosocial assessments of clients of all ages.
- Performed all skilled nursing procedures as ordered by an MD.

8/2006 – 5/2008

Substitute School Nurse (Per Diem)

Elko County School District | Elko, NV

- Administered medication to students and performed any skilled procedures necessary.
- Provided emergency and first-aid care to students and staff.

5/2006 – 11/2007

RN Case Manager, Part Time

Home Health Services of Nevada | Elko, NV

- Provided physical and psychosocial assessments in a home setting.
- Managed client care plans, including coordinating care with community services and therapy/MD offices and managing client medication.
- Submitted documentation of Medicare certification.

12/2002 – 5/2006

RN Case Manager and Clinical Supervisor

Home Care Plus | Elko, NV

- RN Case Manager (Part Time) from 6/2005 – 5/2006: assessed clients in home setting and managed their care plans (coordinating care and managing medications).
- Clinical Supervisor (Full Time) from 12/2002 – 6/2005: supervised RN/LPN clinical staff, scheduling RN/LPN/CAN home visits;

coordinated with other offices for care plans and submitted Medicare documentation.

- 5/2002 – 12/2002 **Preoperative/Postoperative RN (Part Time)**
Great Basin Surgical Center | Elko, NV
- Assessed pre- and post-operative patients and completed home care instructions.
 - Scheduled medication orders and post-operative follow-up visits with MDs.
- 5/2002 – 11/2002 **Medical/Surgical RN, Per Diem**
Northeastern Nevada Regional Hospital | Elko, NV
- Assessed and cared for 6-8 medical/surgical patients.
 - Managed all medications and coordinated with MD offices for care plans.
- 5/2002 – 11/2002 **Medical/Surgical Ward Clerk, Part Time**
Northeastern Nevada Regional Hospital | Elko, NV
- Monitored charts, conducted clerical duties, including paperwork management.
 - Assisted physicians and nurses.

PUBLICATIONS & PRESENTATIONS

Volkert, D., (2016). *Literature review of environmental stressors for nursing doctoral students.* Poster Presentation at Western Institute of Nursing Annual Communicating Nursing Research 2016 Conference.

Volkert, D., & Smith, P. (2015). *How the National League for Nursing core values align and support doctoral education.* Poster Presentation at National League for Nursing 2015 Education Summit.

Volkert, D., Andreozzi, A., Edgar, A., Ewell, L. D., Flanigan, M., Kralich, C., Martin, L., O'Neal, C., & Parker, C. A. (2015) *Use of word clouds to develop reflection with online undergraduate nursing students.* Poster Presentation at Western Institute of Nursing Annual Communicating Nursing Research 2015 Conference. **First runner-up Best Poster Award.**

Volkert, D. (2015). *Concept analysis of learner motivation.* Poster Presentation at Western Institute of Nursing Annual Communicating Nursing Research 2015 Conference.

Volkert, D. (2015). *How to entice RNs to return for their BSN: Study proposal.* Podium and Poster Presentation at Royal College of Surgeons in Ireland 2015 Research and Education Conference.

Volkert, D. (2014) *Why should I go back to school? How to entice RN's to return for their BSN.* Poster Presentation at Western Institute of Nursing Annual Communicating Nursing Research 2014 Conference.

Schneider, B., Suba, R., Miles, S., Myers, S., Pepin, C., Smith, S., **Volkert, D.,** Zeiher, W. (2014) *Exploring the formation of scholars using word clouds* Poster Presentation at Western Institute of Nursing Annual Communicating Nursing Research 2014 Conference.

Volkert, D. (August 2012) Faculty perspective: Inquiry based learning *Nevada Nurses Association Newsletter.*

LICENSES, CERTIFICATIONS & AWARDS

RN257100 - Registered Professional Nurse, State of Georgia	2016
201509101RN - Registered Nurse, State of Oregon	2015 - Present
Certified Nurse Educator (CNE) National League for Nursing	2014 - Present
RN39949 - Registered Nurse, State of Nevada	2002 - Present
Nevada Nurses Association Scholarship for \$1,045	2015
PhD funding at the University of Nevada, Las Vegas	
Tony and Renee Marlon Charitable Foundation Nursing Fellowship for \$15,000	2014
PhD funding at the University of Nevada, Las Vegas	
UNLV Graduate Access Scholarship for \$5,000	2013
PhD funding at the University of Nevada, Las Vegas	

PROFESSIONAL AFFILIATIONS

Western Institute of Nursing Jo Eleanor Elliott Leadership Award Selection committee member	2015 - 2016
Nevada Nurses Foundation Professional Progression Committee	2015 - 2016
Western Institute of Nursing Member	2014 - Present
Sigma Theta Tau member	2014 - Present
Great Basin College Student Nurses Organization Co-Advisor	2012 - 2013
Rural Nurses Organization	2011 - Present
Nevada Nurses Association	2011 - Present
National League for Nursing Member	2011 - Present

INSTITUTIONAL COMMITTEE POSITIONS

Great Basin College Nursing Instructor Search Committee Member	January 2015
Great Basin College Health Sciences Admission & Progression Committee Member	2014 - 2016
Great Basin College Distance Education Committee Member	2014 - 2015
Great Basin College General Education Committee Member	2013 - 2014
Human Services Instructor Search Committee Member	June 2013
Coordinator Certified Nursing Assistant Program Search Committee Member	June 2013
Practice Laboratory Manager Search Committee Member	June 2013
Health Sciences Faculty Handbook Committee Member	2012 - 2013
Lab/Simulation Manager Search Committee Member	March 2012
Curriculum and Articulation Committee Member	2011 - 2012, 2012 - 2013, 2014 - 2015

PROFESSIONAL AND COMMUNITY SERVICE

Mentor for Nursing Students through MentorNet	2013 - Present
Horizon Hospice Board Secretary	2012 - 2013
Horizon Hospice Board Member	2011 - 2014
Horizon Hospice Volunteer	2001 - 2014