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Factors Associated with Overall Experience in Advanced-Practice Doctoral Programs

Kristi Chipman

University of North Florida, n01412979@unf.edu

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Factors Associated with Overall Experience in Advanced-Practice Doctoral Programs

by

Kristi Joyce Chipman MS, RDN, LD, FAND

DCN DISSERTATION PROPOSAL

Submitted in Partial Fulfillment of the Requirements of
the Degree of Doctorate in Clinical Nutrition

DISSERTATION COMMITTEE

Lauri Wright, PhD, RDN, LD/N, FAND

Associate Professor, Department of Nutrition and Dietetics
University of North Florida

Andrea Y. Arikawa, PhD, MPH, RDN, LD/N, FAND

Associate Professor, Department of Nutrition and Dietetics
University of North Florida

Michele S. Bednarzyk, DNP, FNP, BC

Associate Professor, Department of Nursing
University of North Florida

Dedication

This dissertation is dedicated to my three children – Jonathan, Andrew, and Matthew, who had to entertain themselves a lot while I was working through this DCN program. Without their sacrifices, I would not have been able to complete this program. I would also like to dedicate this to my husband, David, and my parents who have always supported and believed in me. Without your constant support, none of this would have been possible.

To my boys on your future. A quote from Walt Disney that hangs in our house – “If you can dream it, you can do it.”

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List of Abbreviations

AA	Associate of Arts
AACN	American Association of Colleges of Nursing
AAJC	American Association of Junior Colleges
ACEND	Accreditation Council for Education in Nutrition and Dietetics
ACSN	Association of Collegiate Schools of Nursing
ACT	American College Testing
ADN	Associate Degree Nursing
APD	Advanced-Practice Doctorate
APRN	Advanced Practice Registered Nurse
AS	Associate of Science
AudD	Doctor of Audiology
BSN	Bachelor of Science in Nursing
CCNE	Commission on Collegiate Nursing Education
CD-RISC	Conner -Davidson Resilience Scale
CD-RISC 10©	Conner-Davidson Resilience Scale 10
CP	Coordinated Program in Dietetics
DCN	Doctorate in Clinical Nutrition
DDS	Doctor of Dental Surgery
DNP	Doctor of Nursing Practice
DNS	Doctor of Nursing Science
DPT	Doctor of Physical Therapy
EdD	Doctor of Education
GPA	Grade Point Average
GRE	Graduate Record Examinations
HOD	House of Delegates
IRB	Institutional Review Board
ISPP	Individualized Supervised Practice Pathway
KU	University of Kansas
LMS	Learning Management Software
LMX	Leader Member Exchange
MD	Medical Doctor
NDTRs	Nutrition and Dietetic Technicians Registered
NGSES	New General Self-Efficacy Scale
NLNE	National League of Nursing Education
NNAS	National Nursing Assessment Service
NOPHN	National Organization for Public Health Nursing
NP	Nurse Practitioner
PharmD	Doctor of Pharmacy
PhD	Doctor of Philosophy
PsyD	Doctor of Psychology
RDN	Registered Dietitian Nutritionist

SAT	Scholastic Aptitude Test
SCT	Social Cognitive Theory
SEL	Socio-Emotional Learning
SLT	Social Learning Theory
the Academy	The Academy of Nutrition and Dietetics
UNF	University of North Florida
USDE	United States Department of Education

Abstract

Advanced-Practice Doctoral (APD) students are working professionals who are often returning to school after several years of practice. Multiple areas and concerns may affect overall experience as well as retention rates in doctoral programs.

This mixed-methods research study utilized both qualitative (interview) and quantitative (survey) methods. Students from three different APD programs (Doctorate in Clinical Nutrition, Doctor of Education, and Doctor of Nursing) were asked to participate in a semi-structured interview. The interview was used to help guide the development of a survey. Students from the three groups (n=65) were asked to participate in a one-time, non-incentivized, survey. The survey questions were used to gain perspective regarding perceptions and information on the overall experience of the APD student that may have an impact on retention.

The qualitative portion of this study revealed that support from faculty, family, and cohort members was important to student success. Finances and time were the biggest barriers to students while enrolled in the program. The quantitative survey was completed after the qualitative interview. Students indicated that faculty, peers/cohort members, and family were the most supportive during their APD program. When looking at the association between APD experience and various factors, Educational Support and Understanding, Program Director/Committee Chair, Resilience, and Self-efficacy had strong, positive associations that were significant.

The contribution of this study was to shed light on overlooked and potentially important factors associated with the overall experience in APD programs, such as those experiences that lead to completion or dropout, and then to consider how those predictors may be interrelated.

The results indicate the responsibilities doctoral students have, goals they are pursuing, social factors, changes in identity, other people the doctoral students are interacting with, and interactions with people that can impact their overall experience, such as supervisors, peers, or even employers, should all be considered together.

Introduction

Doctoral degrees, otherwise known as a terminal degree, are the highest degree a person can achieve. A Registered Dietitian Nutritionist (RDN) may pursue nutrition focused doctoral degrees either as a Doctor of Philosophy (PhD) in nutrition or a Doctorate in Clinical Nutrition (DCN). The Doctor of Nursing Practice (DNP) was developed for nurses seeking a terminal degree and is an alternate to a researched focused doctorate. The DNP prepares registered nurses to “pursue licensure and careers as advanced practice nurses (APRNs)”¹ “The Doctor of Education (EdD) is a professional degree designed for practitioners pursuing educational leadership roles.”² An EdD is a terminal degree suited for experienced educators and mid- to senior-level working professionals “who want to lead and implement change within their organization.”² The DCN, DNP, and EdD are known as professional research doctorates or advanced-practice doctorates (APD). Even though there are benefits for both the individual and society, doctoral program attrition rates are still an issue worldwide.³ Residential doctoral programs report attrition rates at 40 to 50 percent, and the attrition rate for online doctoral programs are between 50 and 70 percent.⁴ Multiple factors may affect overall experience as well as retention rates for doctoral programs. Doctoral students are typically adult and mature learners, yet many students are not well prepared for the intensity of a doctoral program. Overall experience in an APD program can possibly have an impact on retention rates. Some areas that may affect experience include educational support and understanding, mode of delivery, socio-emotional learning, adult learners (age at start of program), employer supervisors, program supervisors, student preparedness, financial considerations, scholarly community, and support system.

Distance doctoral programs provide convenience, but also have disadvantages that make it more difficult for the student. Blended learning programs have both online and in-person lectures. There are at least two perceptions that need to change for blended learning to be successful 1) every part of a the blend regardless of delivery needs to be considered important and 2) words and definitions matter; content exercises, and assessment should be integrated into a seamless curriculum regardless of the delivery method. Regardless of method of delivery, retention rates are a concern for all doctoral programs.

Four theories were used to help understand the factors associated with student retention. The attribution theory, identity theory, Leader Member Exchange (LMX) theory, and social cognitive (SCT) theory help explain the factors suggested to be important in student retention and overall experience based on review of the literature. The attribution theory attempts to explain why people act the way they do under different circumstances. Motivation, resilience, and procrastination due to socio-emotional factors are all constructs of the attribution theory. The identity theory proposes that self-identity is a clear predictor of intention, therefore mature learners may have difficulty identifying as a university student partially due to the fact they have already established their social, family, and work groups. This can lead to many barriers in returning students, such as lack of confidence, which can decrease retention rate. It cannot be assumed that students entering into a doctoral program know what is required of them as a doctoral student, irrespective of their previous academic performance. The LMX theory describes the supervisor-student dyad, which the literature review found to be an important factor for student retention. The LMX theory has been found to be a useful tool for studying hypothesized linkages between supervisors and the outcomes of their subordinates. Finally, the SCT ties back into the Attribution theory. The Attribution theory begins with an individual's

determination of a behavioral outcome as a success or a failure whereas the SCT predicts individuals who believe they are responsible for their positive outcomes and may experience high self-efficacy and continue to pursue their goals. Constructs from the attribution theory, identity theory, and social cognitive theory will help answer the research question ‘What factors are associated with overall experience in APD programs?’. Neither of these two theories consider the supervisor-student dyad, therefore the Leader Member Exchange (LMX) theory will be used to help answer the second research question, ‘What, if any, are the university factors that contribute to the overall experience of APD students?’.

APD students are often returning to school after several years working in the field and are therefore older than undergraduate students or graduate students without a break after an undergraduate program. The attrition rate for online doctoral programs is between 50 and 70 percent.⁴ Low retention rates show the loss of potential doctorates, which therefore decreases the number of applicants for positions requiring a doctorate. The majority of literature exploring retention in higher education is focused on undergraduate students or research doctorates.⁵ Further, overall experience can have an impact on retention rate. Attrition rates have reached unacceptable levels. Institutions need to determine factors to help improve attrition rate and overall experience by develop measures to improve both internal and external factors. This study will help determine factors of importance in overall experience and attrition.

The purpose of the study was to examine the factors associated with overall experience in advanced-practice doctoral programs. Interview and in-depth surveys were designed to answer the following questions:

1. What factors are associated with overall experience in APD programs?

- a. Is there a relationship between wellbeing and overall experience in APD programs?
 - b. What is the relationship between APD experience and various demographic factors?
2. What, if any, are the university factors that contribute to the experience of APD students?
- a. Do various factors that may affect experience, differ between programs with different modes of delivery?

Chapter 1: Literature Review

Background of doctoral education

Doctoral degrees, otherwise known as a terminal degree, are the highest degree a person can achieve. In the United States, there are three types of doctoral degrees – (1) professional doctorate, first professional degree, or entry-level professional degree (MD, JD, PsyD), (2) professional research doctorate, post-professional advanced practice degrees, or advanced practice doctorate (EdD, DCN, DNP), and (3) research doctorate (PhD).⁶ Typically a person must have a master's degree or pass the classes for a master's degree as part of their PhD, pass a series of doctoral-level classes, pass a comprehensive examination, and defend a dissertation to complete a PhD or professional research doctorate.⁷ First professional degrees are offered in many fields and include optometry (OD), physical therapy (DPT), occupational therapy (OTD), and chiropractic (DC), among many others.⁸ There is some criticism, when it comes to some of the first professional doctoral degrees, as in many cases, Master level programs were relabeled as doctoral programs and can be completed in five to six years.⁹ However, there are also professional research doctoral degrees or advanced-practice doctoral degrees (DCN, EdD, DNP) that have similar requirements to a research doctorate. “The emphasis on scholarly practice, research, methodology, and process to develop scholars remains intact”⁶ for professional research doctorates, similar to the research doctorate. From this point forward professional research doctorates or advanced-practice doctorates will be referred to advanced-practice doctorates (APD).

The practice doctorate, which began over a century ago in medicine, has now been adopted by other health professional groups such as pharmacy, physical therapy, and optometry.¹⁰ These degrees are typically viewed as ‘undergraduate’ since they provide the first

professional degree and do not typically include the classes needed for a master's degree, a comprehensive exam, or research.¹⁰ However, the advanced practice doctorate degrees, such as the DCN, DNP, and EdD are different than first professional degrees as they typically require the student to have a previously earned master's degree, require a comprehensive exam, and include research. Some DNP programs may not require a master's degree but still require the comprehensive exam and research.

The return on investment of attaining a doctoral degree includes help with “career advancement, career change, compensation, leadership development, and quality of life.”¹¹ Individuals with professional degrees and doctoral degrees “hold the lowest unemployment rate (1.5 percent and 1.6 percent respectively) of all degree levels and the highest median weekly income (\$1884 and \$1825, respectively).”¹²

Doctorate in Clinical Nutrition

History of Dietetic Education

Even though dietetics was not officially recognized as a profession, dietetics and nutrition was considered a branch of medicine since the time of the ancient Greeks.¹³ Dietetics was known back in the eighth century BC in Homer's “The Iliad” when one of the physicians was recognized for his interest in dietetics. In 1839 a dictionary of medical science, *Dunglison Medical Lexicon*, described dietetics as “a branch of medicine comprising rules to be followed for preventing, relieving, or curing diseases, by diet.”¹⁴ The Academy of Nutrition and Dietetics (the Academy) original goals, established in 1917, were focused on establishing definitions and considerations of practice.¹⁵ “The Academy's education section began discussing plans for courses for student dietitians in 1923. In 1927 the *Outline for Standard Course for Student*

Dietitians in Hospitals was approved by the Academy. These standards required all dietitians to have a bachelor's degree in foods and nutrition as well as receive training at a hospital under a dietitian for at least six months. This remained the only route to become a dietitian until 1962 when the first coordinated program in dietetics (CP) was started. CP integrated the academic and supervised practice into one undergraduate program. Dietetic technician programs were first approved in 1974.”¹⁶

In 2003, the Dietetics Education Task Force was appointed by the House of Delegates (HOD) to plan the future of dietetics education as well as the credentialing of RDNs and nutrition and dietetic technicians registered (NDTRs). The task force released a report in 2006 that “included recommendations for revising the current educational competencies to reflect future practice, elevating the educational preparation of the dietitian nutritionist to a master's degree level and accrediting only programs offering both the academic preparation and supervised practice experience necessary for credentialing.”¹⁶ The Phase 2 Future Practice and Education Task Force was appointed by the HOD in 2006 to “describe future practice roles for RDN, NDTR, and specialty and advanced practice in 2017 and the knowledge, skills, and education needed for these roles.”¹⁷

By 2010, there had been a 25-year trend of an increase in dietetic graduates which meant that program capacities were being exceeded and the demand for supervised practice opportunities were outpacing the supply.¹⁸ Due to the shortage, the individualized supervised practice pathway (ISPP) was introduced. ISPPs helped increase the number of internship spots for students to complete their supervised practice.

In 2012, the “Council on Future Practice's Visioning Report recommended increasing the academic preparation for RDNs to a minimum of a master's degree.”¹⁶ In 2015, the *Rationale*

Document was released that described the basis for the future education model in nutrition and dietetics.¹⁶ Some of the recommendations from ACEND included:

- Master's degree for entry-level RDNs
- Bachelor's degree for entry-level NDTRs
- Associate degree for a new type of practitioner, i.e. a nutrition health worker
- Experiential learning integrated into each degree program
- Possible future exploration of developing programs at high school and doctoral levels

As of “January 1, 2024, the minimum degree requirement for eligibility to take the registration examination for dietitians will change from a bachelor's degree to a graduate degree.”¹⁹ Many master's degree programs in nutrition, throughout the United States, are offered both in person and through distance education. An RDN may also pursue a doctoral degree either as a PhD in nutrition or a Doctorate in Clinical Nutrition (DCN). The first DCN program began in 2003 at Rutgers University in New Jersey.

What is the Doctorate in Clinical Nutrition?

There are currently four Doctorate in Clinical Nutrition (DCN) programs in the country (Rutgers University,²⁰ University of North Florida,²¹ University of Kansas (KU)²² and Fairfield University²³). Rutgers, UNF, and KU all require applicants to be credentialed as RDN and hold a Master's degree from an accredited university, as well as have work experience.^{20–22} UNF requires five years' work experience,²¹ Rutgers three years' work experience,²⁰ and KU requires the applicant to be currently employed as an RDN.²² Fairfield University does not require the applicant to be a RDN or complete a Master's degree.²³

The advanced practice doctorate at UNF, Rutgers, and KU all require the student to take a series of classes, pass a qualifying exam, and complete and defend a doctoral project or dissertation, similar to the research doctorate and complete a residency similar to the professional doctorate.²⁰⁻²² The DCN at UNF, Rutgers, and KU all require the student to complete a Master's degree in addition to the three- to four-year doctoral program, also similar to the research doctorate. Fairfield University does not require their students to pass a qualifying exam or complete and defend a doctoral project.²³ The DCN program at Rutgers is 50-credit hours,²⁰ UNF is 54-credit hours,²¹ and KU is 48-credit hours.²² The curriculum at Fairfield University “includes a maximum of 75-credits of coursework for those entering the program with no prior nutrition degree. Students entering the program from an ACEND accredited DPD program and those with the RDN credential, experience, and courses will be assessed for credit prior to learning.”²³

Why is a doctorate in nutrition needed?

Employment of Registered Dietitian Nutritionists (RDN) is projected to grow 15 percent from 2016 to 2026, faster than the average for all occupations,²⁴ and the demand for doctoral-level dietitians is expected to exceed supply.²⁵ The DCN, which is an advanced practice doctoral program, will help fill this need. The DCN program at the University of North Florida (UNF) emphasizes leadership and advanced evidence-based practice and research.²¹ The PhD in nutrition is generally focused on bench research. In contrast, the DCN degree “focuses on practice and emphasizes production of applied scholarship and evidence-based outcomes in practice settings.”²¹ Graduates of DCN programs can become advanced-level practitioners in healthcare settings, university faculty, research specialists, and senior management professionals

in nutrition fields.²⁵ A 2015 survey by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) found that "credible advanced practice credentials remain important in raising the competency level of dietitians and to address the increasing rate of chronic and complex diseases."²⁶ Dietitians with advanced degrees tend to have more job opportunities and higher pay. Dietitians with "doctoral degrees earn \$14 more per hour than those with bachelor's degrees."²⁷ The median salary for an RDN with a bachelor's degree is \$59,410 annually, and those with a doctoral degree average \$77,410 annually.²⁷

Doctor of Nursing Practice

History of Nursing Education

Formal nursing education began at the end of the 19th century when there was a need for well-trained nurses due to the Civil War and the Industrial Revolution. Hospital based nursing programs used Florence Nightingale's model for nursing education well into the 20th century. After Nightingale's model was abandoned, nursing schools "trained students with an emphasis on service to the hospital rather than education of a nurse."²⁸ Nursing programs began to be seen in universities starting in the 1920's and by the 1950's community colleges started offering associate degrees in nursing. In the latter half of the 20th century, master and doctoral degrees in nursing were established.²⁸

Due to a shortage of nurses in the late 1980s and early 1990s accelerated bachelor degrees in nursing were created²⁹ to attract students with non-nursing degrees and provide a way for these students to earn licensure in 11 to 18 months with the possibility of earning a master's degree in another 12 to 24 months.³⁰

The National League of Nursing Education (NLNE) “developed standards for accreditation and made pilot visits to schools from 1934 to 1938.”²⁸ Even before 1939 when schools could start requesting to be listed on the NLNE, the National Organization for Public Health Nursing (NOPHN) was accrediting post-basic programs since 1920. However, by 1948 both of these organizations decided to relinquish their “accrediting role to the National Nursing Assessment Service (NNAS) who published the first combined list”²⁸ in 1949.³¹

Bachelor’s degrees

The American Association of Colleges of Nursing (AACN) called for the baccalaureate degree to be the minimum preparation for all nursing. This circulated in 2017, and at that time more than half of all nursing enrollment came from the Associate Degree Nursing (ADN) program.³² Baccalaureate programs grew between the 1930s and 1950s, however few of the programs had general education and basic science courses embedded throughout the five years of study. Many of the programs “structured their programs with two years of college courses before or after the three years of nursing preparation.”²⁸ Others book-ended the nursing years split between two years of general education and basic college courses. In the 1960s and 1970s the bachelor’s degree became four years instead of five. Many of the five year programs had difficulty condensing their program to four years that was now needed due to the “expanded assessment skills expected of critical care nurses, together with the master’s-level specialty emphases and certificate nurse practitioner (NP) programs, stimulated the inclusion of more sophisticated skills in baccalaureate programs.”²⁸ Due to the nursing shortage in the 1980s and early 1990s accelerated and fast-track baccalaureate nursing and entry-level master’s programs were developed to attract students with non-nursing degrees. This allowed students with a non-

nursing bachelor's degree to obtain licensure in 11 to 18 months for the bachelor's degree and an additional 12 to 24 months for the master's degree.

There are advantages to earning a Bachelor of Science in Nursing (BSN) degree: 1) the BSN may be a better investment as lifetime earnings will be greater,³³ 2) preference of hiring BSNs over ADNs [BSNs get hired at a higher rate (92 percent) than ADNs (84 percent)],³⁴ and 3) a BSN degree positions a nurse for promotion more easily.³³

Associate Degrees

During the middle to late 1940s the NLNE discussed the possibility of offering an associate degree in nursing with community colleges.³⁵ By 1945 the American Association of Junior Colleges (AAJC) showed an interest. A committee, with representation from the Association of Collegiate Schools of Nursing (ACSN), worked alongside the NLNE and the ACSN, to help develop nursing education at the associate level. The NLNE decided, in 1947, that "nursing education should be located in the higher education system."²⁸

Community colleges were able to offer two types of nursing programs: "(a) a 2-year program that would be transfer oriented to a university program that offered a baccalaureate degree, or (b) a 3-year program leading to an associate of arts (AA) or an associate of science (AS)."²⁸ Associate degree programs doubled every four years and by 1975 there were 618 associate degree nursing programs. The associated degree education lengthened over time due to the expanding knowledge in nursing that needed to be taught.²⁸

ADN students are typically nontraditional students and are considerably older compared to BSN students.³⁶ ADN programs mainly consisted of older, minorities, single parents, and

those who could not afford a university education.³⁷ Since the 1980s as much as 60 percent of the RN supply came from ADNs.³⁸

Master's Degree

In the 1950s there were very few master degree programs in nursing, however between 1951 and 1962, enrollment in master degree programs in nursing almost doubled.³⁹ “During the 1960s, clinical area emphases replaced functional specializations as the organizing frames for curricula.”²⁸ A lack of nursing educational programs forced nurses to pursue master degrees in education, business, and healthcare administration.⁴⁰ Even though nursing was becoming more complicated and there was a need for more clinical education the early master's programs focused more on developing nurse educators and administrators rather than expert clinicians. The first clinical master's degree in nursing program began in the 1960s. The first nurse practitioner (NP) programs were started in the 1960s to provide “assessment and management of care for patients with acute and chronic health conditions with an emphasis on health promotion and wellness.”⁴¹ The clinical complexity of patient care continues to grow and in 2004, “the American Association of Colleges of Nursing (AACN) called for the basic education of all Advanced Practice Registered Nurse (APRN) to be at the doctoral level.”⁴¹

Doctoral Degrees

The first doctoral degree that was focused on nursing education began in the 1920s and 1930s.²⁸ Teachers College, Columbia University and New York University were the first to offer doctoral degrees in nursing in 1933 to 1934.⁴² The first doctoral degrees were offered as Doctor of Education degrees (EdD)^{28,42} or as a PhD in the department of education.⁴² With these

early programs, little of the coursework was related to nursing.⁴³ The development of doctoral degrees focusing on nursing education began in the 1950s. Nurses prepared at the doctoral level were needed to help teach in the master's degree programs.

Three Doctor of Nursing Science (DNS) programs were started at Boston University in 1960, University of California in 1964, and in 1964 at Catholic University. "Questions about the desirability and feasibility of developing clinical or practice-focused doctoral programs in nursing were perennial but intermittent until the past decade, when the AACN in 2004 adopted a proposal that would move preparation for advanced practice nursing from the master's degree framework to the doctoral level by 2015."²⁷

Doctor of Nursing Practice

"A Doctor of Nursing Practice (DNP) is a doctorally-prepared, advanced practice nurse and clinical expert and leader on the translation of evidence-base practice to improve health outcomes on a systems level. The DNP program is a clinical practice program for working professional nurses."⁴⁴ The complexity of healthcare continues to grow, therefore the leaders in the nursing field are expected to have in-depth knowledge, a variety of skills, and practical experience that can be attained by earning a DNP degree.

The Commission on Collegiate Nursing Education (CCNE) is the leading agency for baccalaureate- and graduate-degree nursing programs in the United States. The CCNE began accrediting DNP programs in Fall 2008. The DNP is designed for nurses looking for a practical terminal degree and offers an alternative to the research-focused PhD. As of October 2020, there were 357 DNP programs currently enrolling students with an additional 106 programs in the planning stages.⁴⁵ DNP programs are available in all 50 states plus the District of Columbia.

From 2018 to 2019 the number of students enrolled in DNP programs increased by 3,391 students and the number of graduates increased by 905 students.

Why is a doctorate in nursing practice needed?

The AACN Position Statement on the Practice Doctorate in Nursing recommended the level of education required for the advanced practice registered nurse be moved from the master's level to the doctoral level by 2015.⁴⁶ This was recommended due to “the rapid expansion of knowledge underlying practice; increased complexity of patient care; national concerns about the quality of care and patient safety; shortages of nursing personnel which demands a higher level of preparation for leaders who can design and access care; shortages of doctoral prepared nursing faculty; and increasing educational expectations for the preparation of other health professionals.”⁴⁷ The Institute of Medicine, Joint Commission, Robert Wood Johnson Foundation, among others have recommended “reconceptualizing educational programs that prepare today’s health professionals”⁴⁵ due to the changing demands of the complex healthcare environment. The increased demands require higher levels of scientific knowledge as well as practice expertise to assure quality patient outcomes. “In a 2005 report titled ‘Advancing the Nation’s Health Needs: NIH Research Training Programs’, the National Academy of Sciences called for nursing to develop a non-research clinical doctorate to prepare expert practitioners who can also serve as clinical faculty. AACN’s work to advance the DNP is consistent with this call to action.”⁴⁵ Adding the DNP moves nursing towards other health professions such as medicine (MD), Dentistry (DDS), Pharmacy (PharmD), Psychology (PsyD), Physical Therapy (DPT), and Audiology (AudD) which all require a practice doctorate. For the

purpose of this study, the DNP program included is more similar to the advanced-practice doctorate rather than the first professional doctorate, as it includes a doctoral project.

As expected, the annual salary for nurses increases with education. The median annual wage for registered nurses was \$75,330 in May 2020.⁴⁸ The median annual wage for nurse anesthetists was \$118,580, \$111,680 for nurse practitioners, and \$111,130 for nurse midwives in May 2020.⁴⁹

Doctor of Education

History of Teacher Education

“Teacher education in the United States has come to be offered primarily within the institutional setting of the university.”⁵⁰ In the 1800s, teacher education (if it took place at all) typically “occurred in many different organizational settings until the state normal school emerged in the last quarter of the century.”⁵⁰ The normal school went through rapid changes in the early twentieth century, transitioning from the “normal school to state teacher’s college to general-purpose state college to the regional state university.”⁵⁰ It was not until the 1970s that teacher education became completely part of the university.⁵⁰

Teaching existed long before formal education. Before the start of the normal school it was typical that if a person completed a given level of education they could then teach at that level. Education took place in a wide variety of settings during the 1800s including: a) home (basic literacy and learning numbers); b) church (learned via sermons, Sunday school, and study groups); c) public lectures; d) apprenticeships; e) dame schools (learned skills at neighbors home); f) private tutors; g) private school (New England towns); h) academies providing secondary education, or i) colleges. Depending on the setting, the teacher could be a parent,

preacher, master craftsman, adult in the community, tutor, corporate employee, or college professor.⁵⁰

The common school began in the 1830s which reorganized the complex structure of education and made it look more like it looks today. The model began with a community elementary school and grew to include a grammar school and a high school which hired teachers as public employees. It became a requirement for teachers to complete the grade they were going to teach and eventually it became that teachers needed to complete the grade above the one they were teaching.

The start of the common school movement caused an increase in the demand for teachers, eventually a shortage of teachers, and in turn a demand for higher teacher qualifications. The normal school would be the main way of educating and providing the needed teachers. At the start of the twentieth century normal schools began transitioning into teacher colleges. During this change, normal schools were allowed to grant bachelor's degrees, which helped give credibility to their programs. In the 1920s the normal schools started transitioning into state colleges with the last of the normal schools closing by the 1950s. Finally, by the 1970s the normal schools made the move and started to be known as universities. "In the century-long race to adopt the most attractive institutional identity, being a college was no longer good enough; only becoming a university would do."⁵⁰

Educators may obtain a Master of Arts, Master of Science, or Master of Education, depending on the area of expertise. Some options for areas of study include teaching elementary education, higher education administration, special education, curriculum and instruction, educational technology, and counselor education in school counseling.⁵¹ The Master of

Education gives educators advanced professional development to help open up career options as well as providing a foundation to improve their practice.

In 1832, Teachers College, Columbia University issued the first PhD degree in education. In 1921, Harvard University issued the first EdD degree.⁵² In 1934, the Teachers College, Columbia University began offering the EdD degree⁵³ with many other universities following suit, such as Stanford University, the University of Michigan, and University of California – Berkeley.⁵⁴ Similar to the master’s degree options, there are various focuses the EdD may be in including, curriculum and instruction or educational leadership.⁵¹

What is the Doctor of Education?

“The Doctor of Education (EdD) is a professional degree designed for practitioners pursuing educational leadership roles.”² The EdD is ideal for experienced educators as well as mid- to senior-level working professionals “who want to lead and implement change within their organization.”² Throughout the 20th century, the history of the EdD was one of confusion, as in some graduate schools it was a practitioner degree and in others it was a research doctorate. There are many strengths to earning an EdD degree: provide an administration focus, is practical over philosophical, students can work while pursuing degree, and other students in the classroom are also professionals.

The EdD prepares students to obtain roles in administrative leadership positions at educational institutions, nonprofit organizations, government agencies, school districts, as well as the private sector. EdD students can come from many different backgrounds, however many are education based such as principals, superintendents, college deans, and other administrators.

Most students are working professionals with significant experience, which gives the students the opportunity to learn from each other.

Why is a doctorate in education needed?

EdD graduates are able to work in a broad range of fields including K-12 schools, higher education, nonprofits, government, healthcare, and even the military. EdD program research is not only completed in the student's area of interest, but instead researches areas that could have an impact on the community or specific organization.

The median annual wage for postsecondary education administrators was \$97,500 as of May 2020⁵⁵ with bachelor's level high school teachers earning a median wage of \$62,870 in May 2020.⁵⁵

Attrition Rates of Practice Doctorates

Even though there are benefits for both the individual and society, doctoral program retention rates are still an issue worldwide.³ Residential doctoral programs report attrition rates at 40 to 50 percent, and the attrition rate for online doctoral programs are between 50 and 70 percent.⁴ High attrition rates show the loss of potential doctorates, which therefore decreases the number of applicants for positions requiring a doctorate. High attrition rates also deplete university and student resources.⁵⁶ The current attrition rates are unacceptable as low student retention affects not only the student but also the university's academic and financial plans.⁵⁷ Therefore, doctoral-granting institutions must understand the factors that lead to student attrition and seek solutions to improve student retention.⁵⁸

The amount of new information that needs to be learned in graduate school is substantial and can induce anxiety and frustration in students.⁵⁹ Successful learning among doctoral students in online programs is a concern, as it can indicate if the student has the ability to complete the program. Successful learning in online doctoral programs is known to be lower than more traditional learning methods.⁶⁰ "Considering that each individual and institution embarking on their PhD journey is investing significant time, money, and intellectual resources, unsuccessful doctoral learning means a substantial waste of resources to the students themselves, their families, the faculty and staff of the institutions, and the intellectual community as a whole."⁶⁰ Love⁶¹ identified the following as the main weaknesses of doctoral programs based on traditional models:

- Many students do not complete the program
- Often, directors do not know if a student needs additional help in order to complete the program
- Syllabi that emphasize the achievement of skills are not much use to postgraduate students
- The teaching process related to the achievement of research competencies and knowledge of research is weak

Retention rates decrease when doctoral students are employed full-time.^{56,62-64} This is an important factor to consider, as many APD students are employed while taking classes. Adult learners are faced with many challenges and commitments which compete for their attention. Work and family already cause stress, and adding doctoral work and studying can compound the stress,⁶⁵ as time for family and social interactions, and personal priorities all compete for the

little time available.^{66,67} The competition of time can lead to neglect, postponement, and mishandling of some of the student's responsibilities.⁶⁵ Many students report that the employer's workload did not allow them to focus on their doctoral studies adequately.

Even with all the stress, the majority of doctoral students enjoy their studies. Working adult students prefer to participate in studies that can improve their employment opportunities and tend to become more comfortable with their studies as long as they are relevant to their work.

What are some problems, predictors, and solutions?

Multiple areas may affect retention rates for doctoral programs. Doctoral students are typically adult and mature learners, and many students are not well prepared for the intensity of a doctoral program. Distance doctoral programs provide convenience, but distance programs also have disadvantages that make it more difficult for the student. Some students have challenges using online technology as part of the distance learning model or blended learning model.⁶⁸ Regardless of method of delivery, retention rates are a concern for all doctoral programs.

A predictor is “something such as an event or fact that enables one to say what will happen in the future.”⁶⁹ Significant predictors of completion for research projects are “part- or full-time attendance, age, excellence of prior academic record, discipline (sciences or arts), gender, suitability of the research project, intellectual environment of the department, and access to appropriate equipment and computers.”⁷⁰ Each area, described below, may also have predictors for retention and overall experience.

Adult and Mature Learners

The emotions of affective learning are substantial in adult education.⁷¹ The “affective learning domain correlates with the emotional component of the learning process”.⁷² Also, learning is indicated by the students' behavior, which suggests their “awareness, empathy, interest, attention, responsibility, listening, and responding abilities.”⁷² Mature students usually have experience in their field of study, which they can apply to their studies, and is one of the benefits of being an adult learner.^{73,74} Conversely, mature students' life experiences may also be a barrier as they have developed practical knowledge, are more task and goal oriented, have “established metacognitive strategies,”⁷⁵ and are more self-directed. New ways of thinking and doing might make learning new ideas difficult for them.⁷⁵

The heavy workloads, inadequate knowledge of research, and lack of technological skills all have an impact on the time it takes for adult learners to complete their doctoral degrees. Providing training programs for adult learners who enroll in doctoral programs and increasing study durations could help improve completion rates. Increasing program durations could decrease the pressure to complete and allow adult learners to have time for family, work, and school without feeling guilty.⁶⁵

Educators should have regular conversations related to learning activities, which in turn might make the learning experience more worthwhile for the mature learner. It is recommended that educators take full advantage of adult learning by creating a learning environment that is student-centered rather than teacher centered. This approach encourages independent learning and responsibility in learning, which links closely with the development of self-directed learning in adult education.⁷⁶ Contracts,⁷⁷ computer-facilitated learning,⁷⁸ problem-based learning,⁷⁹ and simulation-based learning⁸⁰ are teaching and learning strategies that can be used to promote self-

directedness. It is important to be aware that adult students learn in different ways, and therefore, programs with adult learners need to create learning environments based on adult students' needs.⁸¹

Adult learners

Adult learners are defined as students between the ages of 24 and 64 years old who participate in postsecondary studies. Adult learners (due to their age) are often more mature than most undergraduate students, have financial independence, are employed full-time, have dependents, and study part-time.⁷⁵ In addition to the qualities mentioned above, many APD students also bring clinical and life experiences to the educational setting. Previous educational and work experiences help determine the unique characteristics each student brings to the learning environment.^{73,81}

Malcolm Knowles “contrasted pedagogy (the art of helping children learn) with andragogy (helping adults to learn),”⁸² which had a significant effect on adult education practice.⁸² Knowles explained the conditions and principles for adult learners which include:

- Moves from dependency to self-directedness; can direct own learning;
- Life experiences help support learning;
- Readiness to learn in new social and life roles;
- Ready to apply new learning; and
- Internal factors motivate learning.

If a person has a desire to learn, they will be driven and will make a determined effort, regardless of their age.⁸³

Mature versus adult learner

Adults who have not taken college-level classes for a period of time,⁸⁴ sometimes even decades, are known as mature learners. Mature learners may experience a lack of confidence in their ability to learn new material.⁷³ Since most APD programs require the student to have work experience as well as hold a master's degree, the students would be considered adult learners and possibly even mature learners depending on when the master's degree was completed. A lack of confidence may be interpreted as dependency on the educator and a need for facilitator guidance. In undergraduate studies and even many master's degree programs, students are taught as passive recipients of knowledge and therefore expect to be taught by the “all-knowing” professor. Due to this dynamic, when the mature student is introduced to self-directed learning, they seem unprepared to complete the work on their own.⁷⁸ As shown in Benner's “from novice to proficient practitioner” model,⁸⁵ educators expect students who enter a postgraduate program to be competent and when they leave to be proficient,⁷⁵ regardless of the student's age.

Distance Education

Online/Distance-based education is considered the future of higher education. An increasing number of institutions are including online programs in their long-term strategic plans.⁸⁶ Over the past decade, the number of educational institutions offering distance education has increased.^{87,88} There were 6,651,536 students enrolled in distance education courses at degree-granting postsecondary institutions in the Fall of 2017 and every year distance education has increased by about five percent.⁸⁹

The United States Department of Education (USDE) has defined distance education, also known as online learning, as a “formal education process where both the instructor and students

are not within the same physical space.”⁹⁰ Distance education provides convenience to working adults by allowing them to complete classes from anywhere, while still keeping their employment responsibilities. Technology-facilitated tools, such as discussion boards, video conferencing, and even social networks make distance education possible.⁹¹

The teaching and learning method can be either asynchronous or synchronous, and a diversity of audio and visual technologies can be used.⁸⁷ Asynchronous learning “occurs when students learn the same material at different times and in different locations.”⁸⁷ Asynchronous learning allows students to maintain communication without having to meet at the same time as other students, which can be beneficial for students who have other commitments such as a family or full-time employment. Common conference space, such as Blackboard, Canvas, email, or chat rooms, are beneficial for asynchronous learning as all students can post and read messages, as well as respond to messages within the same shared space.⁹² In contrast to asynchronous learning, synchronous learning occurs when students learn by attending activities, such as a lecture, at the same time. Live synchronous sessions are usually held in a web-based video conferencing platform such as Adobe Connect, Skype, Zoom, or WebEx. Live sessions can be valuable as students and professors are online at the same time, so it is more similar to traditional in-person learning. Learning Management Software (LMS), such as Blackboard or Canvas, can be used outside of the synchronous platform, similar to asynchronous learning.⁹³ Distance education can be provided entirely online or as part of a hybrid or blended learning model. In the past, providing classes over a distance was impossible. Today, virtual learning environments allow people from around the world to take classes at any university offering distance education.

Doctoral degrees are becoming more prominent, and many universities are offering part or full course work via distance education.⁹⁴ Since 2000, the number of doctoral and professional degree holders has more than doubled to 7.7 million.⁹⁵ As of February 2019, “about 13.1 percent of U.S. adults have an advanced degree, up from 8.6 percent in 2000.”⁹⁵ Online degree-granting programs are also significantly growing in the United States. In 2016, 36.8 percent of graduate students were participating in distance education, either part-time or full-time.⁸⁹

Even though distance education provides convenience and reusable information through the use of interactive programs, it does have some disadvantages.⁹⁶ Disadvantages include a high cost for preparing online materials and the continuous costs for platform maintenance and updating.⁹⁷ Another major drawback of distance learning is the added factors that need to be in place to verify the identity of the student completing the online assignments. In addition to technical issues, also comes emotional concerns. Traditional learning takes place in person at a specific time and place, which is an important combination for building a sense of community. Due to the lack of in-person connection with other students, online students may feel isolated.⁹⁷ Blended learning, a combination of traditional face-to-face learning paired with online learning,⁹⁸ is becoming more popular⁹⁹ and can be a good alternative as it takes the best parts of both traditional and online learning and combines them.¹⁰⁰ Well-designed and supported blended learning, along with support from others has shown improved coursework among students as well as increased retention rates.¹⁰¹ Distance learning puts less of an emphasis on lectures and more of an emphasis on active learning and critical thinking. There is also a “shift in learning from a teacher-centered model to a student-centered model.”¹⁰² Even with the rise in online

learning and the advantages it offers, a major weak point of distance education needs to be addressed – the high percentage of students who drop out.

Program design, orientation, use of the online environment, faculty, learning style, and recognition of student needs are all aspects that influence retention in online learning. “Students who are satisfied with the online learning environment are more likely to complete the program. When web-based technologies were used for communication, doctoral students had a higher sense of connectedness and lower attrition than doctoral students who used phone or email.”¹⁰³

In order to counteract the drawback in distance education of feeling isolated,⁹⁷ it is important to help the student feel more involved. For this reason, it is recommended that the instructor set up an in-person or virtual joint session on the first day of the semester with all students, if possible. This session should help the students know what is expected of them, what the guidelines are for the course, and help motivate the students. The session should also be recorded for those students who are unable to attend.

The virtual classroom where news, announcements, and teaching material can be provided for the students is the gateway to the course for distance students. It is also beneficial for the instructor to provide office hours, either virtually, face-to-face, or both. Virtual office hours can be done via video, phone, or by answering emails, depending on available resources.¹⁰⁴

Implementing the following measures has been shown to reduce the dropout rate for distance students by 25 percent:^{88,105}

- In-person or virtual session on the first day of class
- Up to date virtual classroom; frequent announcements
- Scheduled virtual and in-person office hours
- Provide continuous assessment and written reports of oral assessment tests

- Flexibility – faculty need to have an understanding attitude and help solve misunderstandings
- Defend thesis/dissertation face-to-face at the university if possible; Virtual defense is acceptable if face-to-face is not possible

Hybrid and Blended Learning

Hybrid and blended learning are sometimes used interchangeably; however, they are typically not the same. Hybrid learning is used to help students who are working or are only able to attend in-person classes part-time.¹⁰⁶ With hybrid courses the online material is intended to replace the face-to-face learning. The online component can be either synchronous or asynchronous. Blended learning combines both online/distance learning with in-person learning.¹⁰⁶ The same group of students will attend the class in person part of the time and online the other part of the time. It is a blend of both live in-person learning and online learning. With blended courses the online material is not meant to replace face-to-face learning, but rather supplement the learning.

Places of learning has been expanded beyond the classroom to include many different learning technologies, however, just because a person “can learn in a particular place doesn’t necessarily mean it’s the most authentic learning environment.”¹⁰⁷ When blended learning classes are developed they need to be designed well. Poor or ineffectively designed classes become much more apparent when the student is exposed to different forms of instructional methods. It is important the instructor know when to use which technique or technology when educating students.¹⁰⁷

Hybrid learning allows online distance students and in-person students and instructors to be able to interact with each other synchronously or asynchronously.¹⁰⁸ Hybrid learning can be costly since it makes both online and in-person education available for the students. Hybrid learning can improve students learning, but it also has many challenges. Students using the online format have difficulty establishing a social presence, especially in the synchronous hybrid learning model.¹⁰⁹ “Social presence has been shown to be critical to course satisfaction, students’ engagement, development of a community of inquiry, and student learning outcomes.”¹⁰⁹ Having a social presence has been shown to be critical in course satisfaction for students and integrating mobile robotic systems has been shown to increase social presence with synchronous hybrid courses.¹⁰⁹

Today, most learning is blended learning to some degree. Even traditional in-person classes now are blended learning since many classes have online pre-work or follow-up activities.¹⁰⁷ Even lessons taught in the classroom are supported by videos via online learning management systems. There are some elements of blended learning where student perceptions need to be changed. Many times, webinars are not considered to be as effective as in-person lectures and pre-work is considered optional and rarely completed. Students tend to focus more on the in-person lectures rather than the whole learning curriculum, which includes the online portions. There are at least two perceptions that need to change for blended learning to be successful 1) every part of the blend regardless of delivery needs to be considered important, 2) words and definitions matter; content exercises, and assessment should be integrated into a seamless curriculum regardless of the delivery method.

Blended learning has been associated with many positive outcomes for learners.¹⁰¹ Students find face to face interactions help broaden and deepen their knowledge and skills.⁶⁸

After the face-to-face class students noticed their feelings of anxiety and insecurity shift and they feel more knowledgeable and confident. Students who had a face-to-face component also developed respectful, supportive, and trusting relationships with both their peers and instructors. Advantages of blended learning include “improved learning outcomes, increased social interaction, complementary benefits for different instruction modalities, reduced cost and time for deployment, and increased flexibility.”¹¹⁰

Problem-based learning may be a technique that could be used to improve student outcomes. Problem-based learning is defined as students being taught to understand and solve problems via real-life situations. Blended problem-based learning has been shown to significantly improve performance of students problem-solving attitudes. Blended problem-based learning also improved performance in learning attitudes, but the difference was not significant.¹¹⁰ Students who were taught via problem-based learning had improved confidence and the blended learning process “enhanced learner perception of learning challenge along with their perception of their communication, expression and discussion skills.”¹¹⁰ Blended problem-based learning may have an impact on improving problem-solving attitudes of students. These improvements could help enable learners to better respond to many different problems that could be encountered.

Student preparedness

Many times doctoral candidates do not understand that success in a doctoral program requires a different skill set than what was previously required in an undergraduate or master's degree.¹¹ Many doctoral students have little to no training in research, library skills, and development of research questions before they start their doctoral program.¹¹¹ They may come

from undergraduate degrees that do not teach research methods or from a master's degree program that has a practical capstone project rather than a traditional thesis. Many times, even by the time the doctoral student reaches the dissertation phase they have not obtained the skills necessary for writing a dissertation and performing research.

Certain factors, such as motivation,¹¹² amount of time spent on a task,^{113,114} the ability to work independently,^{112,115–117} and the priority for the doctorate⁶⁴ have an impact on doctoral students success.^{11,117} Motivation and goal setting have been identified as an essential trait to persistence,^{118–120} as well as the amount of time needed to complete a doctoral degree.¹²¹ Adult learners require much higher levels of motivation in order to start and complete a program than younger students.¹²² Students need to be highly motivated in order to succeed in a rigorous doctoral program.⁶⁵ The reason a candidate decides to pursue a doctoral degree is an important factor in persistence. Some of the most beneficial reasons for pursuing a doctoral degree were a desire for development,¹²³ self-improvement,¹²³ learning,¹²³ and improved quality of life.¹²⁴ Low retention rates are correlated to gaps between program expectations, student expectations, and reality.^{125,126}

Students' abilities are another critical reason why candidates fail to complete their degree,¹²⁷ therefore, prior academic training was considered a significant factor in persistence.¹²⁸ Candidacy evaluations before admissions can help achieve higher completion rates in doctoral programs.¹²⁹ High GRE (Graduate Record Examinations)^{113,117,130} and ACT/SAT (American College Testing/Scholastic Aptitude Test) scores,^{113,131} high undergraduate GPA (Grade Point Average),^{113,131} and the rigor of the undergraduate program¹³¹ were predictive of high completion rates. Students coming from lower quality undergraduate institutions¹¹⁷ were not sufficiently prepared to write at the expected level^{130,132} and lacked necessary research skills;¹³³ therefore, the

retention rates were lower in these students. Students who are not well prepared may also have a lack of competence, and these two factors increase the amount of time to completion of the doctoral program^{123,134} possibly diminishing the quality of the final product.¹³⁵

It has also been found that students who are resilient¹⁰³ and have good coping skills¹²⁰ are more likely to persist, despite encountering difficulties. Finally, personal characteristics such as learning style,¹²⁰ knowledge,¹¹⁸ intelligence,^{118,120} and personality,^{118,120} increased persistence whereas persistence decreased with personal issues¹¹ and an unwillingness or unpreparedness of the student to be able to complete coursework independently.¹¹

Doctoral students should be informed of the difficulty and expectations associated with a doctoral program before admissions¹³⁶ since students who had their expectations met were more likely to complete the program,¹³⁷ and students who had unfulfilled expectations were more likely to drop out.¹⁰⁵ Retention decreases when candidates are “unclear about what is expected of them, what a doctorate program requires, and the educational process.”⁹⁴ Courses in research methods also help students to understand the research process better¹³⁸ and could potentially help with retention as misunderstanding is made worse by unfamiliar and unstructured dissertation work.¹³⁹

Supervisors

The relationship between the researcher (doctoral student) and their supervisor (program director or committee chair) is an essential factor in doctoral student's success.^{140,141} This relationship is influenced by many different factors, including “interests, experiences, and prior knowledge at the onset of the research.”⁶⁶ There are also power relationships in the student–teacher relationship, but working with mature learners can create a more complicated situation.

The relationship can have boundaries that are blurred, confused or even non-existent.¹⁴¹ A supervisor also needs to have good communication skills (the ability to listen as well as make constructive, open, and objective comments), support-oriented skills (identify when a student needs help and offer it in a timely manner), general skills, and skills specific to the student's field of research.¹⁴²

The type of leadership (democratic, authoritarian, or laissez-faire) the supervisor portrays is another important factor.¹⁴³ Laissez-faire leadership allows students total freedom.¹⁴⁴ The supervisors do not participate in decision making and rarely offer their opinions. This style of leadership works best with people who are highly motivated but has drawbacks as well. If there is a group, and the supervisor or leader does not provide input, the group could have conflicts over roles and responsibilities. By not participating, the leader forfeits control over the final product. Authoritarian leadership is when the supervisor or leader has full power. Typically, the supervisor tells the group what to do, and students complete the orders, which may be the right leadership style when time is limited. An authoritarian leader can provide a clear vision and motivate a divided group; however, authoritarian leaders are more likely to ignore good ideas from others and consequently cause resentment and stress. “Democratic leadership balances decision-making responsibility between the group and the leader. Democratic leaders actively participate in discussions but also listen to the views of others. This style often leads to positive, inclusive, and collaborative environments.”¹⁴⁴

Indicators of effective management of research projects can be placed into four main categories: effective supervisory style, competence, attitudinal characteristics, and academic and intellectual standing.^{145,146} An effective supervisory style is shown by “the skill of direction and leadership, arranging regular meetings, having enough time to enable students to develop

original ideas, flexibility in project choice, and encouraging new ideas and independence.”⁷¹

Scientific competence, familiarity with academic literature, and expertise in the area of the project are important attributes for supervisory competence. Effective supervisor characteristics are reflected in accessibility and friendliness, supportiveness, positivity, open-mindedness, willingness to recognize errors, organizational skills, and enthusiasm. Supervision and the supervisor-student relationship is even more important in distance education because students feel isolated and the interests and needs of the student are more difficult for the supervisor to determine.^{146,147}

It is important for students and supervisors to establish a positive relationship, as many studies have identified style (approaches supervisors adopt for their interventions), roles (functions and tasks involved in the supervisory process), and abilities (ideal performance in their diverse roles) as the critical factors in the success of doctoral candidates.¹⁴⁰ Doctoral students need more than content knowledge to be successful; therefore, supervisors need to establish a positive relationship with the doctoral student.⁷⁰ The relationship between the advisor and student is one area that has been identified as a possible reason for the low retention rate in doctoral programs.¹⁴⁸ “A positive and non-hierarchical relationship between the doctoral committee chair and the doctoral candidate is one of the most critical factors in the successful completion of a doctorate degree.”¹⁴⁹ Doctoral students consistently identified a problematic relationship with their dissertation chair⁵⁶ and only six percent of doctoral students identified their supervisor in a positive light,¹²³ on a survey. The problematic relationship was also identified by doctoral program directors as an issue as well as insufficient supervisor support.¹²⁷

Regular communication between doctoral candidates and dissertation chairs is important.¹³⁶ Students are more likely to complete the program and experience greater

satisfaction when there is consistent communication.⁶³ Student success suffers when chairs are not available to supervise students and provide feedback and when they are overly involved with their own research.^{129,136} Higher completion rates are seen when chairs provide regular student meetings.¹¹⁷ Even though the dissertation chair is an important element of student success,¹⁵⁰ few doctoral programs require or even provide professional development in this area. Due to this, professional development opportunities should be provided for faculty members that will be supervising students.¹⁵⁰

Financial Considerations

“While a single factor does not typically cause a student to leave a doctoral program, financial factors are certainly a major contributor.”¹⁵¹ As a program length increases, cost and financial responsibilities also increase,¹²⁵ which adds stress to the student.¹⁵² Doctoral students who did not have financial support and paid incrementally for their degree, took longer to complete the degree and were more likely to drop out.^{6,113} Students who had financial support were more likely to finish.^{63,133} When there are financial constraints, stress increases, and retention rate decreases.^{66,67}

Scholarly Community

Both students and universities are concerned with the low retention rates. Social integration factors can improve retention rates and time to graduation and are viewed as necessary.¹²¹ Doctoral programs take several years to complete and come with “high stress and exhaustion.”¹⁵³ The unique demands and high expectations of doctoral study, requires better integration of improved models of learning to help first-year doctoral students succeed.⁵⁹ The

scholarly community plays a vital role in the social and psychological wellbeing of the doctoral student. Positive relationships can help maintain social and psychological wellbeing during and after program completion, whereas a mismatch between the student and the environment can lead to stress and overexertion.¹⁵³ In addition to interaction with advisors, interactions with staff also have a direct impact on student satisfaction.¹⁵⁴

Socio-emotional learning

Faculty should explore how the use of socio-emotional skills can increase the success of doctoral students.⁵⁹ Balancing instruction by attending to both the academic needs of the student as well as their socio-emotional learning (SEL) is essential.¹⁵⁵ SEL skills are a "set of abilities that allows students to work with others, learn effectively, and serve essential roles in their families, communities, and places of work."¹⁵⁵ The five core competencies of SEL include "self-awareness, self-management, social awareness, relationship skills, and responsible decision-making."¹⁵⁵ Elias stated that "social and emotional learning is the capacity to recognize and manage emotions, solve problems effectively, and establish positive relationships with others, competencies that are essential for all students."¹⁵⁵ Doctoral students need to be able to recognize their strengths, set appropriate goals based on self-perceptions, analyze problems, and then propose solutions to those problems. Being able to perform the list above will help improve self-motivation, which is an essential feature of SEL.⁵⁹ The social aspect of collaborative learning is also important.¹⁵⁶ Doctoral students need to be able to effectively communicate and engage with other doctoral students and faculty as well as work collaboratively, which are all skills found in SEL. Researchers recognized the importance of SEL in higher education as social support contributes to the success of graduate students.¹⁵⁷ Attention to SEL "assists students in

their transition to higher education, reduce(s) withdrawal rates and significantly enhances the student learning experience".¹⁵⁸

Support System

Student support systems impact retention.¹³⁸ Students who have a lack of socialization, especially those demographically isolated, are more likely to leave the program.¹⁵⁹ Individual characteristics, such as marital status, age, learning style, procrastination, reasons for enrolling, readiness skills, and typing speed, have been identified as factors that affect retention and persistence in doctoral programs.^{120,129} Retention rates increase as age increases and married students have higher retention rates than unmarried students.¹⁵⁹ Procrastination and learning style increases the likelihood of attrition, whereas reasons for enrolling, readiness skills, and typing speed increased the likelihood of retention.¹⁶⁰

Support systems help students overcome challenges and improve their academic success¹⁶¹ in both in-person and distance programs.¹⁶² Cockrell and Shelly¹⁴⁸ found that support systems seem to improve student retention in doctoral programs. The basis of the support is provided by family, friends, cohort members, and faculty members. All of these people recognize and acknowledge the achievements of doctoral students and help confirm to the student that they belong in the program and can succeed. Care and support during the doctoral study, such as help and support in completing life tasks at home and managing time and commitments, facilitates learning, and contributes to student success and wellbeing.⁵⁹ Gender has shown an impact on retention rate as females are more likely to seek out counseling for relationship and family issues,¹³⁴ “possibly indicating that home and family issues impact women more than school issues.”⁹⁴ Those who care for doctoral students have helped them

recognize their strengths and improve self-confidence.⁵⁹ All of these relationships are important as “previous research has identified social isolation as one of the main factors associated with doctoral attrition.”⁹⁴

Social and intellectual isolation causes doctoral students to struggle as well as affects the time to program completion.¹³⁹ Social support is even more critical with online doctoral programs that “allow working adults to continue their professional careers while completing a doctorate.”⁹⁴ Doctoral student support needs improvement, and understanding doctoral student socialization may help universities support doctoral students better.¹¹³ Universities can help these students succeed by creating a student-to-student support network¹⁶³ as student-cohort relationships¹⁶⁴ and opportunities for students to learn from each other¹³⁶ have been shown to reduce isolation and improve retention rates.¹³⁶ Students with realistic expectations of the doctoral program and support they get from cohort members are more likely to persist and complete the degree.¹³⁷

Problems, Predictors and Solutions	
Distance Education	<ul style="list-style-type: none"> · Program design, orientation, use of online environment, faculty and leadership support, learning style, recognition of student needs¹⁰³
Blended Learning	<ul style="list-style-type: none"> · Blended learning has been associated with many positive outcomes for learners.¹⁰¹ · Blended problem-based learning may be a technique that could be used to improve student outcomes.
Socio-emotional	<ul style="list-style-type: none"> · Core competencies include self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.¹⁵⁵
Adult Learners	<ul style="list-style-type: none"> · Heavy workloads, inadequate knowledge of research, lack of technological skills⁶⁵
Supervisors	<ul style="list-style-type: none"> · Relationship between doctoral student and their supervisor is an essential factor in the doctoral student's success^{140,141} · Type of leadership¹⁴³ · Supervision and supervisor-student relationship is even more important in distance education^{146,147}
Student Preparedness	<ul style="list-style-type: none"> · Motivation and goal setting – essential trait to persistence^{118–120} · Students abilities impact retention¹²⁷ · Resilience,¹⁰³ coping skills,¹²⁰ learning styles,¹²⁰ knowledge,¹¹⁸ intelligence,^{118,120} and personality^{118,120}
Financial Considerations	<ul style="list-style-type: none"> · As the length of the program extended, costs increased, financial responsibilities increased, stress increased, and therefore retention rate decreased^{66,67}
Scholarly Community	<ul style="list-style-type: none"> · Doctoral study requires better integration of improved models of learning to improve student success⁵⁹ · Plays a vital role in the social and psychological well-being of the doctoral student¹⁵³
Support System	<ul style="list-style-type: none"> · Marital status, age, learning style, procrastination, reasons for enrolling, readiness skills, typing speed increases the likelihood of retention^{120,129} · Help students overcome challenges and improve academic success¹⁶¹ · Student-to-student networks have been shown to improve retention rates¹⁶³

Table 1. Problems, Predictors, and Solutions. Summary of possible problems, predictors, and solutions that influence retention rate.

Conclusion

APD students are often returning to school after several years working in the field and are therefore older than undergraduate students or graduate students without a break after an undergraduate program. The attrition rate for online doctoral programs is between 50 and 70 percent.⁴ Low retention rates show the loss of potential doctorates, which therefore decreases the number of applicants for positions requiring a doctorate. The majority of literature exploring retention in higher education is focused on undergraduate students or research doctorates.⁵ Further, there is currently no research, to our knowledge, examining the factors associated with overall experience in APD programs. Overall experience can have an impact on retention rate. Attrition rates have reached unacceptable levels. Institutions need to determine factors to help improve attrition rate and overall experience by develop measures to improve both internal and external factors. This study will help determine factors of importance in overall experience and attrition.

Chapter 2: Theoretical Framework

This section will integrate the attribution theory, identity theory, Leader Member Exchange (LMX) theory, and the Social Cognitive theory (SCT) with the factors suggested to be important in student retention and doctoral experience based on review of the literature. The attribution theory tries to explain why people act the way they do under different circumstances. Motivation, resilience, and procrastination due to socio-emotional factors are all constructs of the attribution theory. The identity theory proposes that self-identity is a clear predictor of intention, therefore mature learners may have difficulty identifying as a university student partially due to the fact they have already established their social, family, and work groups. This can lead to many barriers in returning students, such as lack of confidence, which can decrease retention. The LMX theory describes the supervisor-student dyad, which the literature review found to be an important factor for student retention and positive program experience. The LMX theory has been found to be a useful tool for studying hypothesized linkages between supervisors and the outcomes of their subordinates. Finally, the SCT considers social influence and the emphasis on both internal and external reinforcement as well as past experiences. The goal of SCT is to explain how people “regulate their behavior through control and reinforcement to achieve goal-directed behavior that can be maintained over time.”¹⁶⁵ Self-efficacy is the sixth construct of the SCT. It is a key personal influence and can affect motivational outcomes. Perceived progress towards a goal, achievement of a goal, environmental factors such as comparing oneself to peers or feedback from professors, can affect self-efficacy.

Attribution Theory

What is Attribution Theory?

Weiner developed a theory of attribution which describes a timeline that starts with an individual's determination of a behavioral outcome as a success or failure.¹⁶⁶ Attribution is "the interpretive process by which people make judgments about the causes of their own behavior and the behavior of others."¹⁶⁷ Establishing causal attributions is essential for adjusting to a changing environment as well as overcoming encounters that challenge people daily. It makes sense to use attribution theory to look at students to help understand doctoral student success as well as why some students have a negative or positive experience.¹⁶⁸ Attribution theory explains why people react the way they do to a particular experience. This suggests that different responses happen due to the differences in the perceived cause of the initial outcome. "Students who feel in control develop a healthy self-concept. Therefore, when students understand the causes for their failure as well as their causes for success, they will develop a better understanding of themselves as learners, which will help students who have felt shame or low self-esteem in prior learning tasks."¹⁶⁹ "Attributions do not directly motivate behavior. Rather, they are interpreted or reframed into psychologically meaningful (actionable) responses."¹⁷⁰ The success or failure when trying to master a new skill could be attributed to "ability, effort, task difficulty, and luck."¹⁷¹ The importance of each factor depends on the culture of the student. Ability and effort appear to be the most frequently perceived causes of outcomes in the United States.¹⁷²

The perceived four casual determinants of outcomes fall within three dimensions – locus, stability, and control.¹⁷¹ "The locus is either internal or external to the individual. The stability dimension refers to the perceived ability of the factor to change over time; it is a relative attribute

(stable vs. unstable). Controllability refers to whether or not the individual can control the factor (controllable or uncontrollable)."¹⁶⁹

Locus of Causality

The locus of causality describes the internality or externality of an attribution. If a student gets a poor grade and attributes this poor quality to his or her own doing (i.e., ignored assignment directions), he or she is making an internal attribution. If the same outcome is attributed to poor directions provided by the professor, the student is making an external attribution. Locus is not strongly linked with an expectancy of success, because "past success (regardless of locus orientation) will predict future success if conditions remain stable."¹⁷⁰

Locus can influence feelings of pride and self-esteem.¹⁷³ A student who attributes their effort with an internal locus and has an excellent performance may experience pride in their accomplishment. Conversely, if a student attributes their "failure to low ability and low ability is perceived to be internal, stable, and uncontrollable, the student may feel shame and hopelessness. This particular student may feel negative self-esteem and therefore decide to no longer put forth effort in similar situations in the future. This student's self-esteem may be negatively affected, and she or he may no longer attend to or put forth effort in achievement related situations."¹⁶⁹

Stability Dimensions

Outcomes and behaviors that are influenced consistently over time and across situations are known as stable causes. Intelligence is usually considered relatively stable because it is difficult, if not impossible, to change. The amount of effort put forth on a particular task is reasonably easy to change and, therefore, is considered an unstable cause.¹⁷⁴ The perceived

stability of the reason for the prior performance can help determine if there can be changes in expectations for future success or failure.¹⁷⁵

Control

Controllability is not strongly linked with the expectancy of success or failure "because success (regardless of controllability) will predict future success if conditions remain stable."¹⁷⁰

Attribution Style

Individuals that make attributional errors more frequently have a biased attribution style. The three attribution styles are optimistic attribution style, pessimistic attribution style, and hostile attribution style.

Optimistic Attribution Style

The "tendency to attribute negative outcomes to external factors is often coupled with a tendency to attribute positive outcomes to internal factors" ¹⁷⁴ and is called an optimistic attribution style. People with this style typically feel good about themselves as well as their abilities to have success.

Pessimistic Attribution Style

People with a pessimistic attribution style have the opposite tendency of those with an optimistic attribution style. This style "frequently attributes undesirable events to internal and frequently stable factors such as lack of intelligence, while attributing desirable outcomes to external and frequently unstable factors, such as bad luck."¹⁷⁴ People with a pessimistic

attribution style often lack confidence in themselves and do not feel making changes will improve their chances of success. Having these feelings can promote depression and learned helplessness.¹⁷⁴

Hostile Attribution Style

This style is similar to the optimistic style in that they both have a "tendency toward external attributions for negative outcomes."¹⁷⁴ The hostile attribution style and optimistic attribution style are different as the external attributions associated with the hostile style are stable. This attribution style can lead to anger and aggressive response towards the 'external entity' (supervisor or committee chair).¹⁷⁴

Constructs of Attribution Theory

Learned Helplessness

Learned helplessness occurs when a person believes that the effort they put forth is useless, because failure is inevitable. So, when certain behaviors do not lead to the desired outcomes, motivation is lost. On the other hand, people become motivated to repeat behaviors when the behaviors lead to the desired rewards and outcomes.¹⁷⁴

Empowerment

Empowerment refers to the state of "having the knowledge, confidence, means or ability to do things or make decisions for oneself."¹⁷⁶ Individuals who are empowered expect that their efforts will lead to successful attainment of their goals, and therefore they are driven to put forth increased effort.¹⁷⁴ A student who fails an exam, but believes the error was under his or her

control (i.e., "I did not think to use this textbook for studying, but I will know to do so in the future.") is less likely to experience negative emotions and learned helplessness than a student who attributes the error to his or her incompetence.¹⁷⁷ Similarly, a student who attributes a similar error to an external, unstable, and uncontrollable factor (i.e., the professor provided incomplete information) is likely to feel optimistic about their future chances for successful grades and less likely to have a negative experience. Empowerment is experienced when a person attributes positive events to internal factors (intelligence, skill, or effort). Individuals with an optimistic attribution style are "more likely to demonstrate empowerment than those with pessimistic or hostile attribution styles."¹⁷⁷ Attribution styles can cause a person to form inaccurate perceptions of causality, so a person with an optimistic attribution style may feel empowered even if their skills are lacking. Due to this "it is more important to promote attributions that are accurate than to encourage attributions that are optimistic."¹⁷⁷

Motivation

Weiner's theory of motivation looked "specifically at the role of the self in motivation and attribution and how individuals are able to explain their own successes and failures in life."¹⁷⁸ The expectation of success is directly affected by perceived causes, mainly through the stability dimension: "If conditions (the presence or absence of causes) are expected to remain the same, then the outcome(s) experienced in the past will be expected to recur...If the causal conditions are perceived as likely to change, then...there is likely to be uncertainty about subsequent outcomes."¹⁷⁰

When students feel like they are in control, they are more likely to persist in their efforts of learning. "Students are likely to feel in control when the factors attributed to their outcomes

are seen as internal, stable, and controllable."¹⁶⁹ An important part of understanding attribution is looking at a person's emotions. Emotions may serve as motivators for future behaviors. When a student feels like they cannot control a factor, they may show frustration.¹⁶⁹ Weiner¹⁷⁹ also determined that social context needs must be examined to understand the motivation for learning.

Weiner developed two additional theories of motivation based on the attributions of individuals within a social context. The first, *Interpersonal theory of motivation*, "focuses on the reactions that individuals such as peers, advisors, professors, and parents express toward the performance of others in a social context."¹⁶⁹ The second is the *intrapersonal theory of motivation*. This theory assumes that individuals "are scientists, trying to understand themselves and their environment and then acting on the basis of this knowledge".¹⁷³

Resilience

Resilience is defined as "an ability to recover from or adjust easily to misfortune or change."¹⁸⁰ Resilient people are fairly good at making accurate attributions, whereas non-resilient people tend to error in the attributions and blame others or themselves when they fail. Either of these attributional errors can facilitate adverse motivational outcomes whereas high levels of resilience help individuals keep their attribution consistent with reality.¹⁷⁴

"Where does resilience come from? Techniques for promoting empowerment while discouraging learned helplessness and aggression."¹⁷⁴ A person's level of resilience appears to form very early in life and are unlikely to change dramatically under regular life events.

Procrastination

"Academic procrastination is defined as the intentional and needless deferral or delay of work that must be completed to the point of experiencing discomfort."¹⁸¹ Procrastination can be detrimental to a student's academic achievements as it reduces the quality as well as the quantity of work produced by the student.¹⁸¹

"Maladaptive attributions will decrease self-regulatory activity and increase the tendency to procrastinate. This theoretical connection to procrastination makes the understanding of attribution critical to the understanding of why students procrastinate."¹⁸¹ Student attributions for academic results can determine a student's level of motivation. This is dependent upon if the reason is seen as a variable and within the person's control.¹⁸¹ "If a student thinks that the cause of their perceived failure is stable and uncontrollable,"¹⁸¹ this can create a fear of failure that can lead to more failure and cause future procrastination.

Students who attribute their failures to stable factors (i.e., competence and natural ability) participate in more procrastination behaviors, whereas students who attribute their academic success to internal factors (i.e., ability or skill) display a lower level of procrastination. Students who associate their poor academic results with internal factors show an increased level of procrastination when completing coursework, and students with a "negative explanatory style" tend to delay starting and perform weakly on assignments, which creates unnecessary stress which can lead to a negative experience. Rakes, Dunn, and Rakes¹⁸¹ found that "attributional beliefs and procrastination are related; however, there is a dearth of research on this topic for online graduate students."¹⁸¹

Research also suggests that the more students attribute academic outcomes to effort, the less they procrastinate, whereas as students who attribute academic outcomes to ability and luck,

procrastinate more. Students think they can put forth less effort if there are more substantial related influences such as “family and work, and therefore, procrastinate more.”¹⁸¹ Based on the above examples a possible model for the influence of attribution on procrastination behavior in online learners can be created.¹⁸¹

Procrastination and Socio-emotional (work and family)

Rakes and colleagues¹⁸¹ also found that "most of the external attributions were related to time pressures brought about by competing obligations to work and family."¹⁸¹ When using Weiner's Theory of Attribution, work and family are considered attributions that are controllable and unstable. If external attributions remain unchallenged, these attributions can interfere with future academic success.¹⁸¹

Attrition

Lovitts¹⁸² found a considerable level of mixed unawareness for the causes of attrition. "When graduate students who are struggling see other graduate students putatively thriving, they come to believe that they are the only ones having problems and attribute their difficulties to their own inadequacies and not to the structure of the situation."¹⁸² These type of flawed attributions influence elevated and stable rates of attrition.¹⁷⁸

Summary

The attribution theory is a good fit for this study. The research question ‘What factors are associated with overall experience in APD programs?’ lends itself to a framework that considers the reasons APD students give for having positive or negative experiences in their

APD program. This study seeks to understand factors associated with overall experience. The attribution theory tries to explain why people act the way they do, which suggests that different responses occur due to differences in perception, and in turn can have an effect on the experience of a person. The review of literature revealed many key factors that may influence retention rates as well as overall experiences. Some of the constructs of the attribution theory, such as motivation, resilience, and procrastination due to socio-emotional factors have been explained using the attribution theory. When students understand the causes of their successes or failures, they develop a better understanding of themselves which can then lead to meaningful or actionable responses.

Identity Theory

What is Identity Theory?

"Identity theory is composed of four basic components: an input, an identity standard, a comparator, and an output."¹⁸³ The four components function in a homeostatic and conservative manner to maintain perceived self-meanings within a specific range.¹⁸³ "The four key components of the identity process are organized into a control system that operates to control the input to the system."¹⁸³

The Identity Standard

"Each identity comprises a set of meanings (what is included in the identity standard), which can be viewed as describing the character of the identity. This set of meanings is the identity standard."¹⁸³ A meaning is not necessarily one meaning, but can be many meanings contained in the identity standard.

The Inputs

Perceptions, or what a person is trying to control, are fundamental to the identity process. A perception tells a person about their environment. It is the only source of information about what is going on around them.¹⁸³ Perceptions are linked to the identity standard to match the perceptions to the standard. In other words, the standard is the goal for perceptions.

The Comparator

The comparator, the third part of the identity system, does nothing more than "compare the input perceptions of meanings relevant to the identity with the memory meanings of the identity standard. It then produces an 'error signal,' which is the difference between the input and the standard."¹⁸³

The Outputs

The fourth and final component of the identity system is the output or behavior in a particular situation. Output or meaningful behavior is produced in the environment whereas input comes from the environment.¹⁸³

Identity Outcomes

Self-Esteem

Self-esteem is the "confidence and satisfaction in oneself"¹⁸⁴ and "is an outcome of the identity verification process."¹⁸³ There are three major bases for self-esteem: "self-efficacy or a sense of competency, self-worth, or a general sense of being found worthy and valuable, and self-authenticity, or the feeling that one is being one's true self."¹⁸³ People want to feel

knowledgeable and successful in their environment. "By verifying role identities, that is, behaving in ways consistent with the meanings and expectations associated with role identities, individuals come to have a heightened sense of self-efficacy."¹⁸³

People with a higher self-efficacy are more likely to pursue difficult tasks that they have not tried before because they "have a general expectancy of ability to accomplish outcomes."¹⁸³ People who have high self-efficacy are also more likely to try new things and therefore have the opportunity to realize they can be successful. People with low self-efficacy tend not to try new or challenging tasks and therefore do not have the opportunity to find things they are good at.

Attrition

The identity theory proposes that self-identity is a clear predictor of intention. Mature students who have been away from academia for a substantial period and have already established their social, family, and work groups, need to adopt a new identity as a university student. The ability of a student to identify themselves in the role of university student can have many barriers, including "social class, gender, and/or age of the student."¹⁸⁵ "Past emotions and memories may be experienced consciously or unconsciously in the present, and are ongoing in the maintenance of self-esteem and identity."¹⁸⁵ Past academic experiences can cause emotions in the students' that are closely tied to their "self-appraisals of competence and control in the academic domain."¹⁸⁵ This can then be tied to the goals that the student attaches to their learning and can affect their control, values, and goals within classes.

Identity, roles, and emotional commitment theoretical framework

Three aspects that must be taken into consideration, when examining the identity theory, in addition to the actual academic identity of an individual: "the social context of the individual, the emotional commitment to the identity, and the associated role."¹⁸⁵ When examined through the construct of identity theory, the three components can be shown theoretically.

The level of emotional responsibility to the identity is affected by the individual's awareness of their affection, for their performance, on a particular task.¹⁸⁵ The student's identity is strengthened when there are ongoing successful academic activities, especially when there is success with assessments or academic staff.¹⁸⁵ When students have difficulty transitioning into being a university student and have academic difficulties, there may actually be an identity challenge at play. Therefore, if academics are only addressed, there will be little success unless identity issues are resolved as well.¹⁸⁵ "Where the damage to the emotional commitment to the university student identity is sufficient, attrition may result."¹⁸⁵

When a student has a negative experience, the academic and social self-worth of the student is negatively affected. Consequently, separation behavior and disengagement may occur.¹⁸⁵

Academic self-concept

Self-concept is "the mental image one has of oneself."¹⁸⁶ There are similarities between "the academic self-efficacy and academic self-concept constructs. Self-efficacy acts as an active precursor of self-concept development."¹⁸⁵ Students at a university need to be able to function alongside other students who may have higher levels of academic performance and ability. A

student who has been absent from the university for a substantial period may be more susceptible to attrition due to "negative comparison with other students, an inability to perform the substantially more challenging and independent role associated with being a university student and to the nature of the institution they are attending."¹⁸⁵

Summary

One of the challenges when looking at APD retention is understanding why students decide to discontinue their doctoral study. An examination of the literature identified some factors that could influence retention and attrition rates as well as impact experiences the student may have. Even though retention rates may be low there are still many students who do persist and are able to complete the program even though they have to overcome what seems like impossible challenges. Being able to continue through a program even when there are challenges suggests that human behavior is not simply a reaction to external, objective conditions. Behavior may rather be a product of the "interplay of objective conditions with the particular subjective, internal psychology of a given individual."¹⁸⁷ When a student has a negative experience, the academic and social self-worth of the student is negatively affected. Due to this, when looking at student behavior relating to student experience and retention rates, some form of theoretical framework that incorporates the psychology of the student should be used, such as the identity theory.

Leader Member Exchange (LMX)

The leader-member exchange construct (LMX) is commonly used in leadership research. It is used to assess the quality of the relationship between a leader (i.e., supervisor) and a member of the organization (i.e., subordinate).¹⁸⁸ This construct from organizational behavior may help characterize the supervisory relationship between a doctoral student and their committee chair.

"Multidimensional measure reflects four inter-related dimensions of the quality of the relationship including: (a) contribution (the perception of the quality, amount, and direction of work-related activity that each member of the dyad directs towards achieving shared goals; (b) loyalty (the extent to which each member of the dyad expresses public support for each other's character and actions); (c) affect (mutual affection based on interpersonal attraction, rather than professional or work values); and (d) professional respect (the extent to which each member of the dyad is perceived to have built a reputation of excellence in their work)."¹⁸⁹ The LMX model predicts that the relationship between the supervisor and the subordinate will grow over time. These exchanges between the supervisor and the subordinate, as well as the degree of emotional support from the supervisor, changes over time. Low-quality LMX is positively associated with emotional exhaustion. The doctoral student-supervisor dyad plays a critical role in doctoral student success as well as degree completion. Depression,¹⁹⁰ anxiety,^{153,191} stress,¹⁵³ emotional exhaustion,²⁶ and reduced well-being¹⁵³ are seen in graduate students when there is inadequate or problematic supervision which can have an impact on overall experience. Supervisor quality also affects doctoral student commitment as doctoral students are more likely to leave the program if they are not satisfied with their supervisor.¹⁸⁹ The supervisor student relationship is

more important than the departmental/faculty support when it comes to improving doctoral students' emotional exhaustion and chances of leaving the program.

Summary

Upon review of the literature it was found that the supervisor-student dyad is important to retention. The LMX is used to assess the quality of the relationship between the supervisor and the student. The supervisor-student dyad is often overlooked, yet a potentially critical factor in the attrition and retention debate. Low-quality LMX is positively associated with emotional exhaustion and the doctoral student-supervisor dyad plays a critical role in doctoral student success as well as degree completion.¹⁸⁹

Social Cognitive Theory

The Social Cognitive Theory (SCT) was originally known as the Social Learning Theory (SLT) when it was developed by Albert Bandura in the 1960s.¹⁶⁵ In 1986 it developed into the SCT and states “that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behavior.”¹⁶⁵ SCT takes into account social influence and the emphasis on both internal and external reinforcement as well as past experiences. The goal of SCT is to explain how people “regulate their behavior through control and reinforcement to achieve goal-directed behavior that can be maintained over time.”¹⁶⁵ There are six constructs to the SCT, the first five were developed as part of the SLT with number six (self-efficacy) being added when the theory evolved into the SCT. The six constructs are: Reciprocal Determinism, Behavioral Capability, Observational Learning, Reinforcements, Expectations, and Self-efficacy.

There are different SCT perspectives, but the SCT proposed by Bandura will be discussed as it has seen applicability in fields such as psychology, education, business, and health.¹⁹²

“A central premise of Bandura’s theory is that individuals strive for a sense of agency, or the belief that they can exert a large degree of influence over important events in their lives.”¹⁹² They monitor their progress toward their goals and adjust their strategies to attain them. Central to this power to control perspective is individuals’ self-efficacy. “Self-efficacy, which results from self-reflection that is both evaluative and goal oriented, is a key internal motivational process in social cognitive theory.”¹⁹²

The model of reciprocal interactions suggests that human functioning depends on three sets of factors that interact: behavioral, environmental, and personal.¹⁹³ Each factor can affect one another. “What people think can affect their actions and environments, actions can alter their thoughts and environments, and environments can influence individuals’ thoughts and actions.”¹⁹²

Personal Influences on Outcomes

Bandura¹⁹⁴ states that goals can help direct and boost motivational outcomes. A person can observe and evaluate the progress of their goal and identify any discrepancies between the goals and progress, which can then lead the person to change their effort and persevere. Self-efficacy can be increased if the person believes they are making progress toward their goal.¹⁹⁵

Self-Efficacy

Self-efficacy is the sixth construct of the SCT. It is a key personal influence and can affect motivational outcomes. Perceived progress towards a goal, achievement of a goal, and

environmental factors such as comparing oneself to peers or feedback from professors, can all affect self-efficacy. Students who feel successful are more likely to engage in behaviors that improves their learning.¹⁹⁶ Self-efficacy takes time to develop and different experiences, accomplishments, and persuasion from others, can all impact a person's self-efficacy.¹⁹⁷ When a person hears from others "You can do it!", accomplishes a goal, or even just makes progress towards a goal, their self-efficacy will increase. "There is extensive literature supporting the idea that self-efficacy influences one's choice of activities, effort, persistence, achievement, and self-regulation, and in turn is affected by the results of one's achievement efforts."¹⁹²

A person's evaluation of their ability is influenced by four types of experiences: 1) mastery experience (practical experience in specific area), 2) vicarious learning (experience observing others), 3) verbal persuasion (verbal praise or lack of verbal praise), and 4) the emotional state of the student.¹⁹⁴ "Each of the four modes of conveying information about personal capabilities has its distinctive set of efficacy indicators."¹⁹⁴ Mastery experience is the most influential source of self-efficacy because it provides evidence if a person has what it takes to succeed. When a person succeeds, that person's self-efficacy will increase, however failures can hurt a person's self-efficacy if the failure occurs before a sense of efficacy is fully established. If a person has only success, they will be easily discouraged when they experience a failure. In order to obtain a resilience in self-efficacy a person needs experience failure and be able to overcome it. Experiencing difficulties allows a person to learn how to turn a failure into a success. Vicarious learning or modeling is another way to develop self-efficacy. A person is able to evaluate their capabilities in comparison to the achievements of others. Efficacy increases when a person perceives themselves as performing better than their peers, but efficacy will decrease if the person perceives they have fallen short of the achievement of their peers.

Verbal persuasion is the third way to develop efficacy. When people are told that they are capable of achieving a goal they are more likely to put forth effort and are more likely to try hard enough to succeed. However, giving unrealistic beliefs only leads to failure and undermine the person's beliefs in their capabilities. Mood states affect a person's judgement of their self-efficacy whereas physiological indicators of efficacy have an influential role on activities requiring physical strength and stamina. Enhancing physical strength and reducing stress levels can alter efficacy beliefs.¹⁹⁴

Social Comparisons

Comparisons of oneself with others, such as peers, can affect motivational outcomes.¹⁹⁷ When a student sees another student succeed they are more likely to think they can succeed as well. Believing one can succeed can raise self-efficacy as well as lead to increased motivation. Schunk and Usher¹⁹⁷ found that an important consideration when comparing to others is the degree of perceived similarity between the observer and the person being observed. When the similarity is greater the observer is more likely to be influenced. Bandura¹⁹³ found that observer's self-efficacy is influenced more when there is perceived similarity in ability levels, as well as age and gender. On the other hand, self-efficacy can decrease if the observer sees others who they feel are similar fail, which can also impact motivational outcomes.

The attribution theory, previously discussed, starts with an individual's determination of a behavioral outcome as a success or a failure.¹⁶⁶ The SCT predicts learners who believe they are responsible for their positive outcomes, may experience high self-efficacy and pursue. Attribution theory explains why people react the way they do to a particular experience. This suggests that different responses happen due to the differences in the perceived cause of the

initial outcome. "Students who feel in control develop a healthy self-concept. Therefore, when students understand the causes for their failure as well as their causes for success, they will develop a better understanding of themselves as learners, which will help students who have felt shame or low self-esteem in prior learning tasks."¹⁶⁹ "Attributions do not directly motivate behavior. Rather, they are interpreted or reframed into psychologically meaningful (actionable) responses."¹⁷⁰ So how do attributions relate to self-efficacy? How can interventions lead to positive attributions? Providing feedback to learners that emphasizes one or more attributions has suggested that learners' can modify their attributional beliefs in ways that allow for a better relation to motivational outcomes. Therefore, emphasizing effort to students as a reason for successful outcomes can improve self-efficacy and accomplishment of set goals.¹⁹⁸

Conclusions and Application to this Research Project

The attribution theory is an important theoretical framework as it is important to understand why something might happen as this helps a person control the outcome, predict when it might occur, or rationalize its occurrence. The identity theory is also an important aspect of the theoretical framework. It cannot be assumed that students entering into a doctoral program know what is required of them as a doctoral student, irrespective of their previous academic performance. Supporting just the academic role of the student transitioning into a new academic role has a limited effect on retention rates. The emotional commitment to the student's academic identity needs to be strengthened. The social context can strengthen and support the student or challenge the new student's identity formation. It is beneficial for students to have the opportunity to develop relationships with other students through orientation programs and even on the individual course level.¹⁸⁵ LMX is important to use when utilizing the supervisor-student

dyad. Since leaders do not treat all subordinates the same,¹⁹⁹ the LMX theory has been identified as "one of the more interesting and useful approaches for studying hypothesized linkages between leadership processes and outcomes."²⁰⁰ The emphasis on dyadic relationships is an important aspect of the LMX theory. Finally, the SCT ties back into the attribution theory. The attribution theory begins with an individual's determination of a behavioral outcome as a success or a failure whereas the SCT predicts individuals who believe they are responsible for their positive outcomes and may experience high self-efficacy and continue to pursue their goals. Attributions relate to self-efficacy. Providing feedback to learners that emphasizes one or more attributions has suggested that learners' can "modify their attributional beliefs in ways that bear a better relation to motivational outcomes."¹⁹² Therefore, emphasizing effort to students as a reason for successful outcomes can improve self-efficacy and accomplishment of set goals.¹⁹⁸

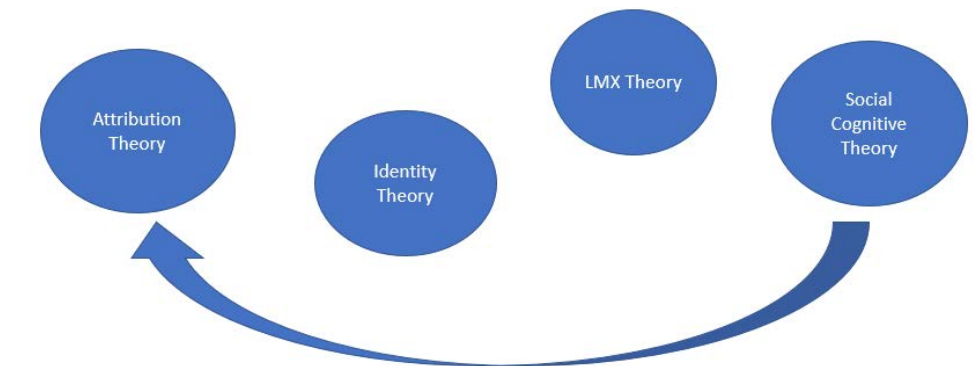


Figure 1. Theoretical Framework application to this research study

Constructs from the attribution theory, identity theory, and social cognitive theory helped answer the research question 'What factors are associated with overall experience in APD programs?' as well as the sub-category questions ('Is there a relationship between wellbeing and overall experience in APD programs?' and 'What is the relationship between APD experience and various demographic factors?'). The LMX theory will be used to help answer the research

question ‘What, if any, are the university factors that contribute to the overall experience of APD students?’. The constructs that are most important from the attribution theory are procrastination due to socio-emotional factors, low resilience, and reduced motivation. External attributions related to time pressures brought about by completing obligations to work and family are also important. The attribution theory does not consider adult learners, so the identity theory was used to discuss the lack of confidence of the mature learner as well as look at emotion responsibility, since the student is affected when they have a negative experience. The social cognitive theory construct that is most important is self-efficacy. None of these three theories consider the supervisor-student dyad, therefore the LMX theory was used to help answer the second research question stated in the Table 2 below.

Research Questions and Theory Constructs	
Research Question	Theory Constructs
1. What factors are associated with overall experience in APD programs? a. Is there a relationship between wellbeing and overall experience in APD programs? b. What is the relationship between APD experience and various demographic factors?	Attribution Theory <ul style="list-style-type: none"> • Motivation • Resilience • Persistence (socio-emotional) • Work and family Identity Theory <ul style="list-style-type: none"> • Age/Mature learner • Self-esteem <ul style="list-style-type: none"> ○ Self-efficacy • Negative experience Social Cognitive Theory <ul style="list-style-type: none"> • Self-efficacy
2. What, if any, are the university factors that contribute to the overall experience of APD students? b. Do various factors that may affect experience, differ between programs with different modes of delivery?	LMX Theory <ul style="list-style-type: none"> • Supervisor-student dyad <ul style="list-style-type: none"> ○ Program director/Committee chair Attribution Theory <ul style="list-style-type: none"> • Resilience • Work and family Identity Theory <ul style="list-style-type: none"> • Age/Mature learner • Self-esteem <ul style="list-style-type: none"> ○ Self-efficacy • Negative experience Social Cognitive Theory <ul style="list-style-type: none"> Self-efficacy

Table 2. Research Questions and Theory Constructs. Theory constructs that are associated with each research question.

Chapter 3: Methods

Study Purpose

The purpose of the study is to examine the factors associated with overall experience in advanced-practice doctoral programs.

Research Questions

Interview and in-depth surveys were designed to answer the following questions:

1. What factors are associated with overall experience in APD programs?
 - a. Is there a relationship between wellbeing and overall experience in APD programs?
 - b. What is the relationship between APD experience and various demographic factors?
2. What, if any, are the university factors that contribute to the overall experience of APD students?
 - b. Do various factors that may affect experience, differ between programs with different modes of delivery?

Study Design

This mixed-methods research study utilizes both qualitative (interview) and quantitative (survey) methods. The rationale for combining qualitative and quantitative research is for instrument development. The qualitative component helped guide the development of the survey (quantitative), for use with a higher number of former and current APD students.

This study focused on advanced-practice doctoral students because there is a high drop-out rate for these students. In order to capture the diverse context, influences, and barriers related to student experience, three different APD programs were purposely selected from the University of North Florida encompassing three different groups of students (current students, graduates of the program, students who did not complete).

Select students from three different APD programs (Group A – DCN, Group B – EdD, Group C - DNP) at one university were asked to participate in a semi-structured interview which helped capture comprehensive responses to the questions. Participants from the three groups A, B, and C were interviewed by the researcher using the interview guide (Appendix 1). The interview was used to help guide the development of the survey. Students from the three groups were asked to participate in a one-time, non-incentivized, survey (described below in *Instruments*). The inclusion criteria were based on the students' status as a current or past APD student in one of the three programs at the university.

The purpose of this research is exploratory with a theoretical drive of equal-status, as both the qualitative and quantitative portions are of equal value. This research is a sequential dependent design as the qualitative component comes before the quantitative component and the quantitative component is dependent upon the result from the qualitative component. The point of integration in this mixed methods research is at instrument development. As part of an interactive design approach the theoretical framework, methods, and validity were continually assessed throughout the research process. The research was evaluated and approved by the Institutional Review Board (IRB) prior to the start of data collection.

Study Participants

The target population for this research study was current or previous APD students who had completed at least one semester in an APD program or graduates of an APD program. The population was further restricted to students who enrolled at the University of North Florida in either the DCN, DNP, or EdD programs.

Participants for the qualitative portion of this research were chosen intentionally. Initially four to ten students per group – one to three students who did not finish, one to five individuals that did complete the program, and two to seven individuals who were in the middle of the degree at the time of the interview. After the interview was complete, the final survey was developed and the recruitment of participants for the quantitative part of the research began. A potential participant list with emails and/or phone numbers was provided by the directors of the programs of interest.

A recruitment letter was sent to students via email. The email contained the informed consent explaining the purpose of the study, known risks and benefits of participating in the study, how to contact the researcher, as well as the IRB approval number.

Interview - Qualitative

Participants were recruited by obtaining names and email addresses from their respective program directors. Electronic invitations were sent via email to each student inviting them to participate in the interview. The invitation contained a Qualtrics link to the informed consent and a schedule to select an interview time. Data collection was concluded after at least one student from each subgroup had been interviewed and saturation had been reached.

Survey - Quantitative

For the quantitative survey, participants were recruited by obtaining names and email addresses from their respective program directors. Electronic invitations were sent via email to each student inviting them to participate in the survey. The invitation contained a Qualtrics link to the informed consent and to the survey. Data collection was concluded after four weeks and at least 55 respondents.

Study Procedures

Greene²⁰¹ determined that there are five reasons for using mixed methods research. One of the five reasons is for development, which was in the focus of this research. Development is used when the results from one method, in this case qualitative, is used to help develop or inform the other method, in this case quantitative.

Interview - Qualitative

Potential participants were sent an email asking for voluntary participation in the interview. The participants were then interviewed via video conferencing (Zoom) by the researcher with the video feed turned off. The questions on the interview were based off of the literature review and theoretical framework.

Survey - Quantitative

Recruitment for the surveys involved all current and previous APD students, who met the above criteria, and were sent an email with a link to the survey by the researcher. The questions asked on the survey aimed at obtaining information regarding reasons for attrition or retention, as

well as overall experience, at the particular university. The survey questions were used to gain perspective regarding perceptions and information on the overall experience of the APD student that may lead to reasons APD students may or may not complete the APD degree. The survey questionnaires consisted mostly of multiple-choice or Likert scale questions. Some questions related directly to retention were long answer questions to elicit an open-ended response. All electronic surveys were sent via a link in email and completed using Qualtrics.

Instrumentation

Interview – Qualitative

The initial qualitative portion of this study was conducted using a semi-structured interview guide, developed and administered by the researcher. The interview was reviewed, and pilot tested prior to use. Appendix 1 contains a copy of the interview guide with the protocols included. Former and current students were asked to participate. An email with the informed consent was sent to current and former APD students at the university, introducing the study to them and inviting them to participate.

Survey – Quantitative

A survey (Appendix 2) was created based on themes or constructs found from the interviews and literature review and administered after the interview had been completed. The survey was also used to obtain some of the demographic information of the participants. An email with the informed consent was sent to current and former APD students at the university, introducing the study to them and inviting them to participate. The email contained a link to the survey in Qualtrics.

Resilience was measured using CD-RISC 10[®] as continuous with a score range between zero and 40. The CD-RISC 10[®] consists of 10 statements with each statement ranging in score from zero (not true at all) to four (true nearly all the time).²⁰² The total score is obtained by adding up all 10 items with a range of zero to 40. Higher scores suggest greater resilience while lower scores suggest less resilience. Scores can be divided into four quartiles (lowest: 0-29, second: 30-32, third: 33-36, top: 37-40). Scores in the “lowest or second quartile may suggest problems in coping with stress or bouncing back from adversity.”²⁰²

Self-efficacy was measured using the New General Self-Efficacy Survey (NGSES) as a continuous measure. The NGSES is an “8-item measure that assesses how much people believe they can achieve their goals, despite difficulties.”²⁰³ The scale consists of items such as ‘I will be able to achieve most of the goals that I have set for myself’ and ‘I believe I can succeed at most any endeavor to which I set my mind.’ Items are rated on a scale ranging from one (strongly disagree) to five (strongly agree) with overall scores ranging from one to five. The total score for each participant is obtained by adding the respondents’ answers to each item and dividing the sum by the total number of items (8). The higher the score the greater a person’s self-efficacy.

Data Collection

Mixed methods were used, especially the use of exploratory sequential design. The researcher partnered with two other APD programs at the university to get help in identifying participants for the research study. Overall Experience is defined as the way the students perceive the APD program. Various factors can influence overall experience such as program, marital status, number of children, employment status, lapsed time since last degree, success,

years employed in field, LMS software experience, support, Educational Support and Understanding, Program Director/Committee Chair Support, Student Preparedness, Financial Concerns, Employer Support, Overall APD Experience, Self-Efficacy, and Resilience. Experience can be positive, negative, or both depending the factor.

Significant demographic information can be collected via the university's student information system, but some demographic characteristics important to overall experience and retention are not collected. Employment hours per week, marital status, and the number of children were variables that had been shown to be relevant factors in the literature and were collected via the survey administered through Qualtrics.

Interview Guide - Qualitative

Given that the interview helped drive the survey questions, the questions were open-ended, exploratory, and designed to elicit responses about the student's experiences in their respective doctoral program. Specifically, interview questions asked about facilitators and barriers to being successful in an APD program, as well as details about why they chose to pursue an APD degree, reasons they chose the particular university, and any negative or positive experiences they had while in the program.

The interview was developed, reviewed, and pilot tested with three current DCN students prior to use. A link to the informed consent was sent via email and collected via Qualtrics prior to starting the interview. The interview revealed themes that helped derive questions for the survey. Data collection for the interview took place over a twenty-week period in late 2020 and early 2021.

The interview guide questions were designed based off of the literature review and theoretical framework and aimed to discover how current, graduated, and stopped out students are similar and different in their feelings regarding factors in their APD journey that have led them to completing, stopping out, or persevering if they are a current student. When similar answers were continually seen, an appropriate level of data saturation was achieved. Failure to reach data saturation can have an impact on the quality of the research and can impede content validity.

Survey Sections – Quantitative

An email was sent to all former and current APD students that met the above criteria. The email explained the purpose of the study, known risks or benefits of participating in the study, and how to contact the researcher. Data from surveys was collected over a four-week period in the spring of 2021. Some of the questions in the survey were developed based on results from the interview while other portions were derived from validated surveys such as the Connor-Davidson Resilience Scale (CD-RISC) or the New General Self-Efficacy Scale (NGSES).

Resilience

Resilience is a multidimensional characteristic that varies with context, time, age, gender, and cultural origin, as well as within an individual exposed to different life circumstances,²⁰⁴ therefore resilience should be addressed specifically as part of the survey. The Connor-Davidson Resilience Scale (CD-RISC)²⁰⁵ could be used as part of the survey to help assess the resilience of students. The CD-RISC was “developed as a brief self-rated assessment to help quantify

resilience and as a clinical measure to assess treatment response.”²⁰⁵ The original CD-RISC contained 25-items that each carried a five-point range of responses (0-not true at all; 1-rarely true; 2-sometimes true; 3-often true; 4-true nearly all of the time). The scale was rated based on how the participant had felt over the past month. For previous students, the question asked the student to think back to the last month they were an APD student. The total score ranged from 0-100, with higher scores reflecting greater resilience. There are also two briefer versions of the 25-item CD-RISC, the 10 item (CD-RISC 10[©]) and the two item (CD-RISC 2) scales. The 10-item scale, which would be best for this study (Appendix 2), uses questions 1, 4, 6, 7, 8, 11, 14, 16, 17, and 19 from the original scale and has a score range of 0-40. This 10-item scale was developed by Drs. Campbell-Sills and Stein at the University of California, San Diego.²⁰⁶ The 10-item scale has been adequately tested and validated and authorized for use. This 10-item scale has also been used in many other studies looking at adults as well as college students,²⁰⁷ including medical students,²⁰⁸ nursing students,²⁰⁷ and dental students.²⁰⁹

Self-Efficacy

The New General Self-Efficacy Scale (NGSES) (Appendix 2) is an “8-item measure that assess how much people believe they can achieve their goals, despite difficulties.”²¹⁰ This tool is validated and reliable and has been used in many different areas including with college students both in the United States and abroad. A five-point scale (1=strongly disagree, 3=neither agree nor disagree, 5=strongly agree) was used to show how much respondents agree or disagree with each of the eight statements.

Data Analysis

Sample size

Interview – Qualitative

The sample size for the interviews was based on data saturation. The sample size for the interviews initially was five to seven students (one student who stopped out, one to three graduates, and three to five current students) from each program, depending on data saturation. Data saturation is reached “when there is enough information to replicate the study, when the ability to obtain additional new information has been attained, and when further coding is no longer feasible.”²¹¹ The interview questions were structured to facilitate asking multiple participants the same questions in order achieve data saturation.

The sample size for the interviews was based on data saturation. The sample size for the interviews was eight to ten students (one to three students who did not finish, three to five individuals that did complete the program, and five to seven individuals that are currently in the middle of the degree) from each program, depending on data saturation.

Survey – Quantitative

The sample size that is required for the quantitative part depends on the effect size and how much power is needed to detect those effects. The estimate of R (multiple correlation coefficient) that is obtained from regression is dependent on the number of predictors (k), and the sample size (N).²¹² $[R=k/(N-1)]$ To find a large effect then a sample size of 77 would likely be sufficient up to 20 predictors. Since there were potentially only five predictors a smaller sample size could work, with a minimum sample size of 55. There ended up being eighteen predictors, so a sample size of 65 ended up having an effect size of 0.281.

Missing Data

One factor to help eliminate missing data was to force completion of each question before the participant was allowed to answer the next question on the survey, however, this did not eliminate the participants that chose to discontinue the study at some point during the survey.

Missing values were dropped or omitted from the analysis. If the number of cases were less than five percent of the sample, then they were dropped.

Statistical Methods

Interview - Qualitative

Data was collected via Zoom audio (video was turned off) by the principal investigator from November 2020 to April 2021. All participants granted consent and permission to record their conversations via an informed consent on Qualtrics. Interviews ranged from 15 minutes to 80 minutes and participants did not receive any compensation for their time. The University of North Florida Institutional Review Board approved the protocol (Appendix 5).

After completing the interviews with each participant, the interviews were transcribed verbatim using Otter.ai,²¹³ deidentified, exported to Microsoft Word, and hand coded for analysis by the principal investigator. Each transcript was read in entirety to get an overall sense of the interview. A deductive approach was used for coding. A deductive approach uses a top-down approach to coding in which pre-set coding schemes are formulated. Open coding was used, with a total of 13 major code categories, and the codes were used to identify and develop concepts that could be compared for similarities and differences. The codes were based on emerging themes from the literature review. The codes were set up and defined according to the literature review and then the codes were applied to each transcript. The codes were separated

into internal and external factors. Internal factors included, personality (confidence, resiliency, persistence, self-discipline), feelings towards the program, and positive and negative experiences. External factors included support (faculty, family), barriers (time constraints, financial), employment, previous education, and pace. Bogdan and Biklen's²¹⁴ suggestions for data analysis were used throughout the data analysis process. These included focusing on data that helped answer the research questions as well as refining the data that helped to understand the attributions that make some doctoral students successful and affect overall experience. Codes came from the interview guide itself and more codes were created based on the responses of the participants. Each transcript was coded a second time by another graduate student and results were compared to ensure consistency. Discrepancies were resolved by consensus. Pivot tables in Excel were then used to help identify the most common themes overall, among each APD group, and within student status (graduate, current student, did not complete).

Using attribution theory, the locus, stability, and controllability of departure or ability to finish for each participant was considered. In other words, do the students believe their completion or departure was something in their control (e.g. academic performance) or out of their control (e.g. family pressures, unfair professors). The interview was conducted with students who had completed the degree, those who left the program, as well as those at the mid-point, which provided perspective from multiple angles including what participants attribute to successful achievement of degree.

Since the experience and background of a researcher contains biases, values, and ideologies that can affect when the data is saturated it is important to try and mitigate any concerns during data collection.

Survey – Quantitative

Eighteen predictor variables and three different dependent variables (Wellbeing, APD Experience, Success) were used for prediction. Program, marital status, age, number of children, employment status, lapsed time since last degree, years employed in field, LMS software experience, and support were all left as categorical data. Wellbeing, APD Experience, Educational Support and Understanding, Program Director/Committee Chair Support, Student Preparedness, Financial, and Employer Support were all Likert scale questions. The statements were on a five-point scale (1-strongly disagree to 5-strongly agree). Some questions were reversed scored to better fit the scoring model. Each item was then added up within the predictor section to get an overall score for that section. If a respondent chose N/A that question was disregarded, and the score was based off the percentage of questions they did answer. For example, if there were six statements and the respondent chose N/A for statement two, then their overall score would be out of five questions not six. The converted score was then used as a continuous variable when analyzed.

Overall experience was defined through different measures. There were 18 predictor variables used as predictors of overall experience. Overall experience can be a predictor for attrition rate. From the literature, many factors can affect overall experience and are encompassed in the predictor variables in the tables below. The statistical analysis test for each predictor, along with the research aims can be seen in Tables 3-5 below.

Research Question: What factors are associated with overall experience in APD programs?

a: Is there a relationship between wellbeing and overall experience in APD programs?

Predictor Variable	Measure (survey question)	Predictor Variable type	Dependent Variable	Dependent Variable Measure	Analysis test
Program	1	Categorical	Wellbeing (Continuous)	30	Kruskall-Wallis
Marital Status	5	Categorical			
Age	3	Ordinal			
# children	6	Ordinal			
Employment Status	8	Categorical			
Lapsed time since last degree	12	Categorical			
Success	29	Categorical			
Years Employed in Field	11	Categorical			
LMS software experience	17	Categorical			Mann-Whitney U
Support	25	Categorical			
Educational Support and understanding	31	Continuous			Kendall's tau-b
Program Director/Committee Chair Support	32	Continuous			
Student Preparedness	33	Continuous			
Financial Concerns	34	Continuous			
Employer Support	35	Continuous			
Overall APD Experience	36	Continuous			
Self-Efficacy	NGSES (42)	Continuous			
Resilience	CD-RISC (43)	Continuous			

Table 3. Statistical Methods for Each Measurable Objective. Is there a relationship between wellbeing and overall experience in APD programs?

Research Question: What factors are associated with overall experience in APD programs? b: What is the relationship between APD Experience and various demographic factors?					
Predictor Variable	Measure (survey)	Predictor Variable type	Dependent Variable	Dependent Variable Measure	Analysis test
Program	1	Categorical	APD Experience (continuous)	36	Kruskall-Wallis
Marital Status	5	Categorical			
Age	3	Ordinal			
# children	6	Ordinal			
Employment Status	8	Categorical			
Lapsed time since last degree	12	Categorical			
Years Employed in Field	11	Categorical			
LMS software experience	17	Categorical			Mann-Whitney U
Support	25	Categorical			Kendall's tau-b
Wellbeing	30	Continuous			
Educational Support and Understanding	31	Continuous			
Program Director/Committee Chair Support	32	Continuous			
Student Preparedness	33	Continuous			
Financial Concerns	34	Continuous			
Employer Support	35	Continuous			
Self-Efficacy	NGSES (42)	Continuous			
Resilience	CD-RISC (43)	Continuous			

Table 4. Statistical Methods for Each Measurable Objective. What is the relationship between APD Experience and various demographic factors?

Research Question: What, if any, are the university factors that contribute to the experience of APD students?

a. Do various factors that may affect experience, differ between programs with different modes of delivery?

Dependent Variables	Measure (survey)	Dependent Variable type	Independent Variable	Independent Variable Measure	Analysis test
Educational Support and Understanding	31	Continuous	Mode of delivery (categorical)	1	Kendall's tau-b
Program Director/Committee Chair	32				
Student Preparedness	33				
Financial Concerns	34				
Employer Support	35				
Wellbeing	30				
Self-efficacy	NGSES (42)				
Resilience	CD-RISC (43)				

Table 5. Statistical Methods for Each Measurable Objective. Do various factors that may affect experience, differ between programs

The Kruskal-Wallis H test is a rank-based nonparametric test that was used to determine if there were statistically significant differences between the categorical independent variables and the continuous dependent variables²¹⁵ shown in Table 3 and Table 4. All assumptions were met. The relationship between APD Experience and various demographic factors (marital status, age, number of children, employment status, lapsed time since last degree, and years employed in field) was evaluated using Kruskal-Wallis H test (Table 4). A Kruskal-Wallis H test was also used to evaluate a relationship between wellbeing and overall experience in APD programs (Table 3).

The Kendall's tau-b correlation coefficient (Kendall's tau-b) is a "nonparametric measure of the strength and direction of association that exists between two variables measured on at least an ordinal scale."²¹⁶ It is considered a nonparametric alternative to the Pearson's correlation and an alternative to the nonparametric Spearman's correlation. All assumptions were met and the Kendall's tau-b was used to determine if there were statistically significant differences between a categorical independent variable and continuous dependent variables. A relationship between wellbeing and continuous overall experience factors (educational support and understanding, program director/committee chair support, student preparedness, financial concerns, employer support, overall APD experience, self-efficacy, and resilience) were evaluated using Kendall's tau-b (Table 3). The relationship between APD Experience and continuous factors (wellbeing, educational support and understanding, program director/committee chair support, student preparedness, financial concerns, employer support, self-efficacy, and resilience) was evaluated using Kendall's tau-b (Table 4). A Kendall's tau-b was also used to evaluate various factors that may affect experience between programs with different modes of delivery.

The Mann-Whitney U test "is a rank-based test that can be used to determine if there are differences between two groups on a continuous or ordinal dependent variable."²¹⁷ The Mann-Whitney U is often used as a nonparametric alternative to the independent samples t-test. All assumptions were met and this test was used to determine if there were statistically significant differences between a continuous dependent variable and a dichotomous independent variable. A relationship between wellbeing and dichotomous overall experience factors (LMS software experience, support) were evaluated using Mann-Whitney U (Table 3). The relationship between APD Experience and dichotomous factors (LMS software, support) was evaluated using Mann-Whitney U (Table 4).

Overall experience was analyzed by looking at Wellbeing, Educational Support and Understanding, Program Director/Committee Chair Support, Student Preparedness, Financial Concerns, Employer Support, APD experience, Self-Efficacy (NGSES), and Resilience (CD-RISC 10[®]) between blended learning and distance learning programs. The EdD program and DNP program were combined into a blended learning program since their mode of delivery is similar (blended learning) and then compared to the online DCN program. This allowed the sample sizes to be similar between the two groups and look for differences between a blended learning ($n=34$) format and a fully online, distance, ($n=31$) format. The Kendall's tau-b was used to evaluate factors that may affect experience between programs with different modes of delivery (Table 5).

IBM SPSS Statistics version 26 was used for data analysis and all p -values $< .05$ were considered statistically significant.

Chapter 4: Results

Qualitative - Interview

Results from 28 participants (14 DCN, 10 EdD, 4 DNP) were organized into ten themes (Why APD?, Why UNF?, Support, Personality Traits, Barriers, Overall Feelings, positive aspects of program, negative aspects of program, pace, and factors for leaving the program) and described using supporting quotes from participants (Figure 2). Sixteen interviewees were current students, with four stopped out students, and eight graduates.

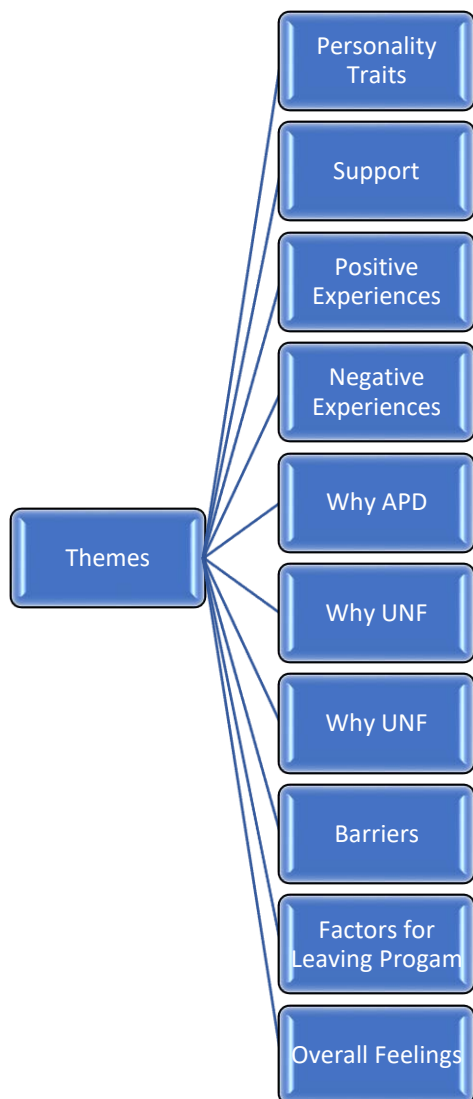


Figure 2. Major themes reported during interviews

Personality Traits

Identifying personality traits that contribute to overall experience is not simple, however, confidence and self-motivation were the most common themes repeatedly observed throughout the interviews. Even though confidence and self-motivation were the most common themes this

was followed closely by second guessing self/self-doubt and nervous/fear/anxiety. Many students who stated they were confident also stated that they were nervous, especially when it came to specific classes. Some students stated they “knew it was going to be hard” however others felt “terrified”. Quoted responses to illustrate this theme are provided in Table 6a.

Support

Even though resilient people do not need to rely on others for their success, support from others was often described as being important for success and a positive overall experience. Conversely, lack of support was seen as a hinderance to success and a negative overall experience and led to one of the participants dropping out. Support from faculty and family, followed by peers/cohort were the most commonly described support people. Quoted responses illustrating this theme are provided in Table 6b.

Positive and Negative Experiences

Support from faculty was seen as highly beneficial, however some students had a negative experience with faculty members or their committee chairs. Negative experiences by APD students may lead to poor grades as well as an increase in attrition. Students interviewed found that remarks by faculty members or difficulty with professors was the main negative experience followed closely by difficulty in one class and the APD project/dissertation. Even though some students found experiences with faculty to be negative, others found them supportive and the most often stated positive experience during the doctoral program was with faculty members. Quoted responses illustrating this theme are provided in Table 6c.

Due to the importance of the experience with faculty members, questions related to the program director and committee chair were included on the survey.

Why APD and Why UNF?

Understanding why a person chooses to pursue an APD degree may shed some light on why one person succeeds, and another ultimately drops out. Reasons why a person chooses to pursue an APD degree can also have an impact on their overall experience while in the program. Personal goals/always wanting a terminal degree was the most commented on reason for choosing to pursue an APD degree. This was followed by wanting to learn more/importance of education, wanting to teach at a university, and to set oneself apart/help elevate career.

Many students chose UNF because they liked the curriculum/concentration, had prior experience with UNF/enjoyed the school/knew people who went to UNF, or they couldn't travel far/Location/Lives in Jacksonville/Online (depending on specific program). Quoted responses illustrating these themes are provided in Table 6d.

Including questions, on the survey, related to why the students chose their specific APD program may help establish ways to improve the program and make it a more positive experience for students based on what students are looking for when starting an APD program.

Barriers and Reasons Students Left the Program

The most common barriers described by APD participants were finances, time, a specific class, and job/full-time work. Factors for leaving the program described by those students who dropped out were similar to barriers observed by current and graduated students. Some reasons for leaving included feeling overwhelmed; classes, work, and family were all getting hard at the

same time; working full-time; and wanted to spend more time with family. Quoted responses illustrating these themes are provided in Table 6e.

This is an important factor to consider, as many APD students are employed while taking classes. Work-life balance questions were included in the survey with additional open-ended questions added for stopped out students asking about factors that led to withdrawing from the program as well as characteristics about them that led to withdrawing.

(a)	
Participant Information	Quote
DCN Current Student	“My ego wouldn’t have let me quit no matter what. So, I would say my confidence was 100 percent. I knew it was going to be hard, but basically, I mean, not to sound arrogant, but I just knew that no matter how hard it was going to be I have to do it.”
EdD Graduated Student	“At the first part, I was very confident. You know, I didn’t know what I was getting into, but I was very confident that I could complete it.”
DNP Current Student	“I would say shaky, when I first got in. I knew long term, I believe if I put my mind to it, I could do anything.”

(b)	
Participant Information	Quote
DCN Stopped out Student	“Not as much, my husband. He loves me and he says, he supports me in anything I want to do, but he was not sure about that. He was not super comfortable with [APD program]. And I think most of that was because of the financial aspect to it. And, you know, we're kind of empty nesters, and we like to travel and, and do things and I think he just, you know, he wasn't super supportive. I don't know that my boss was super supportive. They might have thought it was cool, but I don't know if she was really. I don't know that I have a lot of support, honestly, from around me.”
EdD Graduated Student	“I have family support. I had, you know, my husband, my mom, my dad, but I also had support from within university.”
DNP Current Student	“My friends. Our Director of Nursing is very supportive....My family is very supportive.”
DCN Current Student	“Our classmates, I mean, you know this, our cohort is fabulous. And I think if you don’t have a strong cohort, I feel bad for those other groups. I just don’t know how they’re surviving.”

(c)	
Participant Information	Quote
EdD Graduated Student	“I had one faculty member that literally said ‘Oh, you won’t finish’. And I’m shocked. I’m like ‘What? That was very harsh.’”
DCN Graduated Student	“I didn’t know where to go next [during the dissertation] and I had to figure it out. I feel like if I had a little bit more support, it would have been faster. I really believe the faculty is overworked so it’s not physically possible for them to... dedicate the same amount of time that is necessary when you’re completing a dissertation.”
DNP Current Student	“We have like practicals, right, that we have to pass for the health assessment class. The week before the practical we were doing walkthroughs, right. And one of the instructors actually yelled at me. Normally I’m, I’m a pretty confident person, like confident in my abilities, and my you know, in presenting and speaking with people, and she yelled at me, as she just kind of kept yelling at me, and for a minute, I thought it was just me, but after a while, some of the other students will be aside and went she’s never been like that to anybody before, like, they were wondering if she had a bad day or something and wondering where that came from. As I was trying to do a diagnosis that I just kept getting to, I was asking, apparently, the wrong questions. And she was just like, you’re going to fail if you keep doing this, and I’m just like, Why? Why? And I think because of that experience, my confidence was shot, like, and the next week when I had the practical I failed half of it.”
EdD Current Student	“I found all the faculty to be very warm and engaging. They’re all very interested in talking to you outside of class and getting to know you and getting to know what you’re interested in.”
DCN Current Student	“The level of communication with [program directors]. I’ve always felt like they’re

	willing to help out or have a phone call with me at the last minute if need be. So that communication, I think, is really what's key and making an online remote program work and be effective.”
DNP Current Student	“I think that them setting up our clinicals is very positive. They're very structured. And, you know, they make sure that wherever they're sending you that it's an appropriate place for you to be. That you'll get a good experience. I think the teachers are very, you know, are very supportive, some more than others. But overall, I think it's a very positive experience.”

(d)	
Participant Information	Quote
DNP Current Student (Why APD)	“Because it's a terminal degree for one and I feel I'm kind of one of those somewhat perfectionists; and if it's not done, it's not done. It opens the door for a lot of opportunities. I wouldn't mind doing some instruction working as faculty at the colleges, because it seems like they need faculty. It just opens the doors for opportunities, research, all of those types of things if you have the degree. Plus, I love learning.”
DCN Current Student (Why UNF)	“One of my former colleagues, my friend, is in cohort one at UNF. She was mentioning about the program and I looked into it. A PhD was not in my scope of practice, nor in my view, and with that, that meant the DCN, which is Rutgers or here. With the online, plus I live in Florida, it made it easier for me to make a decision on the UNF format.”

(e)	
Participant Information	Quote
EdD Graduated Student (barriers)	“I'm going to have to say no, because you know, time, we all have the same amount of time. And I took that on my own. And the only other barrier, if you will, would have been finances.”
DCN Graduated Student	“Well, I mean, financial, you know, financial barriers, I think are real. And so, that was

	difficult at times, for sure. So I think that's the financial and then the time, but as much as that was a barrier, it also it's just the reality of it, and you just have to kind of figure it out.”
DNP Graduated Student	“I had to choose between study, work, or social events. So, you know, just kind of figuring out my time management throughout the program was the biggest challenge.”
EdD Stopped Out Student (Factors for leaving program)	“I think I would say my mental health started to take a toll when everything sort of came to a head. And you start to struggle with what deserves your time. I felt like that was the sacrifice I had to make. So, I have to keep working, right? I got to eat. So, you got to put food on the table. That to me, comes first. And then as family challenges arose, I just felt like I needed to be there in the event that something tragic were to happen to my mom or my sister who had been hospitalized, I think a couple times. I felt like it was more important for me to do that than to continue stressing myself out about finishing the program at that time. So, I think it was just the unfortunate circumstances that piled up on each other at one time sort of led to alright, well, this is the thing that I'm going to cut.”
DCN Stopped Out Student	“Just the financial aspects, you know. You know, I would say time. Once I got back and started. You know, my husband travels a lot for his job.”

Table 6. *Quotations from APD Students*

Overall Analysis

The high attrition rate among APD students is a concern among universities. The interviews were used to help identify questions to include on the survey. Analysis of the interviews were similar among the three APD programs, but some differences did appear. Most students chose to pursue an APD degree because a terminal degree was a personal goal or because they wanted to elevate their career or set themselves apart from others in their field. Support from faculty, family, friends, and cohort were repeatedly stated as important for success in the

program. One of the students who discontinued the program did not have a supportive spouse, further showing the importance of support throughout the program. The cohort model was very important to students. Most participants found their cohort to be a lifeline to their success, rather it be in the classroom or via social media (Facebook groups) or texting apps (WhatsApp), where the cohort members could encourage and help one another. Conflicts with faculty was seen as a negative aspect of the program while the most common barriers were time and finances.

However, students who succeeded in the program were able to overcome these obstacles. Two interviewed students did discontinue their program due to financial issues. Students in APD programs stated they had self-confidence and self-motivation. One student decided to discontinue the program due to mental health concerns of feeling overwhelmed but wishes to continue in the future when home life and work life settle down. Some students were able to feel less overwhelmed by decreasing work hours to have more time to focus on school. Most APD students work full time, so the flexibility of the program with understanding professors is very important to the students when selecting APD programs along with the knowledge and skill of the faculty members. The distribution of the program is also an important factor. The DCN students chose the program because it was online and most were unable to move to pursue a PhD degree since they had families, whereas the EdD and DNP students chose their programs due to the blended learning format since those students felt that in-person learning was beneficial.

Conclusions

The qualitative portion of this study revealed that support from faculty, family, and cohort are important to student's success and a positive experience. Finances and time were the biggest barriers to students while enrolled in the program. The students found their doctoral

project or dissertation, as well as conflict with faculty to be the most negative aspects in their program while the faculty and cohort members were among the most positive aspects of the program. The most common personality traits seen among students were confidence and self-motivation. Some of the questions in the survey were developed based on results from the interview while other portions were derived from validated surveys such as the Connor-Davidson Resilience Scale (CD-RISC) or the New General Self-Efficacy Scale (NGSES). Questions regarding employment, support, reasons for choosing to pursue an APD program, and why the students chose UNF were all added to the initial survey based on results from the interview. Questions one through 22 were mostly demographic information, with questions 23 through 41 based off of information obtained from the interviews. Question 42 encompassed the NGSES and question 43 encompassed the CD-RISC 10 (Appendix 2).

Quantitative – Survey

Responses were collected over a four-week period in spring 2021. As shown in Table 7 the participants were split with 31 DCN students, 16 EdD students, and 16 DNP students with 9 graduates, 51 current students, and 5 stop-outs. There were 16 males, 46 females, and one gender nonconforming respondent. This is further broken down by APD degree in Table 7. An effect size of 0.281 was achieved with 18 predictors and a sample size of 65 which has a medium effect.

Demographic Descriptive Statistics			
	Doctorate in Clinical Nutrition (DCN) <i>n</i> =31	Doctor of Education (EdD) <i>n</i> =16	Doctor of Nursing Practice (DNP) <i>n</i> =18
Gender			
Male	3	7	8
Female	28	8	10
Gender nonconforming	0	1	0
Age at Start of Program			
25-34	9	8	13
35-44	8	6	5
45-54	11	2	0
55-64	3	0	0
Marital Status			
Married/Domestic Partner	26	9	9
Single	4	7	7
Divorced	1	0	2
Number of Children in Home			
0	11	5	13
1	6	3	2
2	11	5	2
3	2	2	1
4	1	1	0
Employed while pursuing degree			
Yes	31	16	6
No	0	0	11
Prefer not to answer	0	0	1
Years lapsed since last degree			
0-1	8	6	1
2-3	4	3	7
4-6	7	3	6
7-9	4	2	4
10-14	3	1	0
15-19	1	0	0
More than 20	4	1	0

Table 7. Descriptive Statistics - Demographics

Personality Traits

The Conner-Davidson Resilience Scale 10 (CD-RISC 10[®]) was used to determine resiliency of the respondents. Scores can be divided into four quartiles (lowest: 0-29, second:

30-32, third: 33-36, top: 37-40) with scores in the lowest or second quartile suggesting “problems in coping with stress or bouncing back from adversity.”²⁰² The overall mean for the APD respondents was 32.44 ($n=63$) with a standard deviation of 5.26. Overall, APD scores are at the top of the second quartile with only the DNP respondents (mean score of 34.11) having a score in the third quartile suggesting a higher resiliency than the EdD (mean score 32.75) or DCN (mean score 31.24) students.

The New General Self-Efficacy Survey (NGSES) is an “8-item measure that assesses how much people believe they can achieve their goals, despite difficulties.”²⁰³ The mean score for the NGSES among 65 respondents was 4.41 with a standard deviation of .536. Kruskal-Wallis H test was run to determine if there were differences in NGSES between three program advancement groups: group 1 – stopped out ($n=5$); group 2 – incomplete, grade lower than a B, retake a class, stopped out but returned ($n=11$); group 3 – proceeded as planned ($n=44$). Values are mean ranks unless otherwise stated. Distributions of NGSES scores were not similar for all groups, as assessed by visual inspection of a boxplot. NGSES scores increased from group one (26.83), to group two (30.90), to group three (30.91), but the differences were not statistically significant, $\chi^2(2)=.312$, $p=.856$.

Kruskal-Wallis H was run to examine categorical predictors (program, marital status, age, number of children, employment status, lapsed time since last degree, and years employed in field) of self-efficacy. The only predictor of significance was program: DCN ($n=29$), EdD ($n=16$), and DNP ($n=18$). Distributions of the NGSES scores were not similar for all groups, as assessed by visual inspection of a boxplot. NGSES scores were significantly different between the different programs, $\chi^2(2)=6.650$, $p=.036$. Subsequently, pairwise comparisons were performed using Dunn’s procedure with a Bonferroni correction for multiple comparisons. The

post hoc analysis revealed significant differences in NGSES scores between the DCN and the EdD programs ($p=.030$), but not between any other combination. This is discussed further below in the Mode of Learning section. A Kendall's tau-b was run to examine continuous predictors possibly associated with self-efficacy (Wellbeing, Employer Support, Educational Support and Understanding, Student Preparedness, Financial Concerns, APD Experience, and CD-RISC 10) which can have an impact on overall experience. Five of the seven predictors were significant as seen in Table 8.

Predictors Associated with Self-Efficacy			
Predictor Variable	<i>n</i> =	Correlation Coefficient	Sig. (2-tailed)
Wellbeing	62	-.024	.851
Employer Support	63	.245	.053
Educational Support and Understanding	61	.383	.002
Student Preparedness	63	.303	.016
Financial Concerns	63	.361	.004
APD Experience	63	.307	.014
CD-RISC	63	.639	.000

Table 8. Predictors Associated with Self-Efficacy

Support

Similar to results observed in the interview, the survey determined 87.7% of APD students found faculty to be supportive. Seventy-eight-point five percent of APD students found peers/cohort to be supportive with 78.4% identifying family as being supportive. The three most identified support areas for DCN students came from faculty (87.7%), spouse (77.4%), and family (67.7%). The three most identified support areas for EdD students were faculty and peers/cohort (tied) (93.7%) and colleagues (81.2%). Family (94.4%), friends (88.9%), and peers/cohort (88.9%) were the three most identified support areas for DNP students.

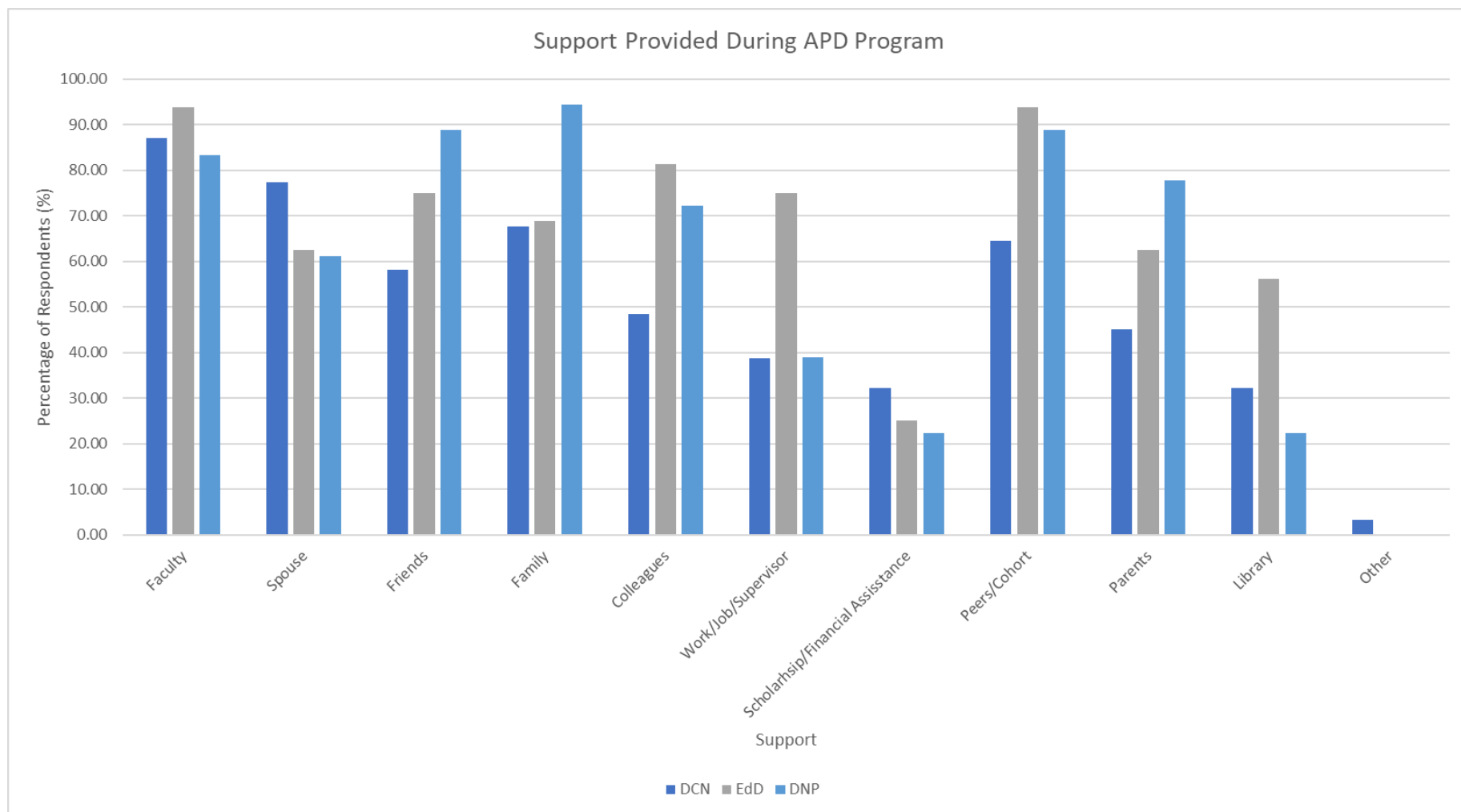


Figure 3. Support Provided to Students During APD Program

Provided Support to Students During APD Program				
	DCN <i>n</i> (%)	EdD <i>n</i> (%)	DNP <i>n</i> (%)	All APD <i>n</i> (%)
Faculty	27 (87.70)	15 (93.75)	15 (83.33)	57 (87.70)
Spouse	24 (77.42)	10 (62.50)	11 (61.11)	45 (69.20)
Friends	18 (58.06)	12 (75.00)	16 (88.89)	46 (70.80)
Family	21 (67.74)	11 (68.75)	17 (94.44)	49 (75.40)
Colleagues	15 (48.39)	13 (81.25)	13 (72.22)	41 (63.10)
Work/Job/Supervisor	12 (38.71)	12 (75.00)	7 (38.89)	31 (47.70)
Scholarship/Financial Assistance	10 (32.26)	4 (25.00)	4 (22.22)	18 (27.70)
Peers/Cohort	20 (64.52)	15 (93.75)	16 (88.89)	51 (78.50)
Parents	14 (45.16)	10 (62.50)	14 (77.78)	38 (58.50)
Library	10 (32.26)	9 (56.25)	4 (22.22)	23 (35.40)
Other: Writing Center	1 (3.23)	0 (0.00)	0 (0.00)	1 (1.50)

Table 9. Provided Support to Students During APD Program

Most APD students found support as indicated by most respondents selecting “none” for lack of support (60%). DCN students identified work/job/supervisor as not supportive (25.8%) and no respondents from the other APD programs identified this as true for them. DCN students (16.13%), EdD students (18.7%), and DNP students (11.1%) all found an increased need for more scholarship/financial support. EdD students (12.5%) and DNP students (16.7%) also identified a lack of support from faculty. DNP students (11.1%) also identified a lack of support from friends, parents, and scholarship/financial.

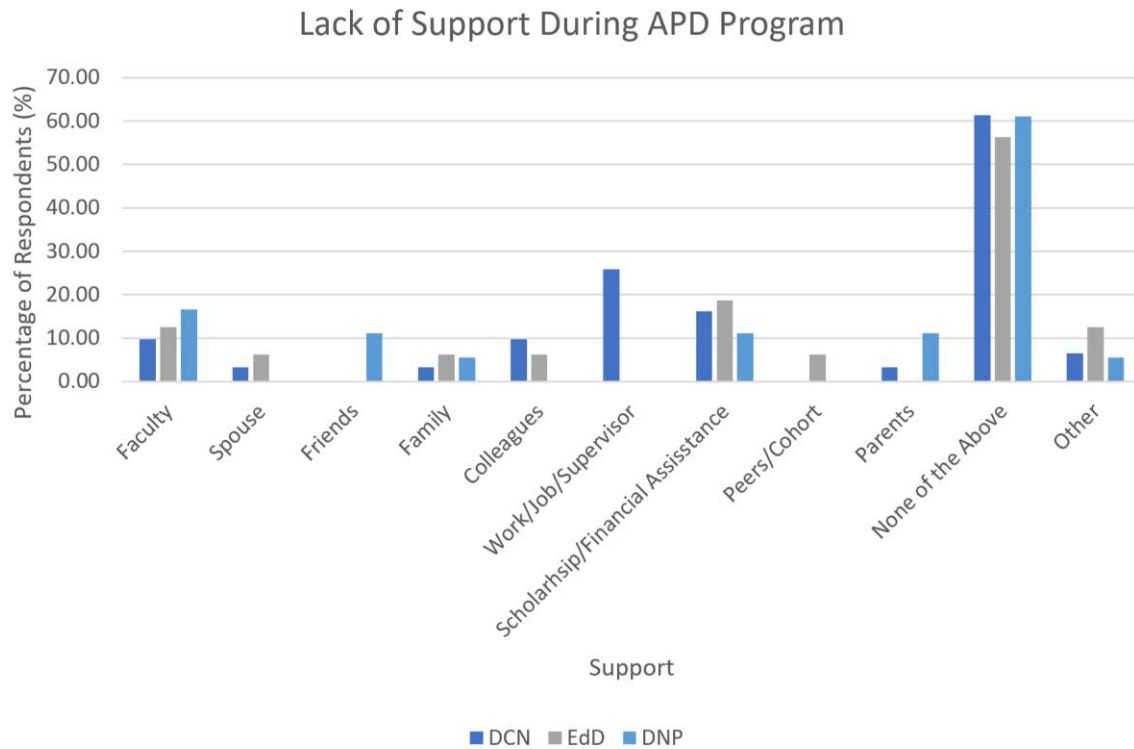


Figure 4. Lack of Support During APD Program

Lack of Support During APD Program				
	DCN	EdD	DNP	All APD (%)
Faculty	3 (9.68)	2 (12.50)	3 (16.67)	8 (12.30)
Spouse	1 (3.23)	1 (6.25)	0 (0.00)	2 (3.10)
Friends	0 (0.00)	0 (0.00)	2 (11.11)	2 (3.10)
Family	1 (3.23)	1 (6.25)	1 (5.56)	3 (4.60)
Colleagues	3 (9.68)	1 (6.25)	0 (0.00)	4 (6.20)
Work/Job/Supervisor	8 (25.81)	0 (0.00)	0 (0.00)	8 (12.30)
Scholarship/Financial Assistance	5 (16.13)	3 (18.75)	2 (11.11)	10 (15.40)
Peers/Cohort	0 (0.00)	1 (6.25)	0 (0.00)	1 (1.50)
Parents	1 (3.23)	0 (0.00)	2 (11.11)	3 (4.60)
None	19 (61.29)	9 (56.25)	11 (61.11)	39 (60.00)
Other: Total	2 (6.45)	2 (12.50)	1 (5.56)	5 (7.70)
Advisor	0 (0.00)	1 (6.25)	0 (0.00)	1 (1.60)
Direct Supervisor	1 (3.23)	0 (0.00)	0 (0.00)	1 (1.60)
Previous Supervisor	0 (0.00)	1 (6.25)	0 (0.00)	1 (1.60)
Faculty and colleagues	1 (3.23)	0 (0.00)	0 (0.00)	1 (1.60)

Table 10. Lack of Support During APD Program

Wellbeing

Independent models were fit to various factors to determine if there were statistically significant differences between students' Wellbeing scores among different factors listed in Table 11 below. A Kruskal-Wallis was conducted to determine if there were differences in Wellbeing scores between the different categorical/ordinal factors and a Kendall's tau-b was conducted to determine differences in Wellbeing scores between the different continuous factors (Table 12). Differences were seen, but the differences were not statistically significant except for marital status (Table 11 and described below).

A Kruskal-Wallis test was conducted to determine if there were differences in Wellbeing scores between groups that differed in their marital status: married/domestic partner (n=42), single (n=17), divorced (n=3), separated (n=0).²¹⁵ Distributions of Wellbeing scores were not similar for all groups, as assessed by visual inspection of a boxplot. Wellbeing scores were statistically significantly different between marital statuses, $\chi^2(2)=6.223, p=.045$. Subsequently, pairwise comparisons were performed using Dunn's²¹⁸ procedure with a Bonferroni correction for multiple comparisons. This post hoc analysis revealed no statistically significant differences in median Wellbeing scores between the single (15) and married/domestic partner (20) ($p=.095$), single (15) and divorced (18) ($p=.171$), and married/domestic partner (20) and divorced (17) ($p=1.00$).

Kruskall-Wallis H Statistical Test Results				
Predictor Variable	<i>n</i>	Test Statistic (Kruskal-Wallis H)	Degrees of Freedom	<i>P-value</i>
Program	62	4.661	2	.097
Marital Status	62	6.223	2	.045
Age	62	2.746	3	.432
# children	62	3.113	4	.539
Employment Status	62	3.958	2	.138
Lapsed time since last degree	62	7.057	6	.316
Years Employed in Field	62	4.527	4	.339

Table 11. Is there a relationship between wellbeing and overall experience in APD programs? - Kruskal-Wallis H Statistical Test Results

Kendall's tau-b Statistical Test Results			
Predictor Variable	<i>n</i>	Correlation Coefficient	<i>P-value</i>
Educational Support and understanding	60	.081	.536
Program Director/Committee Chair Support	61	-.067	.606
Student Preparedness	62	.064	.624
Financial Concerns	62	.080	.536
Employer Support	62	.017	.897
Overall APD Experience	62	.060	.646
Self-Efficacy	62	-.024	.851
Resilience	62	.012	.929

Table 12. Is there a relationship between wellbeing and overall experience in APD programs? - Kendall's tau-b Statistical Test Results

Mann-Whitney U Statistical Test Results			
Predictor Variable	<i>n=</i>	Mann-Whitney U	<i>P-value</i>
LMS software experience	62	192.500	.620
Program Advancement Groups	61	411.500	.544

Table 13. Is there a relationship between wellbeing and overall experience in APD programs? - Mann-Whitney U Statistical Test Results

APD Experiences

Independent models were fit to various factors as shown in Tables 13-15. A Kendall's tau-b correlation was run to determine the relationship between APD Experience Score and Educational Support and Understanding (*n*=61), Program Director/Committee Chair Support

($n=62$), Student Preparedness ($n=63$), Financial Concerns ($n=63$), Employer Support ($n=63$), Wellbeing ($n=62$), Resilience ($n=63$), and Self-Efficacy ($n=63$). There was a strong, positive association between APD Experience score and Educational Support and Understanding, which was statistically significant, $T_b=.368$, $p=.000$, a strong, positive association between APD Experience score and Program Director/Committee Chair Support, which was statistically significant, $T_b=.350$, $p=.000$, a strong, positive association between APD Experience score and Resilience, which was statistically significant, $T_b=.252$, $p=.006$, and a strong, positive association between APD Experience score and Self-efficacy, $T_b=.210$, $p=.028$. None of the other factors were statistically significant.

A Kendall's tau-b correlation was also run to determine the relationship between how many hours per week were worked at the beginning of the program and the hours worked per week in the last semester of the program amongst 54 participants. There was strong, positive association between the two, which was statistically significant, $T_b=.575$, $p=.000$.

Kruskall-Wallis H Statistical Test Results				
Predictor Variable	$n=$	Test Statistic (Kruskal-Wallis H)	Degrees of Freedom	P -value
Program	63	.864	2	.649
Marital Status	63	.300	2	.861
Age	63	2.273	3	.518
# children	63	2.264	4	.687
Employment Status	63	3.805	2	.149
Lapsed time since last degree	63	2.530	6	.865
Years Employed in Field	63	3.567	4	.468

Table 14. What is the relationship between APD experience and various demographic factors? - Kruskal-Wallis H Statistical Test Results

Kendall's tau-b Statistical Test Results			
Predictor Variable	<i>n</i>	Correlation Coefficient	<i>P-value</i>
Educational Support and understanding	61	.368	.000
Program Director/Committee Chair Support	62	.352	.000
Student Preparedness	63	.165	.078
Financial Concerns	63	-.038	.683
Employer Support	63	.095	.296
Wellbeing	62	.040	.663
Self-Efficacy	63	.210	.028
Resilience	63	.252	.006

Table 15. What is the relationship between APD experience and various demographic factors? - Kendall's tau-b Statistical Test Results

Mann-Whitney U Statistical Test Results			
Predictor Variable	<i>n</i>	Mann-Whitney U	<i>P-value</i>
LMS software experience	63	229.600	.844
Program Advancement Groups	62	333.500	.331

Table 16. What is the relationship between APD experience and various demographic factors? - Mann-Whitney U Statistical Test Results

As seen in the chart below no one was employed less than 11 hours per week at the start of the program, but in their last semester two people were employed 11 to 20 hours per week with five becoming not employed. It appears that students decreased their work hours as they progressed through the program. This was seen with the Kendall's tau-b statistically significant positive association as well discussed below.

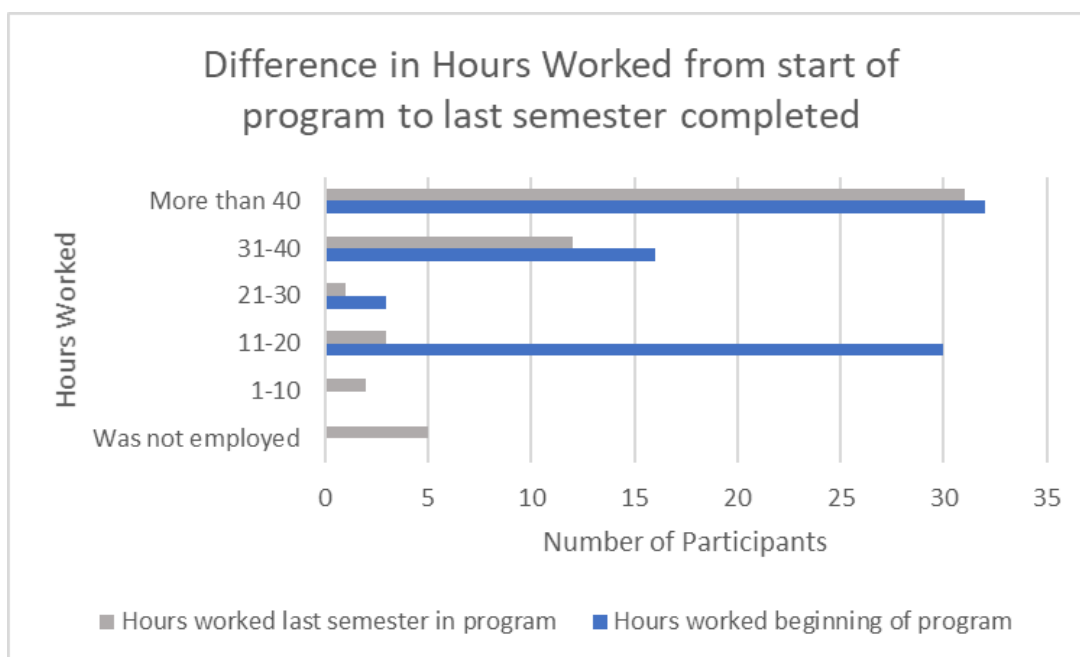


Figure 5. Difference in Hours Worked from Start of Program to Last Semester Completed

To further look at the hours employed by APD groups, the number of hours worked was changed into ‘change in hours worked’ from the start of the program to the last semester the student was in the program. Each group was consolidated into one number representing the change in work hours from the beginning to the end of the program. (more than 40 hours = 45 hours, 31-40 hours = 40 hours, 21-30 hours = 30 hours, 11-20 hours = 20 hours, 1-10 = 10 hours, was not employed = 0 hours). The number of hours worked at the beginning of the program was subtracted from the hours worked in the last semester taking classes.

A Kruskal-Wallis H test was conducted to determine if there were difference in hours worked between APD groups: Doctorate in Clinical Nutrition (DCN) ($n=31$), Doctor of Education (EdD) ($n=16$), Doctor of Nursing ($n=7$). Distributions of change in hours worked were not similar for all groups, as assessed by visual inspection of a boxplot. Change in hours worked were significantly different between the different APD programs, $\chi^2(2)=9.328$, $p=.009$.

Subsequently, pairwise comparisons were performed using Dunn's²¹⁸ procedure. A Bonferroni correction for multiple comparisons was made with statistical significance accepted at the $p < .017$ level. This post hoc analysis revealed statistically significant differences in change in hours worked between DNP (mean rank 14.36) and DCN groups (mean rank 28.34) ($p = .008$) and DNP and EdD (mean rank 31.63) groups ($p = .003$), but not between DCN and EdD groups or any other group combination. Six DCN students, one EdD student, and five DNP students decreased their hours between the start of their program and their most recent semester completed. Twenty-three DCN students, 14 EdD students, and one DNP student had no change in employment hours, while two DCN students, one EdD student, and one DNP students actually increased their hours from the beginning of the program to their last completed semester.

Reasons Students Chose to Pursue an APD Degree

Most students (76.9%) chose to pursue an APD program to set themselves apart/help elevate career, with 67.70 percent choosing to pursue an APD degree because they always wanted a terminal degree. The third and fourth reasons were because they have a love of learning (63.1%) and want the ability to teach at the university level (55.4%), respectively. The most selected reasons for DCN respondents was set myself apart/help elevate career (71%) followed by a tie between always wanted a terminal degree, want/ability to teach at university level, and love of learning (64.5%). The most selected reasons for both EdD and DNP respondents was a tie between love of learning and set myself apart/help elevate career (EdD=81.2%, DNP=83.3%).

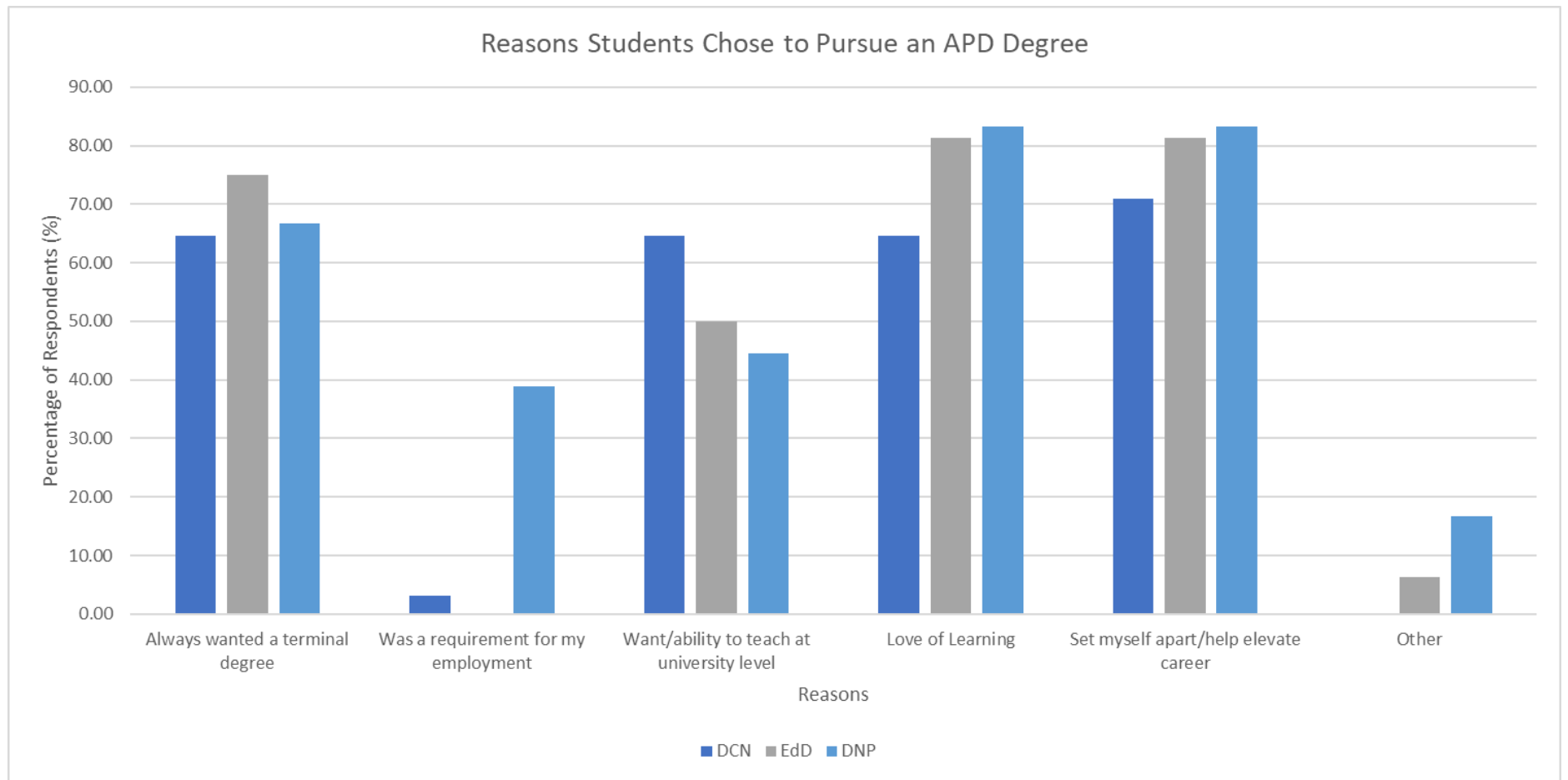


Figure 6. Reasons Students Chose to Pursue and APD Degree

Barriers, Program Advancement, Reasons Students Left the Program

Reasons for discontinuing the program

Five of the respondents chose to discontinue their respective APD program. Two chose to discontinue after orientation and therefore did not take any classes, one discontinued within year one with two more choosing to discontinue after year two. Four respondents chose to answer the questions regarding discontinuing the program. Two dropped out within zero to two credits, one dropped out between taking four and nine credits, and one chose to discontinue after completing 31 to 40 credits. Factors that led to dropping out were financial ($n=2$), work and family ($n=1$), program was not rigorous enough ($n=1$), felt disconnected ($n=1$), and unclear options post-graduation ($n=1$). When asked about characteristics that may have led to withdrawing some responses included “I probably overextended myself and then made the decision to wait on the doctoral degree” and “none”.

Mode of Learning

A Mann-Whitney U test was run to determine if there were differences in the variable scores for Wellbeing, Educational Support and Understanding, Supervisor Support, Student Preparedness, Financial Concerns, Employer Support, APD Experience, NGSES, and CD-RISC 10[©]. Of the nine variables, three were statistically significant. Distributions of the Student Preparedness, Employer Support, and the NGSES scores for online and blended learning were not similar as assessed by visual inspection. Student Preparedness scores for blended learning programs (mean rank=38.9) were significantly higher than for the online program (mean rank=23.9), $U=259.5$, $z=-3.267$, $p=.001$. Employer Support scores for blended learning programs (mean rank=36.28) were statistically significantly higher than for the online program

(mean rank=27), $U=347.5$, $z=-2.012$, $p=.044$. NGSES scores for blended learning programs (mean rank=36.25) were significantly higher than for the online program (mean rank=27), $U=348.5$, $z=-2.056$, $p=.040$.

Summary

The CD-RISC 10[©] mean score indicating resilience was lower for the DCN and EdD programs with only the DNP having a score in the third quartile indicating higher resiliency. The NGSES had an overall mean score of 4.41 with blended learning scores being statistically significantly higher than for the online distance students' scores. Student preparedness and employer support was also significantly different between blended learning students and online distance learning students. Student preparedness scores for blended learning students were significantly higher than for the online distance students. Students indicated that faculty, peers/cohort members and family were the most supportive during their APD program with most students indicating no area of being not supportive. Of those who selected non-supportive choices scholarship/financial assistance, faculty, and work/job/supervisor were the top three. When looking at association between APD experience and various factors, Educational Support and Understanding, Program Director/Committee Chair, Resilience, and Self-efficacy had strong, positive associations that were statistically significant. There was also a strong positive relationship between hours worked at the start of the program to hours worked in the last semester completed that was significant. The top four reasons why students chose to pursue an APD degree was to set themselves apart/help elevate their career (76.9%), always wanted a terminal degree (67.7%), love of learning (63.1%), and want ability to teach at the university

level (55.4%). The main reasons selected for stopping out were financial, work and family, program not rigorous enough, felt disconnected, and unclear options after graduation.

Chapter 5. Discussion

In current literature on doctoral students' attrition, supervisors and peers are shown to be critical in success. However, studies rarely look at the role individual factors may have on success and experience in the program, such as emotional and motivational. Therefore, the present study, helps shed light on new aspects of doctoral student experiences that could play a role in their doctoral success.

Personality Traits

Identifying personality traits that contribute to doctoral student success is not simple, however, confidence, self-efficacy, and self-motivation were common themes repeatedly seen throughout the interviews. Self-efficacy was 4.41, higher than seen among other studies. Bandura^{193,219} suggested that self-confidence must be resilient in order for a person to persist and sustain effort when faced with failure. "A resilient personality is characterized by a belief in one's own abilities to manage life's challenges and situations effectively. Thus, self-confidence or self-efficacy is a prerequisite for resilience."²²⁰ Resilient people are known to have an internal locus of control. They believe that events that happen in their lives are most often influenced by their own behaviors and not a result of "fate, bad luck, or another person's actions."²²⁰ This relates back to the attribution theory which explains why people react the way they do to a particular experience. An internal locus of control influences the belief that the amount of a person's effort can help solve problems which can lead to more effective coping strategies. A resilient person is optimistic about the outcome even when faced with difficult situations. This result influenced the inclusion of questions associated with self-confidence, on the survey, as

well as reinforced the decision to include the Conner-Davidson Resilience Scale (CD-RISC). Confidence can mean having a strong belief in something, whether positive or negative, whereas self-efficacy is having a strong, positive belief that one has the capacity and the skills to achieve their goals. Self-confidence and self-efficacy have both been used to describe a person's perceived ability to accomplish a task. Self-efficacy does not relate to a person's skills, but whether the person thinks they can accomplish the task. Self-efficacy is used to "describe the belief one has in being able to execute a specific task successfully in order to obtain a certain outcome and, thus, can be considered as situationally specific self-confidence. Self-confidence refers to firmness or strength of belief but does not specify its direction"²²¹ This relationship between self-confidence and self-efficacy reinforces including the New-General Self-Efficacy Scale (NGSES) on the quantitative survey. The Social Cognitive Theory and Identity Theory help describe self-efficacy. Self-esteem is the "confidence and satisfaction in oneself"¹⁸⁴ and "is an outcome of the identity verification process."¹⁸³ There are three major bases for self-esteem: "self-efficacy or a sense of competency, self-worth, or a general sense of being found worthy and valuable, and self-authenticity, or the feeling that one is being one's true self."¹⁸³ People who have high self-efficacy are also more likely to try new things and therefore have the opportunity to realize they can be successful. One of the challenges when looking at APD experience and impact on APD retention is understanding why students decide to discontinue their doctoral study. Being able to continue through a program even when there are challenges suggests that human behavior is not simply a reaction to external, objective conditions. When looking at student behavior relating to attrition and retention rates, some form of theoretical framework that incorporates the psychology of the student should be used, such as the identity theory.

“Although successful in their relationships with others, resilient people are also characterized by

autonomy and self-reliance, in that they do not depend solely on others for meeting their needs or solving their problems.”²²⁰

Campbell-Sills and colleagues²⁰⁶ obtained population scores for the CD-RISC 10[©] and found that the lowest quartile scored between 0 and 29, the second quartile scored between 30 and 32, the third quartile scored between 33 and 36, and the highest quartile scored between 37 and 40. A score in the lowest or second quartile may suggest problems in coping with stress or bouncing back from adversity. The overall mean for the APD respondents was 32.44 ($n=63$) with a standard deviation of 5.263. Only the DNP respondents with a mean score of 34.11 were higher than the second quartile suggesting a higher resiliency. Other studies completed in the United States with the general population had mean scores ranging from 31.8 to 33.5.²²² “In a general community sample ($n=764$) from Memphis, the mean CD-RISC 10[©] score was 31.77 (5.47), which is almost identical with that obtained by Davidson et al (unpublished) in a US community population ($n=458$) of 32.1 (5.8).”²²² When looking at other studies, completed in the United States, that looked at mainly healthy subjects under stress, the scores were similar to this study. One study looked at surgeons with a CD-RISC 10[©] score of 33.4 (4.0).^{222,223} Other studies used third- and fourth-year medical students who had a CD-RISC 10[©] score of 28.2 (6.4),^{222,224} nurses with a CD-RISC 10[©] score of 30.7 (5.0),^{222,225} and neurosciences critical care nurses had a CD-RISC 10[©] score of 31.0.^{222,226} “In the US, two population surveys of the 25- and/or 10-item scales suggest that the mean item score ranges from 3.17-3.21, which translates into a... [score of] 31-32 for the CD-RISC 10[©].”²²² The mean score for this study is similar to the general population and slightly higher than many of the healthy adults under stress groups.

The mean score for the NGSES among 65 respondents in this study was 4.41 with a standard deviation of .536. In a study by Davidson and colleagues²²⁷ the mean score before

intervention was 3.17 (0.40). The research validating the NGSES found an initial mean of 3.87 (0.54). When looking at occupational self-efficacy subscales the mean scores ranged from 2.67 (1.17) (Computational) to 4.13 (0.82) (Social work). Bandura and colleagues²²⁸ found that a high self-efficacy predicts academic success. The mean score of 4.41 for APD students in this study was higher than the mean scores obtained in the two other studies discussed. This suggests that APD students have a higher self-efficacy which may be why they initially sign up to complete a doctoral degree. Those that are able to finish are able to continue with the advanced degree despite difficulties they face. The self-efficacy for the blended learning programs were significantly higher than for the online DCN program. Higher self-efficacy could be due to the program having some in-person class time. This is discussed further in the *Relationship to Theoretical Framework* section below.

Support

Even though resilient people do not need to rely on others for their success, support from others was often described as being important for success and lack of support was seen as a hinderance for success and led to one of the participants dropping out. Support from faculty and family, followed by peers/cohort were the most commonly described support systems.

Student support systems impact retention¹³⁸ and help students overcome challenges and improve their academic success¹⁶¹ in both in-person and distance programs.¹⁶² Cockrell and Shelly¹⁴⁸ found that support systems seem to improve student retention in doctoral programs. The basis of the support is provided by family, friends, cohort members, and faculty members. All of these people recognize and acknowledge the achievements of doctoral students and help confirm to the student that they belong in the program and can succeed.

Employer support was higher among the blended learning programs compared to the online DCN program. Having employer support can make the overall experience of the program better. Some students from the EdD program in the interview, commented on the ability to work on their APD program during working hours, because their employer was supportive of them advancing their degree. Some DCN students commented that it was harder for them because their employer was not supportive and would not give any time for them to work on their APD assignments during working hours, even if there was down time.

Positive and Negative Experiences

Support from faculty was seen as highly beneficial however, some students had a negative experience with faculty members or their committee chairs. Negative experiences by APD students may lead to poor grades as well as an increase in attrition. Perceived problems with supervision may lead to students leaving their doctoral programs,²²⁹ whereas a good relationship with faculty may increase satisfaction with the doctoral program.²³⁰ Gonzalez-Ocampo and Castello²³¹ found that 17.8% of participants “indicated that the most significant experiences in their doctoral journey were related to supervision.”²³¹ Gonzalez-Ocampo and Castello²³¹ also found that supervision experiences were related to the satisfaction of the doctoral program. Results from Barnes, Williams, and Archer²³² suggested that both the positive and negative traits of doctoral students’ advisors can impact the students’ degree progression. The relationship doctoral students have with their advisors has been shown to be one of the most important parts of their doctoral education. The support from faculty (described above) and the positive and negative experiences with faculty relates to the LMX theory. The LMX theory has been found to be a useful tool for studying hypothesized linkages between supervisors and the

outcome of their subordinates, in this case program directors and committee chairs and their students. The supervisor-student dyad is often overlooked even though low-quality LMX is positively associated with emotional exhaustion.¹⁸⁹

Why APD and Why UNF?

Understanding why a person chooses to pursue an APD degree may shed some light on why one person succeeds, and another ultimately drops out. Non-traditional doctoral students, such as APD students, are not as likely as traditional doctoral students to pursue a doctoral degree with the intent of becoming a full-time faculty member. They may want to teach on a part-time basis, but do not want to be full-time researchers. Instead, non-traditional students, such as APD students, are more likely to pursue a doctoral degree to enhance their career or transition to a new career.⁶ Wao and Onwuegbuzie²³³ found that most EdD students pursue the doctorate mostly for economic reasons, such as increasing salary, getting a job, increasing flexibility at work, and for professional growth and development. According to Wheeler and colleagues²³⁴ most DNP students chose to pursue a doctoral degree for personal development and career advancement.

Reasons why a person chooses to pursue an APD degree can also have an impact on their overall experience while in the program. Personal goals/always wanting a terminal degree was the most commented on reason for choosing to pursue an APD degree followed by wanting to learn more/importance of education, wanting to teach at a university, and set oneself apart/help elevate career were the most common reasons described in the interview. The survey found similar results to the interview with most students (76.9%) choosing to pursue an APD program to set themselves apart/help elevate career and 67.7% choosing to pursue an APD degree because

they always wanted a terminal degree. The third and fourth reasons were because they have a love of learning (63.1%) and want the ability to teach at the university level (55.4%), respectively. Elevate career was similar to professional development described by the other studies above^{6,233,234} and always wanting a terminal degree is similar to personal development, found by Wheeler and colleagues.²³⁴

Many students chose UNF because they liked the curriculum/concentration, had prior experience with UNF/enjoyed the school/knew people who went to UNF, or they couldn't travel far/Location/Lives in Jacksonville/Online (depending on specific program). When it comes to choosing a school, Sallie Mae²³⁵ (a private education loans company) found that 86% of graduate students choose the school based on quality and convenience which includes the school's prestige, the academic programs offered, and flexible coursework, while only 12% choose a school based on cost. Convenience and flexible coursework were similar between this study and what the Sallie Mae²³⁵ report found.

Barriers and Reasons Students Left the Program

According to Wheeler, Eichelberger, and Wright²³⁴ nursing students mentioned maintaining a balance between work, life, and school; time management; and course workload as the most common barriers to achieving a DNP degree. Attrition rate increases when doctoral students are employed full-time.^{56,62-64} Adult learners are faced with many challenges and commitments which compete for their attention. Work and family already cause stress, and adding doctoral work and studying can compound the stress,⁶⁵ as time for family and social interactions, and personal priorities all compete for the little time available.^{66,67} This is an important factor to consider, as many APD students are employed while taking classes. Work-

life balance questions were included in the survey with additional open-ended questions added for stopped out students asking about factors that led to withdrawing from the program as well as characteristics about them that led to withdrawing.

The interview showed similar barriers and reasons for leaving the program. The most common barriers described by APD participants in the interview were finances, time, a specific class, and job/full-time work. When stopped out students were asked to describe factors that led to them dropping out, the main reasons described were feeling overwhelmed; classes, work, family were all getting hard at the same time; working full-time; and wanting to spend more time with family.

APD programs have little control over finances except for possibly the overall cost of the program or encouraging students to apply to various scholarships. Programs do not have control over time, a person's job/full-time work, or the ability to spend more time with family. Areas that could improve overall experience with the program include fixing negative aspects of specific classes and helping students before they feel overwhelmed. Programs could provide mentors with program experience to guide current students before they feel overwhelmed and help instill confidence.

Mode of Delivery

Student Preparedness, Employer Support, and the NGSES scores were significantly higher for the blended learning programs compared to the distance online program. Higher employer support is more likely due to the field rather than the mode of delivery, which was shown in this study's results. It may be that nurses and educators find doctoral degrees to be more valuable to the organization than dietitians and their employers. The higher level of student

preparedness may be due to the lower learning curve with some classes being offered in person, similar to the traditional track many students completed for their undergraduate and even master's degree. The lower learning curve could also have an effect on the higher NGSES score for the blended learning programs.

Relationship to Theoretical Framework

The idea of moving forward and reasons people act the way they do under different circumstances is related to the attribution theory. Lovitts¹⁸² found a lack of understanding to be related to the causes of attrition. "When graduate students who are struggling see other graduate students putatively thriving, they come to believe that they are the only ones having problems and attribute their difficulties to their own inadequacies and not to the structure of the situation."¹⁸² These types of defective attributions impact increased and constant rates of attrition.¹⁷⁸ If other cohort members are succeeding the struggling student may wonder what is wrong with them and give up. Having the ability to interact with cohort members and hear others struggles may help with this. The importance of the idea of making progress with one's doctoral work may explain why no difference was found between completers and non-completers in their relationship with their doctoral peers. Peers are likely to help each other feel better about themselves, can listen when another student is struggling with an assignment or class, or even may be able to help if the student has a problem. Even though cohort member/peers can provide encouragement and listen when there are problems, they have little control over the content of other students' dissertations and progress of assignments. Therefore, peers/cohort members have little impact on the final outcome of other students' doctoral degree. The specific role of doctoral peers/cohort members needs to be further clarified in future studies.

In contrast, the advisor/program director/committee chair is able to have more impact on students' doctoral work progress as their role entails supervising the students' work. These results also support the assertion of the LMX Theory that is used to assess the quality of the relationship between the leader (i.e., supervisor) and a member of the organization (i.e., subordinate).¹⁸⁸ This construct may help describe the relationship between a doctoral student and their committee chair. The supervisor-student dyad is often overlooked, yet a potentially critical factor in the attrition and retention debate.

Both the interviews and surveys support the literature showing that the supervisor plays an important role in doctoral student experience. However, a supportive supervisor does not always lead to the student graduating and a non-supportive supervisor does not always lead to the student dropping out.²³⁶ It would be interesting to explore the link between supervisor's attitudes and students' outcomes. Based on the results, support from supervisors helped improve the overall experience of the doctoral program. Students stated that the support from faculty and program directors was very important. Future studies are needed to explore more complex and intertwined interactions that occur between doctoral students and their supervisors. Examples could include how supervisors treat or consider doctoral students (students, colleagues, learners), how the students perceive the supervision, and how the doctoral student and supervisor are able to regulate their relationship to both get what they need.

Most students had at least a four to six-year (55.4%) time lapse between their last degree and the start of their doctoral degree with all students being older than 25. Most students (72.3%) had at least five years' work experience, 67.7% of students were married, and 55.4% of students had children. The identity theory proposes that self-identity is a clear predictor of intention. Mature students, who have been away from academia for a considerable amount of

time and have already established their social, family, and work groups, need to adopt a new identity as a university student. The ability of a student to identify themselves in the role of university student can have many barriers, including "social class, gender, and/or age of the student."¹⁸⁵ Past academic experiences can cause emotions in the students that are closely tied to their "self-appraisals of competence and control in the academic domain."¹⁸⁵ This can then be tied to the goals that the student attaches to their learning and can affect their control, values, and goals within classes.

The social cognitive theory and self-efficacy are important aspects of students' success and overall experiences in an APD program. The self-efficacy for the blended learning programs were significantly higher than for the online DCN program. Higher self-efficacy could be due to the program having some in-person class time. As stated in the theoretical framework, a person's evaluation of their ability is influenced by four types of experiences: 1) performance accomplishments (practical experience in specific area), 2) vicarious experience (experience observing others), 3) verbal persuasion (verbal praise or lack of verbal praise), and 4) physiological states (the emotional state of the student).²³⁷ Using this framework, vicarious learning (learning that occurs when observing others) could be a point of difference between blended learning (on-campus part time) and online (distance) doctoral students. "Seeing others perform threatening activities without adverse consequences can generate expectations in observers that they too will improve if they intensify and persist in their efforts. They persuade themselves that if others can do it, they should be able to achieve at least some improvement in performance."²³⁷ Roberts²³⁸ mentioned two sources of vicarious learning: peers and possibly educators (professors). It can be hypothesized that blended learning programs give the students a chance to observe their peers and professors in-person which could give them more opportunities

for vicarious learning compared to online students who rarely, if ever, come to campus to interact with peers. Students on campus can observe other students and professors working which can help them develop research skills, time management skills, or organizational skills, simply by watching and observing. Blended learning students, when on campus, are also able to compare their progress to other students and gauge whether their progress is similar or different to their peers. The on-campus benefits to blended learning can be hard to replicate, however programs could try to add cohort support groups where students can engage with other students and hear how others are progressing or hear about difficulties they may be having.

Challenges

Some challenges collecting data were encountered during both the qualitative and quantitative portions of the study. It was difficult getting responses from DNP students. This may have been due to them being nurses during a pandemic. They could have been completely overwhelmed with being a nurse and a student at the same time, so taking 30 minutes to complete an interview or 15 minutes to complete a survey, may have been an unneeded stress to their already stressful situation.

One of the major challenges was having stopped out students respond to the survey. The information they could have provided would have been invaluable and important to understanding the overall reasoning why some students completed the program and others stopped out. Five students who stopped out did respond to the survey, but this was not enough to look at them separately as a group. The stopped-out group ended up being combined with group two (incomplete, grade lower than a B, retake a class, stopped out but returned).

Strengths and Limitations

This study has both strengths and weaknesses. One limitation for this study was it only reported on information from doctoral students, therefore perspectives of university leaders, faculty members, or administrative personnel were not included. The participants were also asked to recall the information for both the qualitative and quantitative portions retrospectively. This could have caused the participants to reinterpret the events differently than they actually occurred in order to self-protect.

The DCN program does not have a cohesive cohort model, where students go through all of their courses together. This can make it more difficult for faculty to tell if a student is missing from classes each semester or are missing classes needed to graduate. Many students also attend part-time, are self-funded, often are working full-time outside of the university, and spend a large amount of time on coursework. After the coursework is complete, the students work on their dissertations independently. This is different than much of the previous research on attrition as many doctoral programs are not cohort-based.²³⁹ Even without a cohesive cohort model the students may still feel like part of a cohort versus the non-cohort based programs where there may not be other students on the same path. The DNP and EdD programs also use the cohort model, however the students in each cohort progress at the same rate staying with their starting cohort until they finish course work. Similar to the DCN program, after the coursework is complete the students work on their dissertations/doctoral project independently. The DCN program is an online/distance model whereas the DNP and EdD programs are a blended model. This was taken into consideration when comparing the three programs.

This study began to address the complexity of factors contributing to the retention rate. There may be multiple reasons why some students are able to graduate, and others may stop out.

This could be masked by the survey not having open ended responses. Completing the qualitative interview prior to the quantitative survey and using it to help guide the survey design likely helped eliminate some of this.

A strength of this study is that students at all stages of the program were interviewed and asked to complete the survey. This is a strength as it appears students who have stopped out, completed the program, and are currently in the program all experience family, financial, or even academic difficulties to some degree. Another strength of this study is that it did not look at just one APD program but considered three different programs in different areas of study.

Three different APD programs were considered as a whole (A+B+C), separately (A,B,C), and as two groups based on mode of delivery (A, B+C). This allowed analysis of each program individually to see if there are differences between the three programs as well as look at the online distance-based program (DCN) compared to the blended learning programs (EdD, DNP). It would be useful to look at some of the limitations in future studies.

Biases

The students in the DCN were predominately female which may not make this applicable to other doctoral programs. This has been minimized by ensuring that collected data is similar to the overall enrollment percentages of males and females. Since the researcher is a current DCN student, this may bias some of the questions. This was minimized by having others look at the interview and survey questions to ensure that the questions were not biased. This study also only looked at programs from one university so there may be some bias involved and some of the information may not be able to be extrapolated to other universities.

Implications for Practice

Based on interview and survey results, it was apparent that there are multiple factors associated with overall experience in advanced-practice doctoral programs. There are similarities and differences that exist within each APD program and overall. Understanding what factors cause negative and positive experiences is important to help increase the retention rate of APD programs. The dichotomy of the responsibility of the university or program versus that of the student was explored. Students are responsible for preparing for the APD program and completing their doctoral work, while universities should be responsible for providing students with qualified and involved dissertation chairs, sufficient support, and even access to financial support via stipends or scholarships to improve doctoral student success. In addition to outside factors from peers, faculty, family, and employers, personality traits and the ability to improve upon specific traits, such as self-efficacy, can have an impact on the APD experience.

Support from faculty, family, and cohort members was determined to be one of the most important factors towards a positive experience. Programs could benefit by helping faculty members understand the importance of supporting their students as well as keeping and using cohorts. Encouraging cohorts to set up Facebook groups or have a group texting app, such as WhatsApp, can help cohort members stay in touch and be able to support one another outside of class. It may be that the peer relationship is an equal or stronger bond than the faculty-student relationship. This study showed that peers/cohort members support was important to students and helped make the overall experience more positive.

Since these changes are important to improve experience and retention, it would benefit programs to implement some of the findings or pursue further research on this topic. Reasons some of the factors have not been implemented may be that the programs are unaware of changes

that matter. If this is the case, these findings may initiate some positive changes such as encouraging peer/cohort support, faculty and program director support, and added financial assistance.

Most students felt very supported, however some felt that their place of employment could have been more supportive. Others suggested that having some sort of financial support would have been helpful. This is important as maybe more scholarship opportunities could be provided for students needing financial assistance. It could be beneficial to create flyers or handouts describing how the doctoral program could benefit the employer. Getting employers to see the value of doctoral level education, could help with support, leading to increased applicants and improved retention rates.

Students tend to place responsibility on the faculty, the department, and the institution rather than themselves. It is unknown if faculty feel responsible for student retention rate and overall experience. Future research could be conducted on faculty attitudes towards doctoral student retention and overall experience. Research should be conducted through exit interviews with departing students annually, if not each semester and the research should be acted on to improve the program.

For reasons external to the program or institution, such as family or personal responsibilities, more support could be offered through peer support groups that support students through these life changes. This study did not show any difference between gender when it comes to overall experience, however it would be advantageous to look at gender as a factor in doctoral student overall experience. The academic factors are similar among all genders, however coping strategies and outside stressors are different between genders. Program directors should consider external factors rather than just focusing on academic matters. It has

been shown that external factors such as family, work, and time all impact doctoral student experience, and there could be further differences when gender is considered.

Looking at overall experience, by part-time or full-time students, could also shed some light on overall experience. Balance and support are both important to the life of doctoral students and their overall experience while pursuing their degree. The issues of balance of support are part of a doctoral student's life, whether they are part- or full-time, however, the kinds of balance and support may differ. Another factor to take into consideration is the number of students in each program that are part- or full-time. If the program typically has mostly part-time students, then the full-time students may feel left out and unable to discuss difficulties with a balance between work and school, whereas if the program has mostly full-time students, then the part-time students may feel like they are behind and that could have an impact on their self-efficacy and overall experience. The isolated students will feel like few peers understand the burden they are feeling. In order to enhance experience, students need to feel that their peers and faculty understand the demands of their lives and feel that the program fits their needs.

It would also be interesting look at introverts and extroverts as a personality trait. Introverts and extroverts experience online learning differently.²⁴⁰ While introverts might have a higher preference for online learning,²⁴¹ they tend to dislike group work.²⁴⁰ Learners who are introverts might need added follow-up when taking classes asynchronously.²⁴² "Student satisfaction with what they learn and how they learn in an online classroom is an important variable to understand."²⁴³ Yao and colleagues²⁴⁴ found that nurses who are "more outgoing, have high self-efficacy, and are married are not susceptible to have job-related burnout, and those with low [self-efficacy] and unstable introversion personality feel stronger burnout when they face stress."²⁴⁴

There are two main areas where programs can implement steps to improve students experience and retention rate – support and personality tests (Figure 7). Support should be offered both outside of the program advisor or director as well as from the program faculty. Students in this study found support from cohort members to be important. Literature also suggests support outside of program directors. Most students were “likely to talk to a colleague or friend about their intent to leave (14%), while only 5% of students spoke of their intent to a faculty member or advisor.”²⁴⁵ Creating support groups via video chat, social media, or texting apps could benefit students and improve experience and retention rates. Programs could provide mentors with program experience to guide current students before they feel overwhelmed and help instill confidence. Even though students may not reach out to faculty when thinking about leaving a program, faculty support is still crucial to a student’s overall experience. Also, under the support umbrella, programs should ensure students have enough support from faculty, especially during the dissertation process. During the interviews, many students commented on the importance of having faculty support, and a few students mentioned not having enough support during the dissertation process. Having scheduled meetings with faculty advisors, that increase during the dissertation process, could help improve students experience and reduce frustration. Some students felt that their place of employment could have been more supportive. Others suggested that having some sort of financial support would have been helpful. Maybe more scholarship opportunities or positions for research or teaching assistants could be provided for students needing financial assistance. It could be beneficial to create flyers or handouts describing how the doctoral program could benefit the employer. Getting employers to see the value of doctoral level education, could help with support, leading to increased applicants and improved retention rates. The second area that could improve overall experience would be

having students complete a personality test that includes self-efficacy. Understanding how a person responds to different situations can help program directors understand how to help a struggling student.

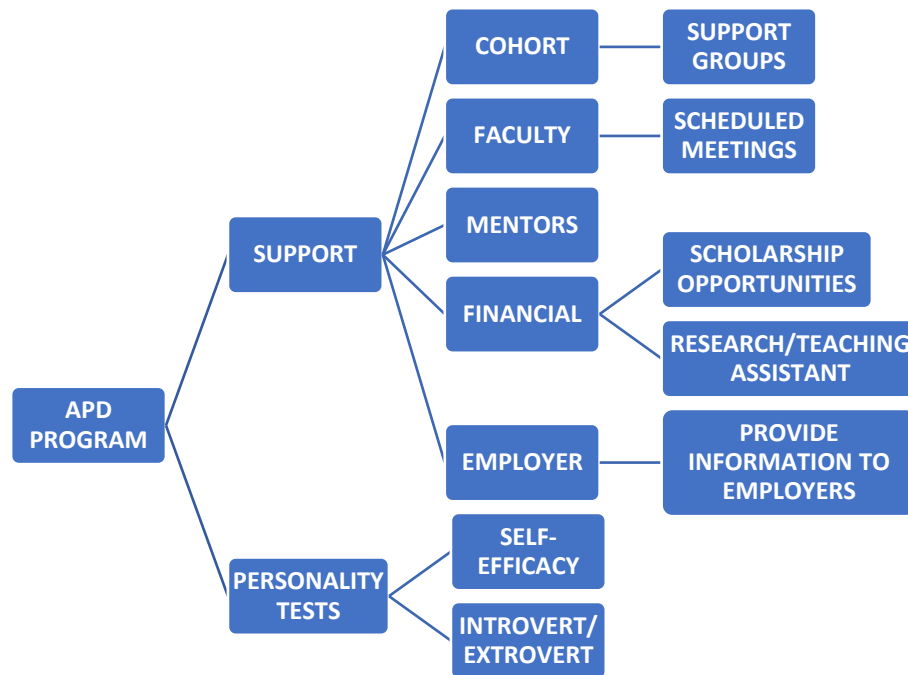


Figure 7. Future Direction for APD programs

Several directions for future research exist that could examine the themes identified in this study and further expand on them allowing for a clear understanding of doctoral students' experiences. A more in-depth qualitative study could help clarify some of the themes this study has identified. This study was limited with all three APD programs being at one institution. One strength of this study was the multi-departmental programs examined. Future research should examine other institutions in regard to experience and retention rates. In addition, more research with students who stopped out should be conducted at multiple institutions and within multiple disciplines. An improved understanding of doctoral student experience will lead to improved programs, support, and student experience in the programs. Future quantitative and qualitative

explanatory studies are recommended to further discover the effects various factors have on overall doctoral student experience.

Conclusion

In summary, the contribution of this study is to shed light on overlooked and potentially important factors associated with overall experience in advanced-practice doctoral programs, such as those experiences that lead to completion or dropout and then to consider how those predictors may be interrelated. The results indicate the responsibilities doctoral students have, goals they are pursuing, social factors, changes in identity, and interactions with others (i.e. supervisors, peers, or even employers) can impact the student's progress and should all be considered together. All of these experiences are interrelated and influence each other.

References

1. Doctor of Nursing Practice (DNP) Overview. NurseJournal.
<https://nursejournal.org/degrees/dnp/>. Published 2021. Accessed April 12, 2021.
2. EdD vs. PhD in Education: What is the Difference?
<https://www.northeastern.edu/graduate/blog/edd-vs-phd-in-education/>. Accessed February 10, 2021.
3. Allum, Kent, McCarthy JD. *Understanding PhD Career Pathways for Program Improvement A CGS Report Suggested Citation.*; 2014.
4. Kennedy DH, Terrell SR, Lohle M. A Review of Corbin and Strauss' Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. *Qual Rep.* 2015;14(2):140. <https://nsuworks.nova.edu/tqr/vol20/iss3/5>. Accessed April 14, 2020.
5. Crombie A, Brindley J, Harris D, Marks-Maran D, Thompson TM. Factors that enhance rates of completion: What makes students stay? *Nurse Educ Today.* 2013;33(11):1282-1287. doi:10.1016/j.nedt.2013.03.020
6. Offerman M. Profile of the nontraditional doctoral degree student. *New Dir Adult Contin Educ.* 2011;2011(129):21-30. doi:10.1002/ace.397
7. Marino J, Stefan MI, Blackford S. Ten Simple Rules for Finishing Your PhD. *PLoS Comput Biol.* 2014;10(12). doi:10.1371/journal.pcbi.1003954
8. Professional Doctoral Degrees | The Ohio State University Graduate School.
<https://gradsch.osu.edu/handbook/7-17-doctoral-professional-doctoral-degrees>. Accessed April 30, 2020.
9. *The Chronicle: Credential Creep.*; 2007.

- <http://chronicle.com/weekly/v53/i42/42a01001.htm>. Accessed April 30, 2020.
10. Chase S, Pruitt R. The Practice Doctorate: Innovation or Disruption? *J Nurs Educ*. 2006;45(5):155-161.
 11. Brill JL, Balcanoff KK, Land D, Gogarty M, Turner F. Best Practices in Doctoral Retention: Mentoring. *High Learn Res Commun*. 2014;4(2):26-37.
doi:10.18870/hlrc.v2i2.66
 12. Unemployment rates and earnings by educational attainment : U.S. Bureau of Labor Statistics. U.S. Bureau of Labor Statistics. <https://www.bls.gov/emp/chart-unemployment-earnings-education.htm>. Published September 4, 2019. Accessed March 19, 2020.
 13. Hwalla N, Koleilat M. *Dietetic Practice: The Past, Present and Future*. Vol 10.; 2004.
 14. Academy of Nutrition and Dietetics Timeline. <https://www.eatrightpro.org/history-timeline>. Accessed May 19, 2020.
 15. Parks SC, Fitz PA, Maillet JOS, Babjak P, Mitchell B. Challenging the Future of Dietetics Education and Credentialing - Dialogue, Discovery, and Directions: A summary of the 1994 Future Search Conference. *J Am Diet Assoc*. 1995;95(5):598-606.
doi:10.1016/S0002-8223(95)00165-4
 16. The Route to Practice and the Root of the Profession: 25p Years of Evolving Nutrition and Dietetics Education at the Academy. *J Acad Nutr Diet*. 2017;117(10):S37-S44.
doi:10.1016/j.jand.2017.08.015
 17. *Final Report of the Phase 2 Future Practice & Education Task Force*.; 2008.
 18. Collier S. Changes in the Health Workforce: Trends, Issues, and Credentialing. *Assoc Acad Heal Centers*. 2008.
 19. 2024 Graduate Degree Requirement - Registration Eligibility - Commission on Dietetic

- Registration. <https://www.cdrnet.org/graduatedegree>. Accessed May 19, 2020.
20. DCN in Nutrition and Dietetics, Offered Online - Rutgers School of Health Professions. <https://shp.rutgers.edu/nutritional-sciences/doctor-of-clinical-nutrition/>. Accessed April 19, 2020.
 21. UNF - Brooks: Nutrition and Dietetics - DCN. <https://www.unf.edu/brooks/nutrition/DCN.aspx>. Accessed January 6, 2020.
 22. Program Overview: DCN at KU. <http://www.kumc.edu/school-of-health-professions/dietetics-and-nutrition/doctor-of-clinical-nutrition.html>. Accessed April 19, 2020.
 23. Doctorate in Clinical Nutrition | Fairfield University. https://www.fairfield.edu/graduate-and-professional-studies/egan-school-of-nursing-and-health-studies/programs/doctorate-in-clinical-nutrition/index.html?utm_source=vanity&utm_medium=direct&utm_campaign=son&utm_content=print&utm_term=silverman+dcn. Accessed April 19, 2020.
 24. Dietitians and Nutritionists : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics. <https://www.bls.gov/ooh/healthcare/dietitians-and-nutritionists.htm>. Accessed January 30, 2020.
 25. Hooker RS, Williams JH, Papneja J, Sen N, Hogan P. Dietetics Supply and Demand: 2010-2020. *J Acad Nutr Diet*. 2012;112(3 SUPPL.):S75-S91.
doi:10.1016/j.jand.2011.12.024
 26. *Rationale for Future Education Preparation of Nutrition and Dietetics Practitioners.*; 2015.
 27. PayScale - Salary Comparison, Salary Survey, Search Wages. <https://www.payscale.com/>.

Accessed January 23, 2020.

28. Ervin SM. History of Nursing Education in the United States. In: *Curriculum Development and Evaluation in Nursing Education*. Springer Publishing Company; 2019. doi:10.1891/9780826174420.0001
29. Keating SB. Looking Back to the Future: Current Issues Facing Nursing Education From the Reflections of a Member of the Silent Generation. *Nurs Forum*. 2016;51(3):153-163. doi:10.1111/nuf.12133
30. 2016-2017 enrollment and graduation in baccalaureate and graduate programs in nursing. *Am Assoc Coll Nurs*. 2016.
31. Petry L. We Hail An Important “First” . *Am J Nurs*. 1949;49(10):630. https://journals.lww.com/ajnonline/abstract/1949/10000/we_hail_an_important__first_.19.aspx. Accessed March 9, 2021.
32. Sabio C, Petges N. Understanding the Barriers to BSN Education Among ADN Students: A Qualitative Study. *Teach Learn Nurs*. 2020;15(1):45-52. doi:10.1016/j.teln.2019.08.007
33. Spetz J, Bates T. Is a baccalaureate in nursing worth it? the return to education, 2000-2008. *Health Serv Res*. 2013;48(6 PART1):1859-1878. doi:10.1111/1475-6773.12104
34. Feeg V, Mancino DJ. *Good News/Bad News See-Saw: Upward Peak in Employment Suggests a Changing Future Landscape of Workforce Issues*. Vol 38.; 2017. <https://www2.ajj.com/sites/default/files/services/publishing/deansnotes/summer2017.pdf>. Accessed May 22, 2021.
35. Fondiller S. The advancement of baccalaureate and graduate nursing education: 1952-1972. *Nurs Health Care Perspect*. 2001;22(1):8-10. <https://pubmed.ncbi.nlm.nih.gov/11221183/>. Accessed March 9, 2021.

36. Sabio C. Associate Degree Nursing Students' Perceived Barriers to Baccalaureate Nursing Education and Intentions to Enroll in a Baccalaureate-only Nursing Environment. *Teach Learn Nurs.* 2019;14(1):9-14. doi:10.1016/j.teln.2018.08.004
37. Orsolini-Hain L, Waters V. Education Evolution: A Historical Perspective of Associate Degree Nursing. *J Nurs Educ.* 2009;48(5):266-271.
38. Buerhaus P, Auerbach D, Staiger D. Recent Changes in the Number of Nurses Graduating from Undergraduate and Graduate Programs. *Nurs Econ.* 2016;3(1):46-48.
39. Kalisch PA. *The Advance of American Nursing* . 3rd ed. Philadelphia: Lippincott; 1995. <https://iucat.iu.edu/iuk/763594>. Accessed March 9, 2021.
40. Flood ME. Best-Laid Plans: A Century of Nursing Curricula. In: *Curriculum Development and Evaluation in Nursing*. Second. Philadelphia: Lipcott; 2010:5-32.
41. Gerard SO, Kazer MW, Babington L, Quell TT. Past, present, and future trends of master's education in nursing. *J Prof Nurs.* 2014;30(4):326-332. doi:10.1016/j.profnurs.2014.01.005
42. Ketefian S, Redman RW. A critical examination of developments in nursing doctoral education in the United States. *Rev Lat Am Enfermagem.* 2015;23(3):363-371. doi:10.1590/0104-1169.0797.2566
43. Carter M. The history of doctoral education in nursing. In: *Advanced Practice Nursing Essential Knowledge for the Profession*. Boston: Jones and Bartlett Publishers; 2009:31-41.
44. UCLA School of Nursing. <https://www.nursing.ucla.edu/admissions/degree-programs/doctor-nursing-practice>. Accessed March 12, 2021.
45. *Fact Sheet: The Doctor of Nursing Practice (DNP)*.

- <https://www.aacnnursing.org/Portals/42/News/Factsheets/DNP-Factsheet.pdf>. Accessed February 1, 2021.
46. Pomatto MC, Giefer C, Hite A, Johnson K. The History and Policy Implications of Pittsburg State University's First Doctoral Program, the Doctor of Nursing Practice (DNP). *Midwest Q (Pittsb)*. March 2019:234-245.
- <https://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=6&sid=52a273df-3fee-4aed-bfbb-d181d0292f3e%40pdc-v-sessmgr02>. Accessed March 12, 2021.
47. DNP Talking Points. <https://www.aacnnursing.org/DNP/about/talking-points>. Accessed March 12, 2021.
48. U.S. Bureau of Labor Statistics. Registered Nurses. Occupational Outlook Handbook. <https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-5>. Published April 9, 2021. Accessed May 20, 2021.
49. U.S. Bureau of Labor Statistics. Nurse Anesthetists, Nurse Midwives, and Nurse Practitioners. Occupational Outlook Handbook. <https://www.bls.gov/ooh/healthcare/nurse-anesthetists-nurse-midwives-and-nurse-practitioners.htm#tab-5>. Published April 9, 2021. Accessed May 20, 2021.
50. Labaree DF. An uneasy relationship: The history of teacher education in the university. *Handb Res Teach Educ*. 2008:290-306.
51. Graduate Programs. UNF - The Graduate School. https://www.unf.edu/graduateschool/academics/Graduate_Programs.aspx. Accessed May 23, 2021.
52. Shulman LS, Golde CM, Bueschel AC, Garabedian KJ. Reclaiming Education's Doctorates: A Critique and a Proposal. *Educ Res*. 2006;35(3):25-32.

doi:10.3102/0013189X035003025

53. Toma JD. Legitimacy, Differentiation, and the Promise of the Ed.D. in Higher Education. *ERIC*. November 2002.
54. Perry JA. What does history reveal about the education doctorate? In: Latta M, Wunder S, eds. *Placing Practitioner Knowledge at the Center of Teacher Education*. ; 2012.
55. U.S. Bureau of Labor Statistics. High School Teachers. Occupational Outlook Handbook. <https://www.bls.gov/ooh/education-training-and-library/high-school-teachers.htm#tab-5>. Published April 9, 2021. Accessed May 20, 2021.
56. Willis B, Carmichael KD. The Lived Experience of Late-Stage Doctoral Student Attrition in Counselor Education. *Qual Rep*. 2011;16(1).
<https://nsuworks.nova.edu/tqr/vol16/iss1/11/>. Accessed April 19, 2020.
57. Aljohani O. A Comprehensive Review of the Major Studies and Theoretical Models of Student Retention in Higher Education. *High Educ Stud*. 2016;6(2).
doi:10.5539/hes.v6n2p1
58. Bogle D, Dron M, Eggermont J, Henten JW Van. Doctoral degrees beyond 2010: Training talented researchers for society. *Procedia - Soc Behav Sci*. 2011;13:35-49.
doi:10.1016/j.sbspro.2011.03.003
59. Rogers-Shaw C, Carr-Chellman D. Developing care and socio-emotional learning in first year doctoral students: Building capacity for success. *Int J Dr Stud*. 2018;13:233-252.
doi:10.28945/4064
60. Lee H, Chang H, Bryan L. Doctoral Students' Learning Success in Online-Based Leadership Programs. *Int Rev Res Open Distrib Learn*. 2020;21(1):61-81.
61. New directions in PhDs: online considerations AARE 2001.

- https://www.love.com.au/docs/2001/2001_Aare_NewDirections_in_PhDs_online_TL.htm. Accessed April 10, 2020.
62. Bain S, Fedynich L, Knight M. *The Successful Graduate Student: A Review of the Factors for Success*.
 63. Holley KA, Caldwell ML. The Challenges of Designing and Implementing a Doctoral Student Mentoring Program. *Innov High Educ*. 2012;37(3):243-253. doi:10.1007/s10755-011-9203-y
 64. Santicola L. *Pressing On: Persistence Through A Doctoral Cohort Program In Education*. Vol 6.; 2013. <http://www.cluteinstitute.com/>. Accessed April 19, 2020.
 65. Motseke M. Reasons for the slow completion of Masters and Doctoral degrees by adult learners in a South African township. *Aust J Adult Learn*. 2016;56(3):424-441.
 66. Morris M. *“Trying to Keep up”: The Experience of Combining Full-Time VET with Work.*; 2013.
 67. Duke C, Hinzen H. University Engagement and the Post-2015 Agenda. What are the Roles and Functions to Support Adult Education and Lifelong Learning? *Procedia - Soc Behav Sci*. 2014;142:29-35. doi:10.1016/j.sbspro.2014.07.582
 68. Beutel D, Gray L, Beames S, Klenowski V, Ehrich L, Kapitzke C. An Exploratory Study of Online Social Networking within a Doctorate of Education Program. *Int J Learn*. 2010;17(3):67-79.
 69. Predictor. Cambridge English Dictionary.
<https://dictionary.cambridge.org/us/dictionary/english/predictor>. Accessed June 10, 2020.
 70. O’Meara KA, Knudsen K, Jones J. The role of emotional competencies in faculty-doctoral student relationships. *Rev High Educ*. 2013;36(3):315-347. doi:10.1353/rhe.2013.0021

71. Trujillo G, Tanner KD. Considering the role of affect in learning: Monitoring students' self-efficacy, sense of belonging, and science identity. *CBE Life Sci Educ*. 2014;13(1):6-15. doi:10.1187/cbe.13-12-0241
72. Zaky H, Szameitat A. Infield education: Enhancing adult learners' affective domain for transformative learning endorsement. *Cogent Educ*. 2019;6(1). doi:10.1080/2331186X.2019.1693679
73. Gravett S. *Adult Learning Designing and Implementing Learning Events. A Dialogic Approach*. Van Schaik; 2005.
74. Clapper TC. Beyond Knowles: What Those Conducting Simulation Need to Know About Adult Learning Theory. *Clin Simul Nurs*. 2010;6(1):e7-e14. doi:10.1016/j.ecns.2009.07.003
75. Kenner C, Weinerman J. Adult Learning Theory: Applications to Non-Traditional College Students. *J Coll Read Learn*. 2011;41(2):87-96. <https://files.eric.ed.gov/fulltext/EJ926365.pdf>. Accessed January 7, 2020.
76. Dunlap JC, Grabinger S. Preparing Students for Lifelong Learning: A Review of Instructional Features and Teaching Methodologies. *Perform Improv Q*. 2008;16(2):6-25. doi:10.1111/j.1937-8327.2003.tb00276.x
77. Quinn FM, Hughes SJ. *Quinn's Principles and Practice of Nurse Education*. 5th ed. Cheltenham, UK: Thornes; 2013.
78. Åkerlind GS, Trevitt AC. Enhancing self-directed learning through educational technology: When students resist the change. *Innov Educ Teach Int*. 1999;36(2):96-105. doi:10.1080/1355800990360202
79. Lack M, Bruce JC. How nursing students perform in problem-based learning tutorials-A

- South African perspective. *J Nurs Educ Pract*. 2014;4(7):156. doi:10.5430/jnep.v4n7p156
80. Keskitalo T, Ruokamo H, Gaba D. Towards meaningful simulation-based learning with medical students and junior physicians. *Med Teach*. 2014;36(3):230-239. doi:10.3109/0142159X.2013.853116
 81. Spies C, Seale I, Botma Y. Adult learning: What nurse educators need to know about mature students. 2015;38(2). doi:10.4102/curationis.v38i2.1494
 82. *Adult Learning Theories What Are Adult Learning Theories?* <http://teal.ed.gov>. Accessed April 19, 2020.
 83. Phipps STA, Prieto LC, Ndinguri E. Teaching an Old Dog New Tricks: Investigating How Age, Ability, and Self Efficacy Influence Intentions to Learn and Learning among Participants in Adult Education. 2013.
 84. Mature Students | What Is A Mature Student? How Do You Get Started? <https://www.ucas.com/undergraduate/student-life/mature-undergraduate-students>. Accessed June 10, 2020.
 85. Benner P. From Novice to Expert. *JSTOR*. 1982;82(3):402-407. <http://www.jstor.org/stable/3462928>. Accessed April 19, 2020.
 86. Bayne S, Gallagher MS, Lamb J. *Being “at” University: The Social Topologies of Distance Students.*; 2014. <http://online.education.ed.ac.uk/>. Accessed April 14, 2020.
 87. Distler J. Online nurse practitioner education: achieving student competencies. *Nurse Pract*. 2015;40(11):44-49.
 88. Gregori P, Martínez V, Moyano-Fernández JJ. Basic actions to reduce dropout rates in distance learning. *Eval Program Plann*. 2018;66:48-52. doi:10.1016/j.evalprogplan.2017.10.004

89. Fast Facts: Distance learning. National Center for Education Statistics.
<https://nces.ed.gov/fastfacts/display.asp?id=80>. Published 2019. Accessed January 7, 2020.
90. Research Your Options: U.S. Online Learning. <https://educationusa.state.gov/your-5-steps-us-study/research-your-options/online-learning>. Accessed April 19, 2020.
91. Alammary A, Sheard J, Carbone A. Blended learning in higher education: Three different design approaches. *Australas J Educ Technol*. 2014;30(4). doi:10.14742/ajet.693
92. Asynchronous Learning(i.e. Location Independent Learning).
<http://umich.edu/~elements/5e/asyLearn/learning.htm>. Accessed January 7, 2020.
93. What are “synchronous” and “asynchronous”? Teaching Online: A Penn Nursing Resource. https://canvas.upenn.edu/courses/1320001/pages/what-are-synchronous-and-asynchronous?module_item_id=13004516. Accessed January 7, 2020.
94. Rigler Jr KL, Bowlin LK, Sweat K, Watts S, Throne R. *Agency, Socialization, and Support: A Critical Review of Doctoral Student Attrition.*; 2017.
<https://files.eric.ed.gov/fulltext/ED580853.pdf>. Accessed March 18, 2020.
95. Number of People With Master’s and Doctoral Degrees Doubles Since 2000. United States Census Bureau. <https://www.census.gov/library/stories/2019/02/number-of-people-with-masters-and-phd-degrees-double-since-2000.html>. Published 2019. Accessed April 19, 2020.
96. Moreira IC, Ventura SR, Ramos I, Rodrigues PP. Development and assessment of an e-learning course on breast imaging for radiographers: a stratified randomized controlled trial. *J Med Internet Res*. 2015;17(1):e3. doi:10.2196/jmir.3344
97. Wu JH, Tennyson RD, Hsia TL. A study of student satisfaction in a blended e-learning

- system environment. *Comput Educ.* 2010;55(1):155-164.
doi:10.1016/j.compedu.2009.12.012
98. Bonk CJ, Graham CR. *The Handbook of Blended Learning: Global Perspectives, Local Designs*. San Francisco: Jossey-Bass; 2006.
 99. Liu Q, Peng W, Zhang F, Hu R, Li Y, Yan W. The Effectiveness of Blended Learning in Health Professions: Systematic Review and Meta-Analysis. *J Med Internet Res.* 2016;18(1):e2. doi:10.2196/jmir.4807
 100. Makhdoom N, Khoshhal KI, Algaidi S, Heissam K, Zolaly MA. “Blended learning” as an effective teaching and learning strategy in clinical medicine: A comparative cross-sectional university-based study. *J Taibah Univ Med Sci.* 2013;8(1):12-17.
doi:10.1016/j.jtumed.2013.01.002
 101. Hughes G. Using blended learning to increase learner support and improve retention. *Teach High Educ.* 2007;12(3):349-363. doi:10.1080/13562510701278690
 102. Stanley MJOC, Dougherty JP. A paradigm shift in nursing education: A new model. *Nurs Educ Perspect.* 2010;31(6):378-380. doi:10.1043/1536-5026-31.6.378
 103. Rockinson-Szapkiw AJ, Heuvelman-Hutchinson L, Spaulding L. *Connecting Online: Can Social Networking and Other Technology Support Doctoral Connectedness?* Vol 11.; 2014.
<http://ro.uow.edu.au/jutlp><http://ro.uow.edu.au/jutlp/vol11/iss3/4><http://ro.uow.edu.au/jutlp/vol11/iss3/4>. Accessed March 12, 2020.
 104. Gregori P, Publicarse VM-P a, 2017 U. Challenges Regarding Scientific Transcription in Virtual Office Hours.
 105. Gregori P, Martínez V, Moyano-Fernández J. Protocol of action for monitoring students in

- blended courses. *Proc virtual Congr Adv.* 2016.
106. Siegelman A. Blended, Hybrid, and Flipped Courses: What's the Difference? Center for the Advancement of Teaching. <https://teaching.temple.edu/edvice-exchange/2019/11/blended-hybrid-and-flipped-courses-what's-difference>. Accessed March 14, 2021.
 107. Hofmann J. *What Works in Talent Development: Blended Learning*. Alexandria: ATD Press; 2018.
 108. Xiao J, Sun-Lin HZ, Lin TH, Li M, Pan Z, Cheng HC. What makes learners a good fit for hybrid learning? Learning competences as predictors of experience and satisfaction in hybrid learning space. *Br J Educ Technol*. 2020;51(4):1203-1219. doi:10.1111/bjet.12949
 109. Gleason B, Greenhow C. Hybrid Learning in Higher Education: The Potential of Teaching and Learning with Robot-Mediated Communication. *Online Learn*. 2017;21(4):159-176. <https://eds.a.ebscohost.com/eds/pdfviewer/pdfviewer?vid=3&sid=fd9f432e-65ed-4f8f-9381-07d2b2ba8a9d%40sessionmgr4006>. Accessed March 15, 2021.
 110. Tsai MH, Tang YC. Learning attitudes and problem-solving attitudes for blended problem-based learning. *Libr Hi Tech*. 2017;35(4):615-628. doi:10.1108/LHT-06-2017-0102
 111. Locke L, Boyle M. Avoiding the A.B.D. Abyss: A Grounded Theory Study of a Dissertation-Focused Course for Doctoral Students in an Educational Leadership Program. *Qual Rep*. 2016;21(9):1574-1593. <https://nsuworks.nova.edu/tqr/vol21/iss9/2>. Accessed June 10, 2020.
 112. Mason MM. *Motivation, Satisfaction, and Innate Psychological Needs*. Vol 7.; 2012.
 113. Gardner SK. Contrasting the Socialization Experiences of Doctoral Students in High- and

- Low-Completing Departments: A Qualitative Analysis of Disciplinary Contexts at One Institution. *J Higher Educ.* 2010;81(1):61-81. doi:10.1080/00221546.2010.11778970
114. Moxham L, Dwyer T, Reid-Searl K. Articulating expectations for PhD candidature upon commencement: Ensuring supervisor/student “best fit.” *J High Educ Policy Manag.* 2013;35(4):345-354. doi:10.1080/1360080X.2013.812030
 115. Litalien D, Guay F. Dropout intentions in PhD studies: A comprehensive model based on interpersonal relationships and motivational resources. *Contemp Educ Psychol.* 2015;41:218-231. doi:10.1016/j.cedpsych.2015.03.004
 116. O’Meara KA, Knudsen K, Jones J. The role of emotional competencies in faculty-doctoral student relationships. *Rev High Educ.* 2013;36(3):315-347. doi:10.1353/rhe.2013.0021
 117. Stock WA, Siegfried JJ. Fifteen years of research on graduate education in economics: What have we learned? *J Econ Educ.* 2014;45(4):287-303. doi:10.1080/00220485.2014.942410
 118. Bitzer EM. Doctoral Success as Ongoing Quality Business: A Possible Conceptual Framework. *South African J High Educ.* 2011;25(3):425-443. <https://eric.ed.gov/?id=EJ967422>. Accessed January 19, 2020.
 119. Herman C. Obstacles to Success--Doctoral Student Attrition in South Africa. Perspectives in Education. <https://eric.ed.gov/?id=EJ945860>. Published September 2011. Accessed January 3, 2020.
 120. Spaulding LS, Rockinson-Szapkiw AJ. Hearing their voices: Factors doctoral candidates attribute to their persistence. *Int J Dr Stud.* 2012;7:199-219. doi:10.28945/1589
 121. Wao HO, Onwuegbuzie AJ. *Editor: Yair Levy A Mixed Research Investigation of Factors Related to Time to the Doctorate in Education.* Vol 6.; 2011.

122. Richardson JTE. Approaches to studying across the adult life span: Evidence from distance education. *Learn Individ Differ*. 2013;26:74-80. doi:10.1016/j.lindif.2013.04.012
123. Bégin C, G  arard L. The Role of Supervisors in Light of the Experience of Doctoral Students. *Policy Futur Educ*. 2013;11(3):267-276. doi:10.2304/pfie.2013.11.3.267
124. Holley KA, Gardner S. Navigating the pipeline: How socio-cultural influences impact first-generation doctoral students. *J Divers High Educ*. 2012;5(2):112-121. doi:10.1037/a0026840
125. Hard   PL, Hackett S. *Defining the Graduate College Experience: What It “Should” versus “Does” Include*. Vol 10.; 2015. <http://ijds.org/Volume10/IJDSv10p057->. Accessed January 5, 2020.
126. Muljana PS, Luo T. Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *J Inf Technol Educ Res*. 2019;18:19-57. doi:10.28945/4182
127. Kyvik S, Olsen TB. Increasing completion rates in Norwegian doctoral training: multiple causes for efficiency improvements. *Stud High Educ*. 2014;39(9):1668-1682. doi:10.1080/03075079.2013.801427
128. Ampaw FD, Jaeger AJ. Completing the Three Stages of Doctoral Education: An Event History Analysis. *Res High Educ*. 2012;53:640-660. doi:10.2307/23257602
129. van de Schoot R, Yerkes MA, Mouw JM, Sonneveld H. What Took Them So Long? Explaining PhD Delays among Doctoral Candidates. Convertino M, ed. *PLoS One*. 2013;8(7):e68839. doi:10.1371/journal.pone.0068839
130. Sutton R. Unlearning the Past: New Foundations for Online Student Retention. *J Educ Online*. 2014;11(3). <https://eric.ed.gov/?id=EJ1033326>. Accessed April 19, 2020.

131. Xu YJ. Advance to and Persistence in Graduate School: Identifying the Influential Factors and Major-Based Differences. *J Coll Student Retent Res Theory Pract*. 2014;16(3):391-417. doi:10.2190/CS.16.3.e
132. Moak SC, Walker JT. How to Be a Successful Mentor. *J Contemp Crim Justice*. 2014;30(4):427-442. doi:10.1177/1043986214541608
133. Bates PJ, Goff L. The Invisible Student: Benefits and Challenges of Part-time Doctoral Studies. 2012.
134. Carter S, Blumenstein M, Cook C. Different for women? The challenges of doctoral studies. *Teach High Educ*. 2013;18(4):339-351. doi:10.1080/13562517.2012.719159
135. Cantwell RH, Scevak JJ, Bourke S, Holbrook A. Identifying individual differences among doctoral candidates: A framework for understanding problematic candidature. *Int J Educ Res*. 2012;53:68-79. doi:10.1016/j.ijer.2012.02.001
136. Holmes B, Trimble M, Morrison-Danner D. Advancing Scholarship, Team Building, And Collaboration In A Hybrid Doctoral Program In Educational Leadership. *J Coll Teach Learn*. 2014;11(4):175-180. doi:10.19030/tlc.v11i4.8855
137. Luna G. Succession planning: A doctoral program partnership for emerging community college leaders. *Community Coll J Res Pract*. 2010;34(12):977-990. doi:10.1080/10668921003723144
138. Kiley M. Government policy and research higher degree education. *J High Educ Policy Manag*. 2011;33(6):629-640. doi:10.1080/1360080X.2011.621189
139. West IJ y, Gokalp G, Pena E V., Fischer L, Gupton JT. Exploring effective support practices for doctoral students degree completion. *Coll Stud J*. 2011;45:310-323.
140. Orellana ML, Darder A, Pérez A, Salinas J. Improving doctoral success by matching PhD

- students with supervisors. *Int J Dr Stud*. 2016;11:87-103. doi:10.28945/3404
141. Parker-Jenkins M. Mind the Gap: Developing the Roles, Expectations and Boundaries in the Doctoral Supervisor - Supervisee Relationship. *Stud High Educ*. 2018;43(1):57-71.
 142. Abiddin NZ, Abiddin NZ, Ismail A, Ismail A. Effective Supervisory Approach in Enhancing Postgraduate Research Studies. *Int J Humanit Soc Sci*. 2011;1(2):206-217.
<http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.471.6410>. Accessed April 10, 2020.
 143. Frischer J, Larsson K. Laissez-faire in research education — an inquiry into a Swedish doctoral program. *High Educ Policy*. 2000;13(2):131-155. doi:10.1016/S0952-8733(99)00022-7
 144. Democratic, Authoritarian, Laissez-Faire: What Type Of Leader Are You?
<https://www.forbes.com/sites/davidcarlin/2019/10/18/democratic-authoritarian-laissez-faire-what-type-of-leader-are-you/#2761c2742a6b>. Accessed April 22, 2020.
 145. Holbrook A, Shaw K, Scevak J, Bourke S, Cantwell R, Budd J. PhD candidate expectations: Exploring mismatch with experience. *Int J Dr Stud*. 2014;9:329-346.
doi:10.28945/2078
 146. Bøgelund P. *How Supervisors Perceive PhD Supervision – And How They Practice It*. Vol 10.; 2015. <http://ijds.org/Volume10/IJDSv10p039-055Bogelund0714.pdf>. Accessed April 10, 2020.
 147. Woolderink M, Putnik K, Klabbers G. *The Voice of PhD Candidates and PhD Supervisors. A Qualitative Exploratory Study amongst PhD Candidates and Supervisors to Evaluate the Relational Aspects of PhD Supervision in the Netherlands*. Vol 10.; 2015.
<http://ijds.org/Volume10/IJDSv10p217-235Woolderink0852.pdf>. Accessed April 10,

- 2020.
148. Cockrell CN, Shelley K. The Relationship between Academic Support Systems and Intended Persistence in Doctoral Education. *J Coll Student Retent Res Theory Pract.* 2011;12(4):469-484. doi:10.2190/CS.12.4.e
 149. Storms BA, Prada MJ, Donahue EN. Advising Doctoral Candidates to Degree Completion. *Educ Leadersh Adm Teach Progr Dev.* 2011;23:85-92.
<https://eric.ed.gov/?id=EJ965229>. Accessed February 19, 2020.
 150. Hyatt L, Williams PE. 21st Century Competencies for Doctoral Leadership Faculty. *Innov High Educ.* 2011;36(1):53-66. doi:10.1007/s10755-010-9157-5
 151. Martinez E, Ordu C, Sala MR Della, Mcfarlane A. *International Journal of Doctoral Studies Striving to Obtain a School-Work-Life Balance: The Full-Time Doctoral Student.*; 2013.
 152. Kim D, Otts C. The effect of loans on time to doctorate degree: Differences by race/ethnicity, field of study, and institutional characteristics. *J Higher Educ.* 2010;81(1).
 153. Stubb J, Pyhältö K, Lonka K. Balancing between inspiration and exhaustion: PhD students' experienced socio-psychological well-being. *Stud Contin Educ.* 2011;33(1):33-50. doi:10.1080/0158037X.2010.515572
 154. Martinez-Arguelles M-J, Batalla-Busquets J-M. View of Perceived Service Quality and Student Loyalty in an Online University. *Int Rev Res Open Distrib Learn.* 2016;17(4):264-279. <http://www.irrodl.org/index.php/irrodl/article/view/2518/3788>. Accessed April 14, 2020.
 155. Elias MJ. *The Connection Between Academic and Social-Emotional Learning.*; 2006. www.corwinpress.com. Accessed April 13, 2020.

156. Sinclair J, Barnacle R, Cuthbert D. How the doctorate contributes to the formation of active researchers: what the research tells us. *Stud High Educ.* 2014;39(10):1972-1986. doi:10.1080/03075079.2013.806460
157. Tompkins KA, Brecht K, Tucker B, Neander LL, Swift JK. Who matters most? The contribution of faculty, student-peers, and outside support in predicting graduate student satisfaction. *Train Educ Prof Psychol.* 2016;10(2):102-108. doi:10.1037/tep0000115
158. Devis-Rozental C, Eccles S, Mayer M. Developing socio-emotional intelligence in first year higher education students through one-to-one learning development tutorials. *J Learn Dev High Educ.* 2017;(12).
159. Lott JL, Gardner S, Powers DA. Doctoral Student Attrition in the Stem Fields: An Exploratory Event History Analysis. *J Coll Student Retent Res Theory Pract.* 2009;11(2):247-266. doi:10.2190/cs.11.2.e
160. Shaw M, Burrus S, Ferguson K. Factors that Influence Student Attrition in Online Courses. *Online J Distance Learn Adm.* 2016;19(3).
161. Williams PE, Wall N, Fish WW. Mid-career adult learners in an online doctoral program and the drivers of their academic self-regulation: The importance of social support and parent education level. *Int Rev Res Open Distance Learn.* 2019;20(1):64-78. doi:10.19173/irrodl.v20i1.3789
162. Lee SM. The relationships between higher order thinking skills, cognitive density, and social presence in online learning. *Internet High Educ.* 2014;21:41-52. doi:10.1016/j.iheduc.2013.12.002
163. Terrell SR, Snyder MM, Dringus LP, Maddrey E. A Review of Corbin and Strauss' Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory.

- Qual Rep.* 2012;17(31). <https://nsuworks.nova.edu/tqr/vol17/iss31/2>. Accessed April 19, 2020.
164. Stallone MN. Factors Associated With Student Attrition And Retention In An Educational Leadership Doctoral Program. *J Coll Teach Learn.* 2004;1(6). doi:10.19030/tlc.v1i6.1952
 165. Boston University School of Public Health. The Social Cognitive Theory. <https://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories5.html>. Published September 9, 2019. Accessed May 17, 2021.
 166. Weiner B. An attributional theory of achievement motivation and emotion. *psycnet.apa.org.* 1985. doi:10.1037/0033-295X.92.4.548
 167. Attribution | Definition of Attribution by Merriam-Webster. <https://www.merriam-webster.com/dictionary/attribution>. Accessed May 20, 2020.
 168. Gardner SK. Student and faculty attributions of attrition in high and low-completing doctoral programs in the United States. doi:10.1007/s10734-008-9184-7
 169. Demetriou C. The Attribution Theory of Learning and Advising Students on Academic Probation. *NACADA J.* 2011;31(2).
 170. Cook DA, Artino AR. Motivation to learn: an overview of contemporary theories. *Med Educ.* 2016;50(10):997-1014. doi:10.1111/medu.13074
 171. Schunk DH, Zimmerman BJ. Competence and Control Beliefs: Distinguishing the Means and Ends. In: Alexamder P.A., Winnie PH, eds. *Handbook of Educational Psychology*. 2nd ed. Mahwah: Lawrence Erlbaum Associates; 2006. doi:10.4324/9780203874790.ch16
 172. Graham S. A review of attribution theory in achievement contexts. *Educ Psychol Rev.* 1991;3(1):5-39. doi:10.1007/BF01323661

173. Weiner B. Intrapersonal and Interpersonal Theories of Motivation from an Attributional Perspective. *Educ Psychol Rev.* 2000;12(1):1-14. doi:10.1023/A:1009017532121
174. Borkowski N. *Organizational Behavior in Health Care*. 2nd ed. Jones and Bartlett Publishers; 2011.
175. Weiner B. A theory of motivation for some classroom experiences. *J Educ Psychol.* 1979;71(1):3-25. doi:10.1037/0022-0663.71.1.3
176. Empowered | Definition of Empowered by Merriam-Webster. <https://www.merriam-webster.com/dictionary/empowered>. Accessed May 24, 2020.
177. Harvey P, Martinko MJ. Attribution Theory and Motivation. In: Borkowski N, ed. *Organizational Behavior, Theory and Design in Health Care*. Boston: Jones and Bartlett Publishers; 2009:143-158.
178. Martinko M, Weiner B. Attribution Theory in Organizational Behavior: A Relationship of Mutual Benefit. In: *Attribution Theory*. Routledge; 2019:3-6. doi:10.4324/9781315137926-1
179. Weiner B. History of Motivational Research in Education. *J Educ Psychol.* 1990;82(4):616-622. doi:10.1037/0022-0663.82.4.616
180. Resilience | Definition of Resilience by Merriam-Webster. <https://www.merriam-webster.com/dictionary/resilience>. Accessed May 21, 2020.
181. Rakes GC |Dunn. KE |Rakes. TA. Attribution as a Predictor of Procrastination in Online Graduate Students. *J Interact Online Learn.* 2013;12(3):103-121.
182. Lovitts BE. *Leaving the Ivory Tower : The Causes and Consequences of Departure from Doctoral Study*. Rowman & Littlefield Publishers; 2001.
183. Burke PJ (Peter J, Stets JE. *Identity Theory*. Oxford University Press; 2009.

194. Bandura A. *Self-Efficacy The Exercise of Control*. New York: W.H. Freeman,; 1997.
195. Locke EA. Long-range thinking and goal-directed action. In: Oettingen G, Sevincer AT, Gollwitzer P, eds. *The Psychology of Thinking about the Future*. The Guilford Press; 2018:377-391.
196. Schunk DH, DiBenedetto MK. Self-Efficacy Theory in Education. In: Wentzel KR, Miele DB, eds. *Handbook of Motivation at School*. Second. New York: Routledge Taylor and Francis Group; 2016:34-54.
197. Schunk DH, Usher EL. Social Cognitive Theory and Motivation. In: *The Oxford Handbook of Human Motivation*. Oxford University Press; 2019:9-26.
doi:10.1093/oxfordhb/9780190666453.013.2
198. Maddux JE, Kleiman EM. Self-efficacy. In: Oettingen G, Sevincer AT, Gollwitzer P, eds. *The Psychology of Thinking about the Future*. The Guilford Press; 2018:174-198.
199. Dansereau F, Graen G, Haga WJ. A vertical dyad linkage approach to leadership within formal organizations. A longitudinal investigation of the role making process. *Organ Behav Hum Perform*. 1975;13(1):46-78. doi:10.1016/0030-5073(75)90005-7
200. Gerstner CR, Day D V. Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *J Appl Psychol*. 1997;82(6):827-844. doi:10.1037/0021-9010.82.6.827
201. Greene JC. *Mixed Methods in Social Inquiry*. Jossey-Bass; 2007.
202. Connor K, Davidson J. *Scoring and Interpretation of the Connor-Davidson Resilience Scale (CD-RISC®)*.; 2020.
203. New General Self-Efficacy Scale. SPARQtools. <https://sparqtools.org/mobility-measure/new-general-self-efficacy-scale/>. Accessed May 14, 2021.

204. Connor KM, Davidson JRT. Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depress Anxiety*. 2003;18(2):76-82.
doi:10.1002/da.10113
205. CD-RISC: Home. <http://www.connordavidson-resiliencescale.com/index.php>. Accessed May 18, 2020.
206. Campbell-Sills L, Stein MB. Psychometric analysis and refinement of the connor-davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *J Trauma Stress*. 2007;20(6):1019-1028. doi:10.1002/jts.20271
207. Mathad MD, Pradhan B, Rajesh SK. Correlates and Predictors of Resilience among Baccalaureate Nursing Students. *J Clinical Diagnostic Res*. 2017;11(2):JC05.
208. Rahimi B, Baetz M, Bowen R, Balbuena L. Resilience, stress, and coping among Canadian medical students. *Can Med Educ J*. 2014;5(1):e5-e12. doi:10.36834/cmej.36689
209. Montero-Marin J, Piva Demarzo MM, Pereira JP, Olea M, García-Campayo J. Reassessment of the psychometric characteristics and factor structure of the “Perceived Stress Questionnaire” (PSQ): Analysis in a sample of dental students. *PLoS One*. 2014;9(1). doi:10.1371/journal.pone.0087071
210. New General Self-Efficacy Scale | SPARQtools. <https://sparqtools.org/mobility-measure/new-general-self-efficacy-scale/#all-survey-questions>. Accessed June 18, 2020.
211. Fusch PI, Ness LR. Are We There Yet? Data Saturation in Qualitative Research. *Qual Rep*. 2015;20(9):1408-1416.
212. Field A. *Discovering Statistics Using IBM SPSS Statistics*. 5th ed. Thousand Oaks: SAGE Publications; 2018.
213. Otter Voice Meeting Notes. <https://otter.ai/login>. Accessed May 21, 2021.

214. Bogdan RC, Knopp Biklen S, Boston B. *Third Edition Qualitative Research for Education An Introduction to Theory and Methods.*; 1998.
215. Statistics L. Kruskal-Wallis H test using SPSS Statistics. Statistical tutorials and software guides. <http://statistics.laerd.com/>. Published 2015.
216. Laerd Statistics. Kendall's tau-b using SPSS Statistics. Statistical tutorials and software guides. <https://statistics.laerd.com/>. Published 2016. Accessed May 16, 2021.
217. Laerd Statistics. Mann-Whitney U test using SPSS Statistics . Statistical tutorials and software guides. <https://statistics.laerd.com/>. Published 2015. Accessed May 16, 2021.
218. Dunn OJ. Multiple Comparisons Using Rank Sums. *Technometrics*. 1964;6(3):241-252. doi:10.1080/00401706.1964.10490181
219. Bandura A. Perceived self-efficacy in the exercise of personal agency. *J Appl Sport Psychol*. 1990;2(2):128-163. doi:10.1080/10413209008406426
220. Skodol AE. The Resilient Personality. In: Reich JW, Zautra AJ, Hall JS, eds. *Handbook of Adult Resilience*. New York: The Guilford Press; 2012:112-125.
221. National Research Council. *Learning, Remembering, Believing*. National Academies Press; 1994. doi:10.17226/2303
222. Davidson J. *Connor-Davidson Resilience Scale (CD-RISC) Manual.*; 2020. www.cd-risc.com.
223. Warren AM, Jones AL, Shafi S, Roden-Foreman K, Bennett MM, Foreman ML. Does caring for trauma patients lead to psychological stress in surgeons? *J Trauma Acute Care Surg*. 2013;75(1):179-184. doi:10.1097/TA.0b013e3182984a7d
224. Houpy JC, Lee WW, Woodruff JN, Pincavage AT. Medical student resilience and stressful clinical events during clinical training. *Med Educ Online*. 2017;22(1).

doi:10.1080/10872981.2017.1320187

225. Brown R, Wey H, Foland K. The Relationship Among Change Fatigue, Resilience, and Job Satisfaction of Hospital Staff Nurses. *J Nurs Scholarsh*. 2018;50(3):306-313. doi:10.1111/jnu.12373
226. Purvis TE, Powell BM, Biba G, et al. Burnout and Resilience Among Neurosciences Critical Care Unit Staff. *Neurocrit Care*. 2019;31(2):406-410. doi:10.1007/s12028-019-00822-4
227. Davidson OB, Feldman DB, Margalit M. A focused intervention for 1st-year college students: Promoting hope, sense of coherence, and self-efficacy. *J Psychol Interdiscip Appl*. 2012;146(3):333-352. doi:10.1080/00223980.2011.634862
228. Bandura A, Barbaranelli C, Caprara GV, Pastorelli C. Multifaceted Impact of Self-Efficacy Beliefs on Academic Functioning. *Child Dev*. 1996;67(3):1206. doi:10.2307/1131888
229. Castelló M, Pardo M, Sala-Bubaré A, Suñe-Soler N. Why do students consider dropping out of doctoral degrees? Institutional and personal factors. *High Educ*. 2017;74(6):1053-1068. doi:10.1007/s10734-016-0106-9
230. Mainhard T, van der Rijst R, van Tartwijk J, Wubbels T. A model for the supervisor-doctoral student relationship. *High Educ*. 2009;58(3):359-373. doi:10.1007/s10734-009-9199-8
231. González-Ocampo G, Castelló M. How do doctoral students experience supervision? *Stud Contin Educ*. 2019;41(3):293-307. doi:10.1080/0158037X.2018.1520208
232. Barnes BJ, Williams EA, Archer SA. Characteristics That Matter Most: Doctoral Students' Perceptions of Positive and Negative Advisor Attributes. *NACADA J*.

- 2010;30(1):34-46. doi:10.12930/0271-9517-30.1.34
233. Wao HO, Onwuegbuzie AJ. A Mixed Research Investigation of Factors Related to Time to the Doctorate in Education. *Int J Dr Stud*. 2011;6:115-134.
 234. Wheeler RM, Eichelberger LW. Perspectives of nurses pursuing doctoral degrees in Georgia: Implications for recruitment. *J Nurs Educ*. 2017;56(8):466-470.
doi:10.3928/01484834-20170712-04
 235. How America Pays for Graduate School. Sallie Mae.
<https://www.salliemae.com/research/how-america-pays-for-graduate-school/>. Accessed April 12, 2021.
 236. Devos C, Boudrenghien G, Van der Linden N, et al. Doctoral students' experiences leading to completion or attrition: a matter of sense, progress and distress. *Eur J Psychol Educ*. 2017;32(1):61-77. doi:10.1007/s10212-016-0290-0
 237. Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychol Rev*. 1977;84(2):191-215.
 238. Roberts D. Vicarious learning: A review of the literature. *Nurse Educ Pract*. 2010;10:13-16.
 239. Rumbley L, Altbach PG, Stanfield DA, Boston College. Center for International Higher Education. *Higher Education : A Worldwide Inventory of Research Centers, Academic Programs, and Journals and Publications*.
 240. Pavalache-Ilie M, Cocorada S. Interactions of Students' Personality in the Online Learning Environment. *Procedia - Soc Behav Sci*. 2014;128:117-122.
doi:10.1016/j.sbspro.2014.03.128
 241. Kim JY. A study on learners' perceptual typology and relationships among the learner's

- types, characteristics.; Academic achievement in a blended e-Education environment.
Comput Educ. 2012;59(2):304-315. doi:10.1016/j.compedu.2012.01.010
242. Blau I, Barak A. How Do Personality, Synchronous Media, and Discussion Topic Affect Participation? *Educ Technol Soc.* 2012;15(2):1176-3647.
243. Rios T, Elliot Marquita, Mandernach BJ. Efficient Instructional Strategies for Maximizing Online Student Satisfaction. *J Educ Online.* 2018;15(3).
244. Yao Y, Zhao S, Gao X, et al. General self-efficacy modifies the effect of stress on burnout in nurses with different personality types. *BMC Health Serv Res.* 2018;18(1):1-9.
doi:10.1186/s12913-018-3478-y
245. Keel VA, Bearden MR. *Increasing Doctoral Student Completion Rates Within the College of Humanities and Sciences at Virginia Commonwealth University.*
https://scholarscompass.vcu.edu/edd_capstone/1. Accessed June 27, 2021.
246. Knight S. *Interview Guide Preparation and Use.*; 2013.

Appendices

Appendix 1

Interview Guide

Introduction

Hi, my name is Kristi Chipman and I am a DCN student at the University of North Florida. How are you doing today? I am here today to get your opinion regarding the facilitators and barriers to pursuing an advanced-practice doctoral degree. I will ask you some questions and would like you to answer them with your honest opinion. Do you have any questions for me before we get started?

Opening Question

1. Tell me about yourself, such as your work experience, past education, family, hobbies, age etc. and how you got to where you are today in dietetics/education/nursing?

Introductory Questions

2. What reasons led you to pursue a DCN/EdD/DNP degree?
3. How did you select UNF to enroll in?
4. How confident were you that you could complete a DCN/EdD/DNP program when you started? Throughout the program?

Transition Questions

5. What did/does a typical day look like for you while were enrolled in the DCN/EdD/DNP program?
6. Did you do anything differently while enrolled as a DCN/EdD/DNP student compared to your other degrees?
7. What support was provided to you by program faculty? By UNF as an institution? By outside sources such as peers, colleagues, family, friends?
8. Tell me about a positive experience you had while in the DCN/EdD/DNP program.
9. Tell me about a negative experience you had while in the DCN/EdD/DNP program. How did you overcome it?
10. Did you take a semester off? Why?

Key Questions

11. (past students) What factors led you to completing/leaving the DCN/EdD/DNP program?
(current students) What factors keep you motivated in the DCN/EdD/DNP program?
12. Did you experience any barriers while pursuing the DCN/EdD/DNP program?

Closing Questions

13. What are your overall feelings about the DCN/EdD/DNP program?
14. What else would you like to add regarding your experience in the DCN/EdD/DNP program?

Thank you for taking the time to talk with me today. Your responses are appreciated. I hope you have a good rest of your day.

Some interview probes to use

“Can you give me an example of what you mean? Please tell me more about that. What you are sharing (or have said) is important. Can you say more? How does your experience before that time compare to your experience now? Tell me more about that experience (or that time)? How do you see that (or yourself) in the future? If you could change anything about that experience, what would it be?”²⁴⁶

Appendix 2

APD Overall Survey

Start of Block: Demographics

1. What is your Advanced-Practice Doctorate (APD) in?

- ☐ Doctorate in Clinical Nutrition (DCN)
 - ☐ Doctor of Education (EdD)
 - ☐ Doctor of Nursing Practice (DNP)
-

2. What is your gender?

- ☐ Male
 - ☐ Female
 - ☐ Transgender male
 - ☐ Transgender female
 - ☐ Gender nonconforming
 - ☐ Prefer not to answer
-

3. What was your age when you started the APD program?

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54

- ☐ 55-64
 - ☐ Age 65 and older
-

4. What is your race?

- ☐ White
 - ☐ Black or African American
 - ☐ American Indian or Alaska Native
 - ☐ Asian
 - ☐ Native Hawaiian or Pacific Islander
 - ☐ Other
 - ☐ Choose not to answer
-

5. What was your marital status when you started the APD program?

- ☐ Married/Domestic Partner
 - ☐ Single
 - ☐ Divorced
 - ☐ Separated
-

6. What is the most amount of children that lived with you at any point while completing your APD degree?

- ☐ no children
- ☐ 1
- ☐ 2

- ☐ 3
- ☐ 4
- ☐ 5 or more

Skip To: Q6 If What is the most amount of children that lived with you at any point while completing your APD de... = no children

7. How old were your children when you started the degree?

	0-2	3-5	6-8	9-11	12-15	16-18	19 or older	N/A
Child 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Were you employed while pursuing your APD degree?

- ☐ Yes

- ☐ No
- ☐ Prefer not to answer

Skip To: Q8 If Were you employed while pursuing your APD degree? = No

9. How many hours per week did you work at the beginning of your program?

- ☐ 1-10
 - ☐ 11-20
 - ☐ 21-30
 - ☐ 31-40
 - ☐ More than 40
 - ☐ Was not employed
-

10. How many hours per week did you work the **last semester of your program**?

- ☐ 1-10
 - ☐ 11-20
 - ☐ 21-30
 - ☐ 31-40
 - ☐ More than 40
 - ☐ Was not employed
-

11. How long were you employed in your field when starting the APD program?

- ☐ 0-4 years

- ☐ 5-9 years
 - ☐ 10-14 years
 - ☐ 15-19 years
 - ☐ More than 20 years
 - ☐ Not employed in field before starting program
-

12. How many years had lapsed since you completed your last degree and started the APD?

- ☐ 0-1
 - ☐ 2-3
 - ☐ 4-6
 - ☐ 7-9
 - ☐ 10-14
 - ☐ 15-19
 - ☐ More than 20
-

13. What was your GPA in your Master's degree?

- ☐ 3.5-4.0
 - ☐ 3.0-3.49
 - ☐ 2.5-2.99
 - ☐ Below 2.5
 - ☐ Do not have a master's degree
-

14. Where did you complete your Master's degree?

15. Was your Bachelor's, Master's, other doctoral degree, or other degree such as internship delivered primarily online?

- ☐ None
- ☐ Bachelor's
- ☐ Master's
- ☐ Other Doctoral
- ☐ Other degree/certification

16. Was your Bachelor's, Master's, other doctoral degree, or other degree such as internship delivered in a blended (combines both online/distance learning with in-person learning) or hybrid (the online material is intended to replace the face-to-face learning) format?

- ☐ None
- ☐ Bachelor's
- ☐ Master's
- ☐ Other Doctoral
- ☐ Other degree/certification

17. Did you have any experience using an online Learning Management System (Blackboard, Canvas, etc.) prior to starting the APD program?

- ☐ Yes
- ☐ No
-

18. Did you complete the APD program and earn the degree?

- ☐ Yes
- ☐ No
- ☐ Still pursuing the degree
- ☐ Have taken a semester off, but intent to return
- ☐ Prefer not to answer

Skip To: Q14 If Did you complete the APD program and earn the degree? = Yes

Skip To: Q15 If Did you complete the APD program and earn the degree? = No

Skip To: Q15 If Did you complete the APD program and earn the degree? = Still pursuing the degree

Skip To: Q15 If Did you complete the APD program and earn the degree? = Have taken a semester off, but intent to return

Skip To: Q15 If Did you complete the APD program and earn the degree? = Prefer not to answer

19. How many years did it take you to complete the APD degree?

- ☐ 0-3 years
- ☐ 4-6 years
- ☐ 7-9 years
- ☐ 10 years
-

20. How long do you expect it to take to complete the APD degree from start to finish?

- ☐ 0-3 years
 - ☐ 4-6 years
 - ☐ 7-9 years
 - ☐ 10 years
-

21. Have you ever had to drop, withdraw, or stop-out (sit out a semester or longer) from your APD degree work? Select all that apply.

- ☐ No
 - ☐ Drop
 - ☐ Withdrew
 - ☐ Stop-out
-

22. Were you enrolled in the program as a full-time or part-time student?

- ☐ Full-time (9 credits or more)
 - ☐ Part-time (less than 9 credits)
 - ☐ Both part-time and full-time
-

23. Why did you choose to pursue an APD degree? (Select all that apply)

- ☐ Always wanted a terminal degree
- ☐ Was a requirement for my employment
- ☐ Want/ability to teach at university level

- ☐ Love of learning
 - ☐ Set myself apart/help elevate career
 - ☐ Other: Please specify _____
-

24. Why did you choose to pursue your degree at UNF? (Select all that apply)

- ☐ Could not travel far/location/lives in Jacksonville
 - ☐ Tuition reimbursement/free tuition
 - ☐ Prior experience with UNF/knew people who went to UNF/previously enjoyed UNF
 - ☐ Liked the curriculum/program concentration
 - ☐ The program is flexible/feasible/self-paced
 - ☐ Online program/could not do in-person
 - ☐ Other: Please specify _____
-

25. Did you feel like you received support from others during your APD program?

- ☐ Yes
 - ☐ No
-

26. Please select who was supportive during your APD program. Select all that apply.

- ☐ Faculty

- ☐ Spouse
 - ☐ Friends
 - ☐ Family
 - ☐ Colleagues
 - ☐ Work/Job/Supervisor
 - ☐ Scholarship/Financial Assistance
 - ☐ Peers/Cohort
 - ☐ Parents
 - ☐ Library
 - ☐ None of the above
 - ☐ Other: Please specify _____
-

27. Please select those who were not supportive or who you wish would have been more supportive during the APD program. Select all that apply.

- ☐ Faculty
- ☐ Spouse
- ☐ Friends
- ☐ Family
- ☐ Colleagues
- ☐ Work/Job/Supervisor
- ☐ Scholarship/Financial Assistance

- ☐ Peers/Cohort
- ☐ Parents
- ☐ Library
- ☐ None
- ☐ Other: Please specify _____
-

28. If you chose to discontinue your APD program, at what point did you choose to discontinue?

- ☐ After orientation/Did not take any classes
- ☐ Within year 1
- ☐ Within year 2
- ☐ Within year 3
- ☐ After comprehensive/qualifying exam
- ☐ Not applicable
-

29. Please answer each question below.

	Yes	No	Does not apply
I received an incomplete in one or more classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I received a B or better in all classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had to retake a class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have proceeded as planned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have stopped out

☐☐☐

End of Block: Demographics

Start of Block: Scaled Questions

30. Wellbeing

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	N/A
I felt mentally overwhelmed as a student in the APD program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt isolated during the APD program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friends and family were supportive of me pursuing a doctoral degree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My spouse took on some of my responsibilities around the house to help ease the burden on me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My kids were understanding of the decreased time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I could spend
with them

My friends
were
understanding
of the
decreased time
I could spend
with them

☐ ☐ ☐ ☐ ☐ ☐

31. Distance Education

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	N/A
I had access to appropriate equipment and computers needed to complete assignments.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was able to adequately understand and use the Learning Management Software (Canvas, Blackboard, etc.) that was used.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt connected to other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

students in
my cohort.

I felt I could
reach out to
other
students in
my cohort
for help.

I felt my
typing speed
hindered my
ability to
complete
assignments
in a timely
manner.

The APD
classes
provided
adequate
information
for me to
improve my
knowledge.

My
professors
provided
adequate
office hours
so I could
ask
questions as
needed.

I am
completing
this degree
because it is
something I
want to do.



32. Supervisors

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	N/A
I felt like my program director communicated with me effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like my committee chair communicated with me effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like my program director knew when I needed help and offered it in a timely manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like my committee chair knew when I needed help and offered it in a timely manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like my committee chair adequately understood my research and could provide adequate guidance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I felt my program director was encouraging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like my committee chair was encouraging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like my program director was supportive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt like my committee chair was supportive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt my program director was willing to help me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt my committee chair was willing to help me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had a positive relationship with my program director.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had a positive relationship with my committee chair.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had adequate communication with my	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

committee
chair.

33. Student Preparedness

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	N/A
I decided to pursue a doctoral degree for self-improvement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I decided to pursue an APD degree to learn more.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I decided to pursue an APD degree to improve my quality of life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt my previous education prepared me well to pursue a doctoral degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understood the rigor of the APD program before I started.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. Financial

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	N/A
I was able to pay for my degree in full without the aid of student loans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I used student loans to help pay for my degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial concerns were an added stress in pursuing my APD degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had limited financial concerns when paying for my APD degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had to stop pursuing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

the APD
due to
financial
constraints.

35. Employment

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	N/A
Independent of the APD program, my work caused me a large amount of stress.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job workload hindered my ability to complete APD assignments adequately or on time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pursuing a APD degree improved or will improve my employment opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My employer encouraged me to pursue a doctoral degree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The APD classes were relevant to my job.

☐ ☐ ☐ ☐ ☐ ☐

The reason I chose to pursue a APD was for a specific job opportunity.

☐ ☐ ☐ ☐ ☐ ☐

36. APD Experience Considerations

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	N/A
The quality of the instruction was not what I thought it would be.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I lost interest in the subject matter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The subject matter in the APD program was not challenging enough for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I transferred to a different university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I wish I
could have
remained in
the program.

☐☐☐☐☐☐

I did not feel
academically
prepared for
this
program.

☐☐☐☐☐☐

I did not
make
meaningful
learning
connections
with the
professors.

☐☐☐☐☐☐

I believe the
instructors
deliberately
imposed
unreasonable
requirements
on me.

☐☐☐☐☐☐

I did not
have enough
interaction
with the
instructors.

☐☐☐☐☐☐

I did not
have
interpersonal
relationships
with other
students in
the program.

☐☐☐☐☐☐

I was
satisfied
with my
social life
overall.

☐☐☐☐☐☐

When I started the program, I felt certain that I would earn the APD degree.

☐☐☐☐☐☐

My family was very supportive of me earning my degree.

☐☐☐☐☐☐

End of Block: Scaled Questions

Start of Block: Attrition

37. Have you left the APD program?

- ☐ Yes
- ☐ No, still pursuing degree at same university
- ☐ No, I graduated with a APD degree

Skip To: Q29 If Have you left the APD program? = Yes

Skip To: End of Block If Have you left the APD program? = No, still pursuing degree at same university

Skip To: End of Block If Have you left the APD program? = No, I graduated with a APD degree

38. Since you discontinued the APD program, have you completed another graduate or professional program, or are you currently enrolled in such a program?

- ☐ Yes, currently enrolled
- ☐ Yes, completed a doctoral degree
- ☐ No

39. How many credits had you completed when you chose to discontinue the program?

- ☐ 0-2 credits
- ☐ 3 credits
- ☐ 4-9 credits
- ☐ 10-20 credits
- ☐ 21-30 credits
- ☐ 31-40 credits
- ☐ Completed all coursework, dropped during dissertation
-

40. What factors led to you dropping or withdrawing from the program?

41. Do you think there are any characteristics about you specifically that contributed to you having to drop or withdraw from the program?

End of Block: Attrition

Start of Block: New General Self-Efficacy

New General Self-Efficacy Survey

42. Please rate how much you agree with the following eight statements using the five point scale below.

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
--	----------------------	----------	-------------------------------	-------	-------------------

I will be able
to achieve
most of the
goals that I
set for
myself.

☐☐☐☐☐

When facing
difficult
tasks, I am
certain that I
will
accomplish
them.

☐☐☐☐☐

In general, I
think that I
can obtain
outcomes that
are important
to me.

☐☐☐☐☐

I believe I
can succeed
at most any
endeavor to
which I set
my mind.

☐☐☐☐☐

I will be able
to
successfully
overcome
many
challenges.

☐☐☐☐☐

I am
confident that
I can perform
effectively on
many
different
tasks.

☐☐☐☐☐

Compared to
other people,
I can do most

☐☐☐☐☐

tasks very
well.

Even when
things are
tough, I can
perform quite
well.



End of Block: New General Self-Efficacy

Start of Block: Block 6

Start of Block: 10-item Conner-Davidson Resilience Scale

Conner Davidson Resilience Scale (CD-RISC)

43.

Under the copyright agreement, the questions for the CD-RISC cannot be displayed

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End of Block: 10-item Conner-Davidson Resilience Scale

Start of Block: Block 8

44. Is there anything else you would like to tell us about your experiences as an APD student?

End of Block: Block 8

Appendix 3

Electronic Consent Form (Qualitative)

Study Title: Predictors of Success Among Advanced-Practice Doctoral Students

You are invited to participate in a study that will examine the predictors of success among advanced-practice doctoral (APD) students. You were selected as a potential participant because you are a current or former student of the University of North Florida in the Doctorate in Clinical Nutrition (DCN), Doctor of Nursing Practice (DNP), or Doctor of Education (EdD) programs and have completed orientation or at least one class by August 2020.

The purpose of this study is to examine the factors associated with success among APD students. Even though there are benefits for both the individual and society, doctoral program retention rates are still an issue worldwide. Residential doctoral programs report attrition rates at 40 to 50 percent, and the attrition rate for online doctoral programs are between 50 and 70 percent. High attrition rates show the loss of potential doctorates, which therefore decreases the number of applicants for positions requiring a doctorate. This study will provide predictors of success for APD students in hopes to help universities increase retention rates and help students succeed in their APD program.

This study is mixed-methods research study that will utilize both qualitative (interview) and quantitative (survey) methods. This form refers to the qualitative portion of this study (interview). We expect to enroll three to five participants for the interview. If you agree to be in this study, we will ask you to complete an interview via Zoom or telephone.

The interview consists of 14 questions and should take approximately 45-minutes to complete.

Risks of Being in the Study

You may experience some psychological distress when answering interview questions. You may choose not to answer any questions that may make you feel uncomfortable or you may choose to not participate in the study at any time. In case you experience psychological distress during the

interview, please contact study staff so we can work with you to address the issue. You may also want to contact the National Helpline at 1-800-622-4357 to help locate counseling centers near you.

Benefits of Being in the Study

There are no direct benefits of being in this study.

Compensation

There is no compensation for being in this study.

Confidentiality

The information provided by you in the interview will be held strictly confidential and used for the purposes of research only. All of the study staff has completed the federally required training with regard to confidentiality of information in research, and any/all information gathered will NOT have your name on them. Instead, they will be labeled with a study ID number only. Your information will be stored on a secured computer. The UNF Institutional Review Board and federal representatives might also have access to your files in case of an audit. None of your information will ever be given to anyone, and your name will never be associated with your records on computer. In any sort of report, we might publish, we will not include any information that will make it possible to identify you as a subject of this study.

Voluntary Nature of the Study:

Your decision whether or not to participate will not affect your current or future relations with the University. If you decide to participate, you are free to withdraw at any time without affecting those relationships. The procedure to withdraw is to email the investigators and inform them that you wish to withdraw from the study.

Contacts and Questions:

If you have any questions or want to discuss the study, please e-mail or call the investigators. If you have questions about your rights as a research participant, feel free to call the UNF

Institutional Review Board by calling (904)620-2498 or emailing irb@unf.edu.

Principle Investigators

Kristi Chipman, MS, RDN, LD
Doctoral Candidate
Department of Nutrition and Dietetics
University of North Florida
Jacksonville, FL, 32224
Tel: Redacted
Email: Redacted

Lauri Y. Wright, PhD, RDN, LD/N
Associate Professor
Department of Nutrition & Dietetics
University of North Florida
Jacksonville, FL 32224-7699
Tel: (904) 620-1436
Email: Redacted

Andrea Y. Arikawa, PhD, MPH, RDN, LDN
Associate Professor
Department of Nutrition & Dietetics
University of North Florida
Jacksonville, FL 32224-7699
Tel: 904-620-1433
Email: Redacted

UNF is the source of this research.

Electronic Consent:

Please note that you have two weeks from the date of receipt to decide whether you would like to participate on this study or not or until the desirable number of participants has been reached. If you have questions about this consent and would like to speak to one of the investigators, please contact us at one of the options above before agreeing to be in the study.

Please select your choice below. You may print a copy of this consent form for your records.

Clicking on the “Agree” button indicates that:

1. You have read the above information

2. You voluntarily agree to participate

3. You are 18 years of age or older

☐ AGREE

☐ DISAGREE

Appendix 4

Electronic Consent Form (Quantitative)

Study Title: Predictors of Success Among Advanced-Practice Doctoral Students

You are invited to participate in a study that will examine the predictors of success among advanced-practice doctoral (APD) students. You were selected as a potential participant because you are a current or former student of the University of North Florida in the Doctorate in Clinical Nutrition (DCN), Doctor of Nursing Practice (DNP), or Doctor of Education (EdD) programs and have completed orientation or at least one class by August 2020.

The purpose of this study is to examine the factors associated with success among APD students. Even though there are benefits for both the individual and society, doctoral program retention rates are still an issue worldwide. Residential doctoral programs report attrition rates at 40 to 50 percent, and the attrition rate for online doctoral programs are between 50 and 70 percent. High attrition rates show the loss of potential doctorates, which therefore decreases the number of applicants for positions requiring a doctorate. This study will provide predictors of success for APD students in hopes to help universities increase retention rates and help students succeed in their APD program.

This study is mixed-methods research study that will utilize both qualitative (interview) and quantitative (survey) methods. This form refers to the quantitative portion of this study (survey). We expect to enroll 55 to 77 participants for the survey. If you agree to be in this study, we will ask you to fill out online surveys.

The surveys you will be asked to fill out are listed below (total time is approximately 15 minutes):

- 1) APD Overall Survey
- 2) 10-item Conner-Davidson Resilience Scale
- 3) New General Self-Efficacy Scale

Risks of Being in the Study

You may experience some psychological distress when filling out some of the survey questions. You may choose not to answer any questions that may make you feel uncomfortable or you may choose to not participate in the study at any time. In case you experience psychological distress while filling out the surveys, please contact study staff so we can work with you to address the issue. You may also want to contact the National Helpline at 1-800-622-4357 to help locate counseling centers near you.

Benefits of Being in the Study

There are no direct benefits of being in this study.

Compensation

There is no compensation for being in this study.

Confidentiality

The information provided by you in the surveys will be held strictly confidential and used for the purposes of research only. All of the study staff has completed the federally required training with regard to confidentiality of information in research, and any/all information gathered will NOT have your name on them. Instead, they will be labeled with a study ID number only. Your information will be stored on a secured computer. The UNF Institutional Review Board and federal representatives might also have access to your files in case of an audit. None of your information will ever be given to anyone, and your name will never be associated with your records on computer. In any sort of report, we might publish, we will not include any information that will make it possible to identify you as a subject of this study.

Voluntary Nature of the Study:

Your decision whether or not to participate will not affect your current or future relations with the University. If you decide to participate, you are free to withdraw at any time without

affecting those relationships. The procedure to withdraw is to email the investigators and inform them that you wish to withdraw from the study.

Contacts and Questions:

If you have any questions or want to discuss the study, please e-mail or call the investigators. If you have questions about your rights as a research participant, feel free to call the UNF Institutional Review Board by calling (904)620-2498 or emailing irb@unf.edu.

Principle Investigators

Kristi Chipman, MS, RDN, LD
Doctoral Candidate
Department of Nutrition and Dietetics
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Jacksonville, FL, 32224
Tel: Redacted
Email: Redacted

Lauri Y. Wright, PhD, RDN, LD/N
Associate Professor
Department of Nutrition & Dietetics
University of North Florida
Jacksonville, FL 32224-7699
Tel: (904) 620-1436
Email: Redacted

Andrea Y. Arikawa, PhD, MPH, RDN, LDN
Associate Professor
Department of Nutrition & Dietetics
University of North Florida
Jacksonville, FL 32224-7699
Tel: 904-620-1433
Email: Redacted

UNF is the source of this research.

Electronic Consent:

Please note that you have two weeks from the date of receipt to decide whether you would like to

participate on this study or not or until the desirable number of participants has been reached. If you have questions about this consent and would like to speak to one of the investigators, please contact us at one of the options above before agreeing to be in the study.

Please select your choice below. You may print a copy of this consent form for your records.

Clicking on the “Agree” button indicates that:

4. You have read the above information
5. You voluntarily agree to participate
6. You are 18 years of age or older

☐ AGREE

☐ DISAGREE

Appendix 5

IRB Approval Letter



Office of Research and Sponsored Programs
1 UNF Drive
Jacksonville, FL 32224-2665
904-620-2455 FAX 904-620-2457
Equal Opportunity/Equal Access/Affirmative Action Institution

MEMORANDUM

DATE: February 10, 2021

TO: Ms. Kristi Chipman

VIA: Dr. Lauri Wright
Nutrition & Dietetics

FROM: Dr. Jennifer Wesely, Chairperson
On behalf of the UNF Institutional Review Board

RE: Amendment review by the UNF Institutional Review Board
IRB#1640974-3 "Predictors of Success Among Advanced-Practice Doctoral Students"

UNF IRB Number: 1640974-3 Amendment Approval: 02-09-2021 Processed on behalf of UNF's IRB <i>JJW</i>
--

This is to advise you that the proposed modifications to your "Expedited" Categories 6 and 7 study, "Predictors of Success Among Advanced-Practice Doctoral Students" were reviewed and approved on behalf of the UNF Institutional Review Board to include the following:

- Update title of the study from "Predictors of Success Among Doctorate in Clinical Nutrition Students" to "Predictors of Success Among Advanced-Practice Doctoral Students"
- Remove Rutgers University from recruitment and data collection site
- Update participants from students enrolled in Doctorate of Clinical Nutrition (UNF and Rutgers University) to students enrolled in Advanced-Practice doctoral programs (DCN, EdD, and DNP) at UNF
- Increase the number of participants for the qualitative portion of the research study from 5-7 to 9-15
- Update study duration (qualitative) from one hour to 45 minutes
- Update recruitment material, informed consent form, and study material
- Three new letters of support
- Update IRB documents to reflect amendment

When you are ready to close your study, please complete a [Closing Report Form](#).

This approval applies to your study in the form and content as submitted to the IRB for review. Any modifications to the approved procedures or documents must be submitted to the IRB for review prior to implementation, including personnel changes. To submit an amendment to your approved protocol, please

complete an [Amendment Request Document](#) and upload it along with any updated materials affected by the changes via a new package in IRBNet. For additional guidance on submitting an amendment, please contact an IRB administrator.

Please be advised that any subject complaints, unanticipated problems, or adverse events that occur are to be reported to the IRB as soon as practicable, but no later than 3 business days following the occurrence. Please use the [Event Report Form](#) to submit information about such events.

Please maintain copies of all research-related materials for a minimum of 3 years following study closure. These records include the IRB-approved protocol, approval memo, questionnaires, survey instruments, consent forms, and all IRB correspondence.

Should you have questions regarding your project or any other IRB issues, please contact the Research Integrity unit of the Office of Research and Sponsored Programs by emailing IRB@unf.edu or calling (904) 620-2455.