EXPLORING RELATIONSHIPS AMONG CAREER ADAPTABILITY, WORK ENGAGEMENT, AND CAREER INTENTIONS OF NEW GRADUATE NURSES

by

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May 2020

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The nursing workforce is changing, and the clinical practice environment may need to change with it. Millennials, those born between 1980 and 1999, now make up the largest generational cohort in nursing (Hutchinson, Brown, & Longworth, 2012). Despite testing diverse interventions, such as preceptorships and nurse residency programs, new graduate nurse transition to the clinical practice environment remains difficult (Barnett, Minnick, & Norman, 2014). Hospitals have enhanced practice environments and modified leader behaviors, yet new graduate nurse retention remains a concern (Barnett et al., 2014; Cowden, Cummings, Profeto-McGrath, 2011).

The changing workforce requires a reconceptualization of positive new graduate nurse outcomes such that turnover and keeping the nurse at the bedside in a direct patient care role is no longer the primary focus. In addition, studies on new graduate nurse turnover must look beyond the first year of employment (Van Camp & Chappy, 2017). Career adaptability, the new graduate nurse's ability to cope with tasks, transitions, and traumas in their staff nurse role, may be a new and needed framework for promoting positive transition outcomes for both the nurse and the hospital (Savickas, 2013).

The focus must also be on developing the new graduate nurse and supporting career trajectories within the hospital. As long as hospitals continue to focus on the negative outcome of turnover, they limit consideration of the broader outcome of career intentions. Work engagement, known to be related to retention, may also be related to career adaptability and career intentions of new graduate nurses (Kim et al., 2017).

This change in perspective may be essential for retention of millennial new graduate nurses since they are seeking purpose and meaning in their work and are willing to change jobs to find it (Tyndall, Scott, Jones, & Cook, 2019). It may also increase work engagement and may help to develop a career trajectory within the hospital (Savikas & Porfeli, 2012; Tiadinyane & Van der Merwe, 2016).

The purpose of this cross sectional descriptive correlational study was to explore the relationship among the variables of career adaptability, work engagement, and career intentions of new graduate nurses in the first 36 months of clinical practice and examine the influence of age, education, and years of clinical practice on levels of career adaptability and work engagement. This study provides critical insight into the new graduate nurse transition, provides nurse educators and hospital leaders with a better understanding of the challenges and experiences associated with this transition, and facilitates development of academic and practice environment strategies to retain new graduate nurses within hospitals.

EXPLORING THE RELATIONSHIPS AMONG CAREER ADAPTABILITY, WORK
ENGAGEMENT, AND CAREER INTENTIONS OF NEW GRADUATE NURSES

A Dissertation Proposal

Presented to the Dissertation Committee of the College of Nursing

East Carolina University

In Partial Fulfillment of the Requirement for the Degree

Doctor of Philosophy in Nursing

by

Christine Martin Walden

May 2020

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CHAPTER 1: INTRODUCTION AND SPECIFIC AIMS

The nursing workforce is changing, and the practice environment may need to change with it. Millennials, those born between 1980 and 1999, now make up the largest generational cohort in nursing (Hutchinson, Brown, & Longworth, 2012). Millennials seek purpose and meaning in their work and are willing to change jobs to find it (Tyndall, Scott, Jones, & Cook, 2019). Millennial nurses differ from their older peers, with higher percentages of millennial nurses planning to pursue master's degrees, travel jobs, and become nurse practitioners (Auerback, Buerhaus, & Staiger, 2020; Faller, 2018). Millennial nurses are expected to be over half the nursing workforce by 2020; therefore, it may be unrealistic to expect a new graduate nurse to stay in one job or on one unit for an extended period (Auerback et al., 2017).

Given the fresh perspective that millennials bring to nursing and the practice environment, hospitals must make the necessary changes to accommodate this new workforce (Faller, 2018). Changing jobs or units, currently viewed negatively by hospitals, may instead need to be viewed as the new graduate nurse's effort to successfully transition into clinical practice and develop their career in nursing.

New graduate nurse transition from the academic setting to clinical practice remains difficult and retention is a major concern (Barnett et al., 2014). The new graduate nurse's ability to adapt to the work demands of the clinical practice environment is important (Bargagliotti, 2011). The most demonstrative effort to assist the new graduate nurse to navigate the transition has been the implementation of nurse residency programs, with 50% of hospitals conducting these programs (Barnett et al., 2014). Hospitals have also worked to enhance practice environments and leader behaviors, yet new graduate nurse retention remains a concern (Barnett et al., 2014; Cowden et al., 2011).

Bowles and Candela (2005) found that 30% of new graduate nurses left their first job within the first year of employment and 57% left within two years of employment. Statistics differ slightly among studies, with another study finding that 13% of new graduate nurses left their first job within the first year of employment, 10% changed units, and 13% changed organizations (Kovner et al., 2007). In a more contemporary study, Unruh and Zhang (2014) found that 32% of new graduate nurses left their first job, 14% plan to leave their present employer, and 23% would like to leave their present employer.

Understanding this relationship between turnover intention and length of time new graduate nurses plan to stay in their jobs is equally important. Interestingly, Unruh and Zhang (2014) found that only 23% planned to stay in their first job one to two years, 22% planned to stay for two to three years, and 17% planned to stay three or more years. In contrast, Tyndall et al. (2019) found that turnover intention among millennial new graduate nurses increased at the end of the second year of employment.

Retention of new graduate nurses in hospitals is imperative for hospitals to remain competitive and fiscally sound (Kovner et al., 2014). The cost of turnover is high, with the average cost for a bedside nurse ranging from $37,700 to $58,400 and hospitals losing 5.2 to 8.1 million dollars per year (Nursing Solutions, Inc., 2016). Thus, cost and disruption associated with new graduate nurse turnover remains a concern (Beecroft, Dorey & Wenten, 2008; Li & Jones, 2013).

Career adaptability, "an individual's resources for coping with current or anticipated tasks, transitions, and traumas in their occupational roles", has been studied extensively in the vocational psychology realm (Savickas & Porfeli, 2012, p. 662; Savickas, 2013). Faced with turnover and work engagement issues similar to those in nursing, the insurance industry studied

the relationship between career adaptability and work engagement (Tiadinyane & Van der Merwe, 2016). Work engagement is the "positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption" (Schaufeli & Bakker, 2006, p. 701). In this study, they found a positive relationship, with employees with higher levels of career adaptability more engaged and more likely to stay (Kim et al., 2017; Tiadinyane & Van der Merwe, 2016). Federici, Boon, and Den Hartog (2018) found that strategies to increase levels of career adaptability also increased levels of work engagement in employees across a variety of business sectors in the Netherlands.

Hospitals must refocus their efforts beyond nurse residency programs, leader behaviors, and practice environment changes to support the transition of new graduate nurses into clinical practice. The focus must include strategies to influence the ability to adapt to the demands of clinical practice, increase work engagement, and support career development of the millennial new graduate nurse. Hospitals that are unable to meet the needs of the millennial new graduate nurses may lose good nurses with promising futures within the hospital (Tyndall et al., 2019).

Career adaptability may be the missing link for hospitals. The focus must now be on developing the new graduate nurse and supporting career trajectories within hospitals instead of purely focusing on turnover and keeping new graduate nurses at the bedside in direct patient care roles. This change in perspective may be essential for retention of the millennial new graduate nurses since they thrive on finding purpose and meaning in their work and are willing to change jobs to find it (Tyndall et al., 2019). Millennial new graduate nurses may benefit from learning to adapt to the clinical practice environment. It may increase work engagement and may help to develop a career trajectory within the hospital (Savikas & Porfeli, 2012; Tiadinyane & Van der Merwe, 2016).

Statement of the Problem

Little is known about how career adaptability of new graduate nurses influences work engagement, career intentions, or career outcomes. As long as healthcare organizations continue to focus solely on turnover, they limit consideration the broader concept of career intentions and how they could be used to map a path within the hospital to retain the employee. Turnover is only one of many career intentions outcomes.

Practice expectations and research perspectives are needed that focus on understanding career intentions of new graduate nurses so that new ways of engaging them can be implemented with the hope of better retention outcomes. Decades of nursing research has focused on the new graduate nurse transition to clinical practice, rationale for turnover, and strategies to minimize turnover with minimal effectiveness (Beecroft et al., 2008; McDonald & Ward-Smith, 2012). Turnover continues to remain a costly concern for hospitals (Nursing Solutions, Inc, 2016; Li & Jones, 2012). Perhaps it is time to change the variables of interest from turnover intention to career intentions for both hospitals and nursing research.

The changing workforce requires a reconceptualization of positive new graduate nurse outcomes such that turnover is no longer the sole measurement of success. From a new viewpoint, nursing turnover can be viewed as only one of multiple career intentions. Career intentions, the voluntary, planned desire to change roles, hospitals, careers, or education preparation in the future, would then be seen as an avenue for new graduate nurse retention as well as part of the new graduate nurse's career development and career trajectory. The focus would be on supporting retention of new graduate nurses by increasing work engagement through development and achievement of career intentions within the hospital or nursing profession.

We know that millennials seek purpose and meaning in their work and are willing change jobs to find it (Tyndall et al., 2019). We also know millennials plan to pursue higher degrees and travel jobs, but we do not know about the levels of career adaptability of new graduate nurses (Faller, 2018). We also do not know if or how career adaptability influences levels of work engagement or how personal characteristics impact career adaptability, work engagement, or career intentions.

Hospitals may need to redirect their focus to the career intentions of new graduate nurse rather than simply measuring success by whether or not new graduate nurses remain in their first job. If hospitals could see career development of nurses as increasing their organizational capacity to accomplish their mission, then investing in and measuring career intentions would be just as valuable as measuring turnover. A change from focusing on the negative perspective of turnover intention to the positive perspective of career intentions is needed to support a new lens for examining new graduate nurse transition from the academic setting to clinical practice.

Background to the Problem

Retention of new graduate nurses is a primary objective of hospitals; however, retention has most often been defined as keeping the new graduate nurse on the unit in the role of a bedside nurse. Retention is a by-product of many forces, some personal, some situational, and others environmental. Many theories of retention suggest a link between those influences and the development of engagement and commitment to work, which both lead to the decision to remain or leave a job (Kim et al., 2017).

A litany of interventions and factors have been studied that influence the career intentions and turnover of new graduate nurses. In a systematic review of research on new graduate nurse retention, MacDonald and Ward-Smith (2012) found that preceptorships, residency programs,

and positive work environments were evidence-based, effective strategies. In a second review of literature, multi-level influences on new graduate nurse were related to successful transition to clinical practice (Dywer & Revell, 2016).

Multilevel Influences on New Graduate Nurse Transition Outcomes

Personal Characteristics

New graduate nurse personal characteristics, such as age and education level, influence new graduate nurse transition (Dwyer & Revell, 2016). These relationships, however, are inconclusive in the literature. Beecroft et al. (2007) found that new graduate nurses over the age of 30 who did not get their first choice of nursing units were more likely to turnover. Higher levels of education have also been associated with higher turnover intention (Beecroft et al., 2008; Unruh & Zhang, 2014). Yet, in a study of 206 Florida registered nurses, Nedd (2006) found no statistically significant relationship between age, education level, and turnover intention.

Other new graduate personal characteristics influence new graduate nurse transition and work engagement, such as psychological capital (Boamah & Laschinger, 2015). Psychological capital is a measurement of levels of efficacy, hope, optimism and resilience an individual possesses (Boamah & Laschinger, 2015). Simpson (2009b), in a study of medical-surgical nurses, found that age positively correlated with work engagement. This means that as age increased the level of work engagement also increased.

Work Engagement

Work engagement influences the new graduate nurse transition. Low levels of work engagement were found to increase turnover intention in new graduate nurses in the first two years of clinical practice (Laschinger, 2012). New graduate nurse with lower levels of work

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engagement had higher turnover intention (Laschinger, 2012). Simpson (2009b) found a negative correlation between levels of work engagement and turnover intention in medical-surgical nurses. Nurses with lower levels of work engagement had increased turnover intention (Simpson, 2009b). This study did not involve new graduate nurses; however, these findings do have implications for the relationship between work engagement and career intentions of new graduate nurses.

Outside of nursing, Memon, Salleh and Baharom (2016) found a negative relationship between work engagement and turnover intention in Malaysian oil and gas professionals. Those with low work engagement are more likely to turnover. These findings have implications for the new graduate nurse transition, with the need to further explore the relationship between work engagement and career intentions.

Career Adaptability

As previously noted, career adaptability relates specifically to how the new graduate nurse copes with work transitions, such as the transition from the academic setting to clinical practice. Chan and Mei (2015), in a study of 367 Chinese employees, found that career adaptability negatively predicted turnover intention. Employees with high levels of career adaptability had decreased turnover intention. Tiadinyane & Van der Merwe (2016) found that career adaptability positively predicted work engagement in insurance company employees in South Africa. Employees with high levels of career adaptability had high levels of work engagement.

To date, no international or national studies were found that explore how career adaptability influences the new graduate nurse transition from the academic setting to clinical practice. However, some studies on career adaptability have been conducted outside of nursing.

Zacher (2014) studied 659 Australian employees and found that education level positively correlated with levels of career adaptability and age positively predicted levels of career adaptability. Older employees with higher education had higher levels of career adaptability (Zacher, 2014). Employees with higher work engagement had better career adaptability skills. All studies involved populations outside of nursing; therefore, the relationships among career adaptability, work engagement, and career intentions of new graduate nurses remains unknown.

Study Aim/Purpose of the Study

The purpose of this study was to explore relationships among career adaptability, work engagement, and career intentions of new graduate nurses during the first 36 months of clinical practice.

Research Questions

The following research questions were investigated in the study:

Question 1. What are the levels of career adaptability and career intentions of new graduate nurses?

Question 2. What are the relationships among levels of career adaptability and work engagement and the career intentions of new graduate nurses?

Question 3. Are the relationships among career adaptability, work engagement, and/or career intentions of new graduate nurses moderated by age, education level, and/or months of clinical practice?

Theoretical Perspective

This research was guided by Career Construction Theory (CCT). This research was further informed by frameworks that examine career adaptability and work engagement to study career intentions of new graduate nurses within the first 36 months of clinical practice.

Career Construction Theory

CCT from vocational psychology will be used as the theoretical foundation and informed the structure of the measurement tool for the study of career adaptability in new graduate nurses in the first 36 months of clinical practice (Savickas, 1997). CCT "is a grand theory of career development" (Rudolph, Zacher, & Hirschi, 2019, p.3). Early career theories within vocational psychology focused solely on person-environment fit to match individuals with jobs and developing a career within one organization or profession (Savickas, 1997). CCT builds on this early work, focusing on 21st century workforce issues related to changes in the economy and the reshaping of jobs and workforce (Johnston, 2018). CCT examines how people manage work related demands, transitions, and traumas (Savickas, 1997). This has relevance for exploring the self-management of new graduate nurses throughout the transition from the academic setting to clinical practice (Savickas, 2013).

Vocational counselors have used CCT while working with clients on career decisions, career training, and skill development, as well as researchers determining how individuals construct careers and adjust throughout their careers (Savickas, 2013). Research involving CCT has been conducted on a variety of populations, including high school students, undergraduate students, and employees (Coetzee & Harry, 2014; Douglass & Duffy, 2015). Studies have involved undergraduate nursing students; however, CCT has never been used as the theoretical framework in the study of new graduate nurses or the transition of new graduate nurses from the academic setting to clinical practice (Fang, Zhang, Chai, Fan, 2018). See Figure 1 for adaptation of CCT for the new graduate nurse transition.

| Developmental Psychology Perspective of Vocational Behavior | Psychosocial Adaptation of NGN to Work Transitions & Work Traumas in the first 36 months of clinical practice | Cycle of Adaptation (Orientation, Exploration, Establishment, Management, Disengagement) | Career Adaptability Resources (Concern, Control, Curiosity, Confidence) |
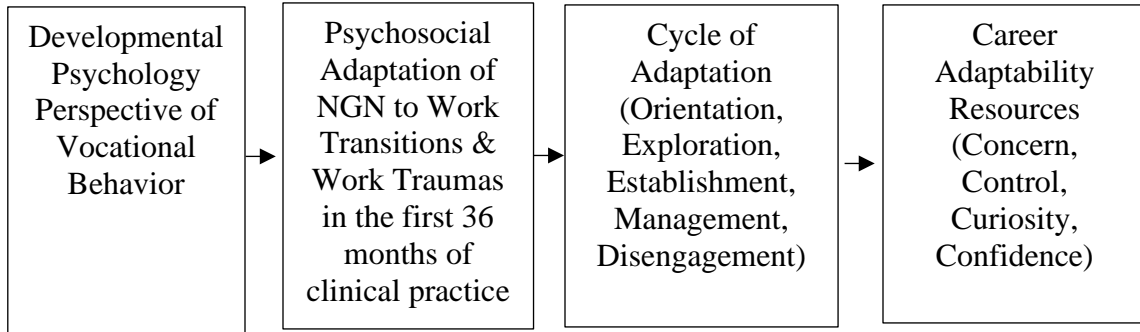
Figure 1. Adaptation of Career Construction Theory for the New Graduate Nurse Transition

Developmental psychology perspective. CCT views vocational or work-related behaviors from a comprehensive perspective, incorporating individual differences psychology, narrative psychology, and developmental psychology (Savickas, 1997). Embedded in the developmental psychology perspective is psychosocial adaptation and how individuals cope with work, work transitions, and work traumas (Savickas, 2002). According to Savickas (2013) work or occupational transitions are "movements from one job to the next" (p.156), which may be "wanted or unwanted, planned or unexpected, and promotions or demotions" (p.156). Traumas are "painful events, such as plant closings, industrial accidents, occupational injuries, and contract violations" (Savickas, 2013, p. 156). Psychosocial adaptation to work transitions and work traumas occurs in a phased sequence of interrelated processes, fostered by a cycle of adaptation and four career adaptability resources (Savickas, 2013).

Cycle of adaptation. The cycle of adaptation is comprised of five adaptive functions, which include orientation, exploration, establishment, management, and disengagement (Savickas, 2013). These five adaptive functions are used by individuals to adapt to work transitions and traumas (Savickas, 2002). Individuals adapt through seeking information in the orientation phase, trialing behaviors in the exploration phase, exhibiting commitment in the

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establishment phase, actively managing their role in the management phase, and looking forward to disengagement in the disengagement phase (Savickas, 2013).

Career adaptability resources. During the cycle of adaptation, individuals use four self-regulated, psychosocial career adaptability resources, which include concern, control, curiosity, and confidence, as problem-solving strategies and coping behaviors related to work transitions and work traumas (Savickas, 2013)

Concern is future-oriented and relates to constructing one's own career (Savickas, 2013). Concern relates to the new graduate nurse's ability to look ahead and plan for their future in nursing (Johnston, 2018). A new graduate nurse who lacks concern may be indifferent, pessimistic, or lack a plan for their future (Savickas, 2013).

Control relates to being conscious, deliberate, organized, and decisive about one's own career (Savickas, 2013). Control is the new graduate nurse's responsibility to shape their own future, using effort, persistence, and self-discipline in facing challenges, such as the transition from the academic setting to clinical practice (Johnston, 2018). A new graduate nurse who lacks control may be indecisive, confused, impulsive, or procrastinate (Savickas, 2013).

Curiosity relates to being inquisitive and exploring options, providing a realistic and objective perspective about options (Savickas, 2013). This relates to the new graduate nurse's exploration of alternatives for themselves and their environments, such as remaining on their current unit, leaving their current organization, leaving the profession of nursing, or intending to pursue an advanced degree (Johnston, 2018). New graduate nurses who lack curiosity may be unrealistic about their options or have an inaccurate perspective (Savickas, 2013).

Confidence relates to self-efficacy and an individual's belief in their ability to obtain goals (Savickas, 2013). This relates to a new graduate nurse's belief in implementing choices and

achieving their career goals (Johnston, 2018). New graduate nurses who lack confidence may inhibit their ability to achieve their goals (Savickas, 2013).

CCT focused on the individual employee and how they navigate their career (Porfeli & Savickas, 2012). Because nurses primarily work in systems, it is important to also consider system theories that explain and influence individual career decisions. One of the foremost systems theories is the job demands-resource (JD-R) model (Bakker & Demerouti, 2016).

Job Demands-Resources Model

The JD-R model posits that all jobs have demands and resources to meet the demands (Bakker & Demerouti, 2016). The JD-R model identifies job demands and resources relevant for employees, clustering them into the two core dimensions of job demands and job resources (Bakker & Demerouti, 2016). Job demands, sometimes referred to as the work itself, are the "physical, psychological, social, or organizational aspects of the job that require sustained physical or psychological effort and are therefore associated with certain physiological and/or psychological costs" (Bakker & Demerouti, 2016, p.274; Keyko, Cummings, Yonge, & Wong, 2016). Job resources are the "physical, psychological, social, or organizational aspects of the job" that enables the employee to get the work done (Bakker & Demerouti, 2016, p. 274).

Career adaptability is a job resource used by new graduate nurses transitioning to clinical practice. It is a psychological aspect of the new graduate nurse used to get the work done during the transition and throughout the first 36 months of clinical practice.

There is strong evidence linking levels of work engagement to the career intentions of employees, foremost of which has historically been measured as turnover in nursing studies (Bargagliotti, 2011; Simpson, 2009a). Work engagement occurs when resources are adequate to meet the job demands and burnout or other negative outcomes occur when resources are

inadequate to meet job demands (Bakker & Demerouti, 2016). Thus, career intentions are psychological by-products related to the ratio of job resources to job demands in the new graduate nurse in clinical practice, particularly if they involve leaving the hospital. Work engagement in the new graduate nurse is the interrelationship career adaptability, a job resource used by the new graduate nurse in the transition to clinical practice and career intentions, costs of the job demands of the nursing role in clinical practice. This interrelationship helps to inform the research model.

Research Model

With CCT and JD-R serving as theoretical guides, the focus of this study was to explore levels of career adaptability, including the adaptability resources of concern, control, curiosity, and confidence, levels of work engagement, including vigor, dedication and absorption, and career intentions of new graduate nurses within the first 36 months of clinical practice. See Figure 2 for research model. This study also explored the relationship among the variables of career adaptability, work engagement, and career intentions of new graduates in the first 36 months of clinical practice. Lastly, this research examined the influence of age, educational preparation, and years of clinical practice on levels of career adaptability and work engagement of new graduate nurses within the first 36 months of clinical practice.
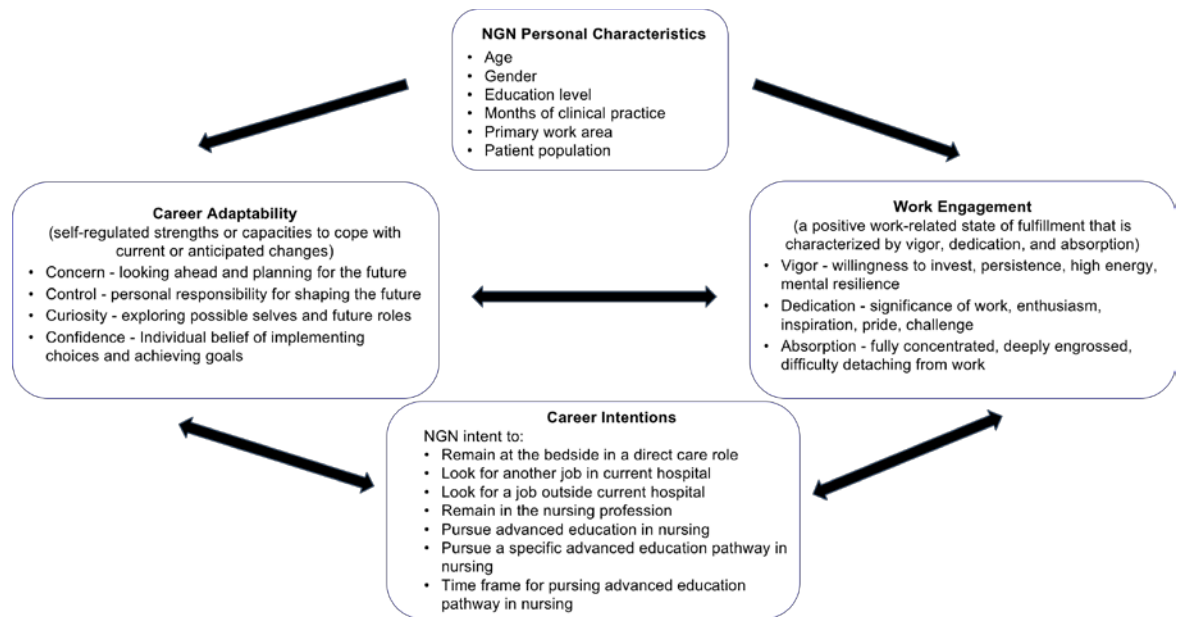
Figure 2. Research Model

Theoretical and Operational Definitions

All variables in this study have theoretical and operational definitions, which are listed below in alphabetical order.

1) Absorption – an employee being immersed or engrossed in their work, with time losing its relevance or passing quickly; operationally defined as the degree of absorption a new graduate nurse has about their current job (Schaufeli & Bakker, 2006).

2) Career Adaptability – "a psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions, and traumas in their occupational roles" (p. 662); operationally defined as the degree of concern, control, curiosity, and confidence a new graduate nurse has about their job and their future (Savickas & Porfeli, 2012).

3) Career Intentions – the voluntary, planned desire to change roles, organizations, careers, or education preparation in the future; operationally defined as the degree of

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desire a new graduate nurse has to voluntarily make role, organization, career, or education changes in the future.

4) Concern – an employee's ability to be aware of and plan for a career future; operationally defined as the degree of concern a new graduate nurse has for their future (Savickas & Porfeli, 2012).

5) Confidence – an employee's self-confidence about facing and solving job and career problems; operationally defined as the degree of confidence a new graduate nurse has to face and solve job and career problems (Savickas & Porfeli, 2012).

6) Control – an employee's ability to shape themselves and their environment and to use effort, persistence, and self-discipline in facing challenges; operationally defined as the degree of control a new graduate nurse has to shape themselves and their environment and to use effort, persistence, and self-discipline in facing challenges (Savickas & Porfeli, 2012).

7) Curiosity – an employee's ability to explore alternatives for themselves and their environments; operationally defined as the degree of curiosity a new graduate nurse has about exploring alternatives for themselves and their environment (Savickas & Porfeli, 2012).

8) Dedication – an employee's devotion to their work, being inspired, prideful, and feeling that the work has a purpose; operationally defined as the degree of dedication a new graduate nurse has about their current job (Schaufeli & Bakker, 2006).

9) New Graduate Nurse – a nurse who has recently completed their nursing education; operationally defined as a nurse with zero to 36 months of experience in nursing.

10) <u>Vigor</u> – an employee's feelings of energy, resilience, and excitement for work; operationally defined as the degree of vigor a new graduate nurse has about their current job (Schaufeli & Bakker, 2006).

11) <u>Work Engagement</u> – "a positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption" (p.701); operationally defined as the degree of vigor, dedication, and absorption a new graduate nurse has about their current job (Schaufeli & Bakker, 2006).

Study Significance

Levels of career adaptability and career intentions of new graduate nurses transitioning from the academic setting to clinical practice and throughout the first 36 months of clinical practice remains unknown. Exploring factors that contribute to career adaptability in other industries guide this new area of research within nursing. Focusing on understanding psychosocial adaptation to work transitions, like the transition from the academic setting to clinical practice, supports the use of CCT as the theoretical foundation for this study.

Education Impact

Study findings inform nursing faculty regarding career adaptability training of new graduate nurses to support successful transition from the academic setting to clinical practice. This career adaptability training may include providing leadership opportunities and positive, supportive clinical environments that allow student nurses to make decisions, or individualizing learning based on ability or interest (Tian & Fan, 2014).

Practice Impact

Individual nurse impact. Questions remain whether new graduate nurses have the ability to be aware of and plan for a career future in nursing; explore alternatives for themselves

and their environments; demonstrate the ability to shape themselves and their environment and to use effort, persistence, and self-discipline in facing challenges; or have the self-confidence to face and solve job and career problems. It also remained unknown how the presence or absence of career adaptability influences work engagement and/or career intentions in new graduate nurses and if this impact is moderated by personal characteristics, like age, education level, or months of clinical experience. Findings from the study will inform nursing faculty and new graduate nurses about what to expect, how to prepare, and how to cope with the transition from the academic setting to clinical practice. It will also inform new graduate nurses on how to plan for a career in nursing.

Organizational impact. CCT provides a novel, positive, new lens that offer hospitals a way to redefine successful transition to clinical practice and address career intentions of millennial new graduate nurses. Study findings will increase hospital and nursing leadership's understanding of new graduate nurse career intentions and needs thus reducing turnover intention within the first 36 months, facilitating implementation of strategies to increase career adaptability and work engagement, and developing career development programs to support successful career trajectories within the hospital setting.

Research impact. The study builds the foundation in the nursing literature related to career adaptability, work engagement, and career intentions from a CCT perspective. Currently, no nursing literature is available regarding career adaptability, work engagement, and career intentions from this perspective.

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Dissertation Format

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This dissertation meets the requirements of the Two Publishable Paper Format Manuscript Dissertation Option, as outlined in the East Carolina University College of Nursing

PhD Student Handbook (ECU CON, 2016). The first manuscript focuses on question one, what are the levels of career adaptability and career intentions of new graduate nurses. There is no nursing literature related to career adaptability in new graduate nurses; therefore, this manuscript will be the first to introduce career adaptability as a measurement in nursing and use of a measurement tool, CAAS-SF, in nursing. Career intentions of new graduate nurses will also be discussed in this manuscript. This manuscript will be submitted to a nursing education journal, such as the *Journal of Nursing Staff Development*, focusing on issues that impact staff development, or *Nurse Education Today*, an international journal for publication of original research related to nursing education. Publication in a nursing education journal will stimulate scholarly debate related to career adaptability in nursing among leaders in healthcare education.

The second manuscript focuses on question two and three, what are the relationships among levels of career adaptability and work engagement, and the career intentions of new graduate nurses and are the relationships among career adaptability, work engagement, and/or career intentions of new graduate nurses moderated by age, education level, and/or months of clinical practice. This manuscript will be submitted to *JONA: The Journal of Nursing Administration*. The JONA target audience is hospital nurse executives, administrators, and nursing leaders and publishes content that is practical and applied from data gathered through a formal research process. Publication in a nursing administration journal will facilitate viewing transition from the academic setting to clinical practice through the new, positive lens of career adaptability, career intentions, and career development.

CHAPTER 2: REVIEW OF LITERATURE

The purpose of this chapter is to review literature related to the study variables career adaptability, work engagement, and career intentions. Existing literature is critically evaluated to identify gaps, importance, and relevance to the proposed study exploring the levels of and relationships among career adaptability, work engagement, and career intentions of new graduate nurses during the first 36 months of clinical practice.

New Graduate Nurse

Transitioning from the academic setting to the work environment is a critical step for new graduates, determining work outcomes and career success (Koen, Klehe, & Van Vianen, 2012). New graduate nurses may experience stress and feelings of frustration, discouragement, or disillusionment, often described as reality shock (Duchscher, 2009; Sargis, 1975).

A comprehensive review of literature revealed a complex process, involving many factors that influence new graduate nurse transition (Dywer & Revell, 2016). This was further validated through a qualitative study of six new graduate nurses in New Zealand, identifying that each was well prepared academically for the transition, but unprepared emotionally to advocate for themselves and to ask for help (Walton, Lindsay, Hales, & Rook, 2018). Feelings of being overwhelmed, for example, were attributed to a lack of experience and uncertainty of how to seek help (Walton et al., 2018).

Compounding these experiences is the changing perspectives of new graduate nurses influenced by generational context. Millennials are now dominate in the workplace and the views they hold are quite different from previous generations (Tyndall et al., 2019). Understanding what retains millennials or Y generation nurses, those born between 1980 and 2000, is important. A comprehensive review of literature related to millennial nurses revealed discussions of

millennial characteristics, values, and importance of integration into the multi-generational work force; however, did not provide strategies to attract or retain millennial nurses (Hutchinson et al., 2012). Hospitals have implemented a variety of programs and interventions aimed to ease the transition from the academic setting to clinical practice (Duchscher, 2009).

Nurse residency programs, in particular, have been implemented to assist the new graduate nurse to navigate this transition, with these programs increasing in popularity over time (Rosenfeld & Glassman, 2016). Of the more than 1000 hospitals in the United States with 250 or more beds, almost half had nurse residency programs in place (Barnett et al., 2014). Benner's novice to expert theoretical model serves as the theoretical framework for most nurse residency programs, focusing on transitioning through levels of proficiency from novice to expert (Lin, Viscardi, & McHugh, 2014). The Versant New Graduate Nurse Residency Program is one example of an 18-week program with guided clinical experiences, preceptor assignment, mentoring, debriefing, and a 360-degree evaluation (Tyndall et al., 2019). Nursing literature supports the effectiveness of nurse residency programs on reducing new graduate nurse turnover and during the first year of employment, with limited research after the first year (Rosenfeld & Glassman, 2016). This represents a gap in the study of new graduate nurses and career intentions beyond the first year.

Despite 40 years of research focused on new graduate nurse transition, implementing programs, and modifying the work environment, turnover intention of new graduate nurses remains high (Unruh & Zhang, 2014). Millennials, now the largest generational cohort in nursing, bring a new perspective to nursing (Hutchinson et al, 2012). Their perspective on work is such that it must have purpose and meaning or else they will change jobs (Tyndall et al., 2019). Unlike their older peers, millennials plan to pursue higher education and incorporate

travel in their career (Faller, 2018). Few studies consider the impact of millennials on the transition from the academic setting to clinical practice.

Career Adaptability

Career adaptability is "a psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions, and traumas in their occupational roles" (Savickas & Porfeli, 2012, p. 662). It has been discussed in vocational literature for over 30 years; however, empirical study was limited prior to the development of the CAAS in 2012 and CAAS-SF in 2015 to operationalize the concept (Maggiori, Rossier, & Savicaks, 2015; Randolph, Lavigne, & Zacher, 2017; Savickas & Porfeli, 2012).

The empirical study of career adaptability focuses primarily on the measurement of career adaptability in international populations outside of nursing, including manufacturing, finance, and civil service employees (Maggiori et al., 2013; Zacher, 2014). Most studies use a cross sectional quantitative methodology, with only one longitudinal study found in the literature (Urbanavictute, Udayar, & Rossier, 2018). CCT was used as the theoretical framework for all studies, with the exception of Coetzee and Harry (2014) who used Mischel's Cognitive Affective Processing. No concept analysis was found and only one systematic review was found in the literature (Rudolph, Levigne, & Zacher, 2017).

Career Adaptability in Nursing

Little research has been conducted on career adaptability in nursing. Two studies explored career adaptability in undergraduate nursing students. Using the Chinese version of the CAAS to measure career adaptability of undergraduate nursing students in China, Tian and Fan (2014) found a positive association between positive clinical learning environments, experience as a student nurse leader, and levels of career adaptability. Undergraduate nursing students who

served as student leaders demonstrated higher levels of career adaptability than those who did not serve as student leaders (Tian & Fan, 2014).

To better understand personal and situational motivation for choosing nursing as a profession, Fang, Zhang, Mei, Chai, and Fan (2018) measured career adaptability, optimism, educational environment, and career motivation in a convenience sample of 1060 undergraduate nursing students in China. Like Tian and Fan (2014), they used the Chinese version of the CAAS and found that career adaptability mediated the relationship between optimism, educational environment, and career motivation. These findings have implications for schools of nursing to provide supportive and professional education environments, as well as enhance levels of career adaptability (Fang et al., 2018).

The only known study involving practicing nurses surveyed 114 part time and full time Hungarian nurses in a public, state funded medical center (Pajic, Keszler, Kismmikok, Mol, & Den Hartog, 2018). The purpose of this cross-sectional study was to translate the CAAS to Hungarian, examine the relationship between career adaptability and trait-based antecedents, adapting behaviors, and work-related outcomes (Pajic et al., 2018). They found a positive correlation between conscientiousness, proactive personality, career planning, and proactive skill development (Pajic et al., 2018). This study was not limited to new graduate nurses and was conducted in Hungary; therefore, it is unclear how or if these findings translate to new graduate nurses in the United States within the first 36 months of clinical practice.

Career Adaptability and Personal Characteristics

Some correlations have been found between career adaptability and personal characteristics, such as age and education level, outside and within nursing. Zacher (2014) investigated the effect of employee age and level of education on levels of career adaptability

over a six-month period in 659 full time Australian employees. Using the CAAS, age positively

impacted overall levels of career adaptability, as well as the adaptability resources control and

confidence (Zacher, 2014). Control relates to an employee's ability to shape themselves and their

environment and be persistent and self-disciplined when facing challenges (Savickas & Porfeli,

2012). Confidence relates to an employee's self-confidence about facing and solving job or

career problems (Saviakas & Porfeli, 2012). Education level did not influence levels of career

adaptability (Zacher, 2014). These findings may have implications for levels of career

adaptability, including levels of control and confidence, of new graduate nurses and the

relationships among age and education level.

Tian and Fan (2014) found that associate degree nursing students in China had higher

overall career adaptability as compared to the baccalaureate nursing students (Tian & Fan, 2014).

Researchers related this finding to decreased opportunities in China for associate prepared nurses

and the need to be more concerned about employment opportunities and career development

(Tian & Fan, 2014). With the on-going nursing shortage within the United States, it remains

unclear if there will be a relationship between educational preparation and levels of career

adaptability in new graduate nurses within the first 36 months of clinical practice.

Wilkins-Yel, Roach, Tracey and Yel (2018) investigated the relationship between career

adaptability, intended academic persistence, and academic satisfaction in non-nursing

undergraduate students. Their findings further reinforce the importance of possessing adaptive

skills prior to entering the workforce and equipping individuals with the psychosocial resources

needed to adapt to the challenging workforce (Wilkins-Yel et al., 2018). This study was

conducted in Trinidad and Tobabo; therefore, it is unknown if study findings translate from

undergraduate students in the Caribbean to undergraduate nursing students or new graduate nurses in the United States.

Career Adaptability and Career Intentions/Turnover Intention

Only studies outside of nursing were found that explored the relationship between career adaptability and career intentions. Career adaptability was found to have a significant positive relationship with turnover intention in a cross-sectional study involving Canadian full-time civil service employees (Ito & Brotheridge, 2005). This research found that career adaptability increased turnover intention (Ito & Brotheridge, 2005). This finding may be related to the researcher's definition of career adaptability. They defined career adaptability as a combination of career resilience and career development activities, which differs from Savickas and Porfeli's commonly used definition of career adaptability (Ito & Brothridge, 2005; Savickas & Profeli, 2006). Additionally, the study was conducted prior to the development of the CAAS or CAAS-SF; therefore, career adaptability was measured by items extracted from existing tools or developed by the researchers. The different definition of career adaptability and the researcher developed tool make it difficult to generalize findings to the proposed study of new graduate nurses.

Chan and Mei (2015) also found a positive relationship between career adaptability and turnover intention in a study of 367 Chinese employees. Using a turnover intention scale from Tett and Meyer, they found employees who have more career adaptability are less likely to be retained within the hospital (Chan & Mei, 2015). Thus, engaging supervisors in career support or investing in employee development may increase the likelihood that employees will leave. There is, however, no discussion of employees whose supervisors did not engage in career support or

did not invest in employee development. These findings may have implications for the study of career adaptability and career intentions of new graduate nurses.

The relationship between career adaptability and turnover intention is inconclusive in the literature. Some studies found a negative relationship between career adaptability and turnover intention. Omar and Noordin (2013) studied career adaptability and turnover intention in Malaysian information and communication technology industry employees to better understand employee intent to leave an organization and career. They found that career adaptability and turnover intention had a significant negative relationship (Omar & Noordin, 2013). This research found that those with higher levels of career adaptability are less likely to leave the organization or their career (Omar & Noordin, 2013).

Similarly, in a study of South African automotive industry employees, Coetzee and Stoltz (2015) explored the relationship between career adaptability, employee satisfaction, and retention factors. They found that career adaptability, particularly the adaptability resource of concern, significantly impacted the level of satisfaction with career opportunities, work life balance, educational opportunities, and job characteristics (Coetzee & Stoltz, 2015). These findings suggest that career concerns of employees, as well as career goals and plans are important considerations for retention, which has implications for the new graduate nurse transition and career intentions. Wilkins-Yel, Roach, Tracey and Yel (2018) found that career adaptability increased commitment and retention in a chosen field. This finding has implications for the new graduate nurse transitioning from the academic setting to clinical practice.

Career Adaptability and Work Engagement

Only one study was found that explored the relationship between career adaptability and work engagement. Using CAAS to measure career adaptability and UWES to measure work

engagement of insurance company employees in South Africa, Tiadinyane & Van der Merwe (2016) found a significant positive relationship between levels of career adaptability and levels of work engagement. This suggests that employees with better career adaptability skills have higher levels of work engagement.

Developing/Enhancing Career Adaptability

Research recommendations frequently include development or enhancement of career adaptability skills, particularly in studies involving undergraduate students. Chan and Mei (2015) recommended that organizations invest in enhancing career adaptability, such as increasing work-related knowledge, self-confidence, offering job rotation, engaging in continuous learning, and engaging in forward thinking career development activities. There is, however, little empirical evidence to demonstrate the impact these interventions have on levels of career adaptability. There is also little research available related to whether career adaptability can be promoted, if interventions facilitate the development of career adaptability, or if career adaptability is a learned versus a stable or innate personality trait (Koen et al., 2012). This has implications for the study of career adaptability in new graduate nurses transitioning to clinical practice, through assessment of career adaptability levels or facilitating career adaptability.

To address the gap in understanding if career adaptability is a learned skill, Koen et al. (2012) implemented a theory-driven training program to enhance career adaptability in undergraduate students. This quasi-experimental study compared an intervention group who participated in an 8.5 hour one-day training course incorporating each of the four career adaptability resources of concern, control, curiosity, and confidence with a control group who did not participate in any training (Koen et al, 2012). Intervention group course exercises were used to develop and reinforce career adaptability resources needed for successful transition from

the academic setting to work setting (Koen et al., 2012). These exercises explored personal career related values and career interests, creating a career plan with short and long-term goals, strategies to pursue goals, and career-related decision making (Koen et al, 2012).

Career adaptability, measured pre-training, post-training, and six months post-training using the international version of the CAAS, demonstrated a significant increase in concern, control, and curiosity for the intervention group post-training and six months after training, with decreases noted in the control group (Koen et al., 2012). No difference was found between the groups related to confidence. The intervention group also reported lower turnover intention, as measured by Colarelli's 3-item scale for turnover intention (Koen et al., 2012).

These findings demonstrate that career adaptability is learned and increases over time, facilitating a successful transition from the academic setting to the work setting. These findings also support other research demonstrating that career adaptability, particularly the career adaptability dimension of control, can lead to better employment quality (Koen et al., 2012). In addition to studying undergraduate students, these findings have implications for the study new graduate nurses in their transition from the academic setting to clinical practice, levels of work engagement, and career intentions.

Adaptation results, including engagement and turnover intention, among other outcomes, have both a positive and negative effect (Rudolph et al., 2017). There were weak associations with age, a non-significant association with tenure, and significant positive relationship with education (Rudolph et al., 2017).

Work Engagement

Work engagement is defined as "searching for, experiencing, and holding on to the meaningful work that enables one to live one's values" (Vinje & Mittelmark, 2008, p. 200) and

"a positive work-related state of fulfillment that is characterized by vigor, dedication and absorption" (Schaufeli & Bakker, 2006, p. 701). Initial research related to work engagement involved non-healthcare settings, like organizational psychology and business, and focused on burnout (Bargagliotti, 2012; Manning, 2016). Research on work engagement in nursing has increased since 2009 (Santos, Chambel, & Castanheira, 2015).

Work Engagement in Nursing

Laschinger, Wilk, Cho, and Greco (2009), found that work engagement resulted in increased job satisfaction and organizational commitment. One descriptive, cross sectional study of medical-surgical nurses explored the relationship between work engagement and turnover intention, finding a significant negative correlation between work engagement and thinking of quitting (Simpson, 2009b). This means that as thinking of quitting increased work engagement decreased. Work engagement was positively correlated with age, so as age increased, work engagement also increased.

Bogaert, Clarke, Williams, and Mondalaers (2012) determined that the practice environment and nurse manager support influenced work engagement. Some of the early nursing research focused on the relationship between work engagement and job demands, nursing characteristics, and interaction with nursing leadership. Maslach, Schaufeli, and Leiter (2001) stated that the nature of the job and nurse characteristics were vital to work engagement.

Two studies explored the relationship between work engagement and nurse residency programs (Lin, Viscardi, & McHugh, 2014). These studies used different measurement tools to measure work engagement, making comparison and generalization of findings from these two studies difficult. Anderson, Linden, Allen, and Gibbs (2009) found no change in the level of engagement for 90 new graduates from the beginning to the end of the nurse residency program.

Comparing new graduate nurses who participated in nurse residency programs with those who did not, Newhouse, Hoffman, Suflita, and Hairston (2007) found no difference in the level of engagement upon hire, at six months, or 12 months.

Career Intentions

Career intentions are defined for the proposed study as the voluntary, planned desire to change roles, organizations, careers, or education preparation in the future. To date studies on career intentions and turnover intention, one component of career intentions, have been limited to a one-year perspective. Career intentions can extend to a future state, such as the 36-month perspective of this study and include plans to pursue advanced education and corresponding timeframes.

Career Intentions in Nursing

Four studies were found in the nursing literature that relate to career intentions. Bai, Luo, Lou, Pang and Tang (2018) investigated career intentions of Chinese nursing PhD students to guide PhD programs recruitment efforts. This perspective on career intentions of PhD students differs from to focus on transition of undergraduate students from associate or baccalaureate programs to clinical practice. There is similarity in study methodologies as these researchers collected data via an online survey over a six-week period.

A quasi-experimental study explored career intentions of experienced Australian nurses working in the hospital setting and transitioning to primary health care employment, with the purpose of planning for workforce growth and workforce issues (Ashley, Peters, Brown, & Halcomb, 2017). Career intentions is not formally defined by the researchers; however, survey questions relate to intentions to continue a career in nursing and intentions to work in primary healthcare. These questions align with the proposed study career intentions questions related to

the new graduate nurse intention to remain at the bedside, look for another job in the hospital, look for a job in another organization, or leave the profession or nursing. The study recommendations provide guidance for managers to retain nurses, which has implications for hospital leadership in the retention of new graduate nurses (Ashley et al., 2017).

A review of literature examined the nurse educator's role in preparing undergraduate nursing students for the transition to clinical practice (Hayes et al., 2006). The concept career intentions are not formally defined and varied throughout the publication; however, relates to undergraduate nursing student perception of nursing, student practice preferences, and transition to clinical practice (Hayes et al., 2006). Findings recognized the lack of empirical study of new graduate nurse career trajectories (Hayes et al., 2006). This gap has implications for the transition of the new graduate nurse from the academic setting to clinical practice, levels of career adaptability in relation to career trajectories in nursing, and levels of work engagement.

A fourth and final study related to career intentions was a cross-sectional study of practicing nurses in Scotland (O'Donnell, Jabareen, & Watt, 2010). Career intentions, as with the other studies, is not formally defined, but the survey questions are similar to the proposed study and relate to whether nurses intend to practice for the next five years or if they intend on leaving the profession of nursing (O'Donnell et al., 2010). The study, however, involves nurses who were 40 years and older and a median clinical tenure of 10 years (O'Donnell et al., 2010). This differs from the focus on new graduate nurses in the proposed study, making it difficult to generalize findings to the proposed study or study population.

Career Intentions versus Turnover Intention

Given the limited availability of literature relating specifically to career intentions, the review of literature was expanded to include the terms turnover intention, intent to leave, and

intent to quit as these are often used interchangeably in the literature (Memon et al., 2016). Unlike career intentions, turnover intention has been studied for over 45 years, yet challenges exist when reviewing nursing literature on new graduate nurse turnover and generalizing study findings. Definitions of turnover intention, study instruments measuring turnover intention, study samples, and levels of intention to leave vary in the literature, making it difficult to synthesize or compare study findings (Chan, Tam, Lung, Wong, & Chau, 2013). Many studies were conducted outside of the United States in Italy, Netherlands, Canada, and Korea, where there are differences in nursing education, healthcare systems, and practice environments (Bobbio & Manganelli, 2015; Homburg, Van der Heijden, & Valkenburg, 2013; Laschinger, 2012; Lee et al., 2014).

Little consistency is found in the study instruments used to measure turnover intention. Some nurse researchers used the single-item "I am going to look for another job in another ward next year" (Choi, Cheung, & Pang, 2013; Galletta et. al, 2016). This question may not be appropriate for a study of nurses working in acute care hospitals in the United States as the term ward is not used. Using the term unit, clinical unit, or hospital unit may be more appropriate. Other nurse researchers internally developed one to four items to measure turnover intention (Lee et al., 2017). Other nurse researchers, like Laschinger (2012), adapted questions from existing tools. Publications rarely included specific questions used in the study, making it difficult to compare studies and study findings.

Turnover Intention in Nursing

The work environment has been studied related to turnover intention in national and international nursing populations; however, not all studies involved new graduate nurses. In a systematic review of 23 articles related to leadership practices and turnover intention, a positive relationship was found between transformational leadership, supportive work environments and

nurse's intention to remain in their current job (Cowden et al., 2011). A systematic review of literature also revealed that organizational factors such as work environment, culture, commitment, work demands, and social support were related to turnover intention (Chan et al., 2013). A study focusing on new graduate nurses comparing groups from 1999-2009 and 2010-2015 found higher perceptions of the work environment, leader empowering behaviors, and organizational commitment, but no association with a decrease in turnover intention (Tyndall et al., 2019).

Nursing literature also supports the effectiveness of nurse residency programs on reducing turnover during the first year. Rosenfeld and Glassman (2016) stated that there was adequate evidence that nurse residency programs improve new graduate nurse retention during the first year of employment.

Turnover Intention and Personal Characteristics

A systematic review of 31 studies related to the intention to leave a job, organization, or the profession of nursing found that the rationale is complex (Chan et al., 2013). Understanding the relationship between age and retention of millennial nurses is important as the nursing workforce is getting younger (Hutchinson et al., 2012). Findings related to the relationship between age and intention to leave are inconsistent. Beecroft et al. (2007) found that younger nurses had higher turnover intention, while Rosenfeld and Glassman (2016) found that nurses who left their jobs were 3.2 years older than those who stayed. Other studies found no statistically significant relationship between age and turnover intention (Nedd, 2006). Further study on the relationship between age and turnover intention is needed.

The relationship between education level and turnover intention is also inconsistent in the literature. Beecroft et al. (2007) found that those with higher levels of education were associated

with higher turnover intention. Rosenfeld and Glassman (2016) had similar findings with those with advanced degrees, such as master's degrees, having higher turnover. Some studies found the opposite, with associate degree graduates more likely to intend to leave their current job than those with baccalaureate degrees (Kovner et al., 2007). This inconsistency and lack of clarity regarding the relationship between level of education and turnover intention has implications for future nursing research.

The timing of when nurses will pursue higher education also varies in the nursing literature. Millennial nurses value education, with 65% in school or planning to pursue higher education within a two-year period (Schwartz, Sharts-Hopko, & Bhatttacharya, 2015). Pettigrew, Dienger, and King (2011), however, found that most baccalaureate prepared nurses anticipated remaining at the bedside for five years and then intended to return to school to obtain a master's in nursing or advanced nursing practice certificate. Understanding the timing of when nurses will return to school is an important consideration related to career intentions of new graduate nurses.

Turnover Intention and Work Engagement

The relationship between work engagement and turnover intention is found in the literature outside of and within nursing. Memon et al. (2016) found a positive relationship between training satisfaction and work engagement in Malaysian oil and gas professionals. They also found that levels of work engagement mediate the relationship between training satisfaction and turnover intention (Memon et al., 2016). This has implications for the new graduate nurse transition, with the need to explore the relationship between work engagement and career intentions.

In a study exploring predictors of turnover intention in new graduate nurses in the first two years of clinical practice, low levels of work engagement were found to be a significant predictor of intent to leave (Laschinger, 2012). A related concept, organizational commitment, has also be studied. Higher levels of organizational commitment have been found in new graduate nurses from 2011-2016 as compared to the group from 1999-2009 (Tyndall et al., 2019). Organizational commitment, however, was not associated with turnover intention (Tyndall et al., 2019).

Review of Literature Conclusion

After 40 years of research focused on new graduate nurse transition, implementing programs, and modifying the work environment, the transition remains difficult and turnover intention of new graduate nurses remains high (Barnett et al., 2014; Cowden et al., 2011; Unruh & Zhang, 2014). Millennial nurses will make up over half the nursing workforce by 2020; therefore, a reconceptualization of the new graduate nurse transition to clinical practice is needed (Auerback et al., 2017; Tyndall et al., 2018).

The empirical study of career adaptability in nursing is limited, focusing primarily on the measurement of career adaptability in international populations outside of nursing. There are only two studies involving undergraduate nursing students in China and one study involving practicing nurses in Hungary. No international or national studies were found in the literature involving new graduate nurses or the transition from the academic setting to clinical practice.

Findings outside of nursing are inconclusive related to the relationship between career adaptability and personal characteristics, such as education, age, and length of clinical practice. This warrants further investigation of the relationship between career adaptability and personal characteristics, particularly in nursing (Rudolph et al., 2017).

Findings outside of nursing were also inconclusive related to the relationship between career adaptability and turnover intention. Two studies found a positive correlation between career adaptability and turnover intention and two studies found a negative correlation. All four studies were international studies and conducted outside of nursing.

Studies related to the relationship between career adaptability and work engagement are also limited, with no studies found in nursing. Work engagement, however, has been strongly correlated with turnover intention in new graduate nurses in the first two years of practice (Laschinger, 2012).

These omissions present major gaps in the nursing literature. The exploration of career adaptability in other industries and populations serve as a guide for this new area of research and publications within nursing (Tian & Fan, 2014; Fang et al., 2018). Research on career adaptability is needed to expand the concept into nursing, expand use of the CAAS-SF into nursing, and explore the relationships among work engagement and career intentions in new graduate nurses.

CHAPTER 3: PROPOSED RESEARCH DESIGN AND METHODS

A cross sectional descriptive correlational research design was used in the study. This design is appropriate for describing relationships, such as the relationships among career adaptability, work engagement, and/or career intentions of new graduate nurses (Polit & Beck, 2017). It is also consistent with studies found in vocational behavior literature related to career adaptability in other professions and populations.

Variables

Career adaptability, work engagement, and career intentions are variables that were operationalized and measured in this study. Study variables, definitions, and measurements are included in Appendix B (see Appendix B).

Instruments

Career Adaptabilities – Short Form

Career adaptability is a "psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions, and traumas in their occupational roles" (Savikas & Porfeli, 2012, p. 662). Career adaptability was operationally defined for this study as the degree of concern, control, curiosity, and confidence a new graduate nurse has about his/her job and his/her future. The Career Adapt-Abilities Scale (CAAS), developed in 2012 and translated into more than 10 languages, is the most commonly used instrument to measure career adaptability and the four adaptability resources of concern, control, curiosity, and confidence (Chan & Mai, 2015; Johnston, 2018; Pajic et al., 2018). Through psychometric testing, the 24 item CAAS was reduced to the 12 item CAAS-SF (Maggiori, Rossier, & Savikas, 2015). The CAAS-SF was used in this study to measure career adaptability and is included in Appendix C (see Appendix C).

CAAS to CAAS-SF

Sample and data collection. Participants included 2800 French and German speaking adults between the ages of 20 and 65, with 51% female, 49% male, and 52.8% German speaking (Maggiori et al., 2015). Of the 2800 participants, 2375 represented the Swiss population between the ages of 25 and 55 (M=41.9, SD=8.6) and 425 represented high schools, vocational schools, and career service centers (M=37.4, SD=12.3) (Maggiori et al, 2015). Participants were either part of a Swiss National Center of Competence in Research longitudinal study on professional trajectories or a convenience sample recruited from high schools, vocational schools, and career service centers (Maggiori et al, 2015). There is no discussion of IRB approval or informed consent.

Construct validity/confirmatory factor analysis. Principal component analysis (PCA) with promax rotation was conducted on the 24 items of the CAAS (Maggiori et al, 2015). The scatterplot and Eigenvalues identified a four-factor solution, accounting for 73.34% of the variance (Maggiori et al, 2015). The Kaiser-Meyer-Olkin (KMO) value was .90, indicating excellent sample adequacy, and Bartlett's test of sphericity was significant (p= <.001) (Maggiori et al, 2015). All items had a factor loading > .4 (Maggiori et al, 2015). One item was removed due to loading on more than one factor and another item was removed because it loaded on the wrong dimension (Maggiori et al, 2015).

Using a randomized sub-sample (m=1393), confirmatory factor analysis was used to compare the four career adaptability resources of concern, control, curiosity, and confidence with the construct career adaptability or CAAS total score (Maggiori et al, 2015). Several fit indices were used to determine if the model was a good fit for the data (Maggiori et al, 2015). Goodness of fit was evaluated using the chi square goodness of fit statistic (Polit & Yang, 2016). The

normed fit index (NFI), comparative fit index (CFI) and Tucker-Lewis index (TLI) were all >
.95, demonstrating satisfactory fit (Maggiori et al, 2015). A root mean square error of
approximation (RMSEA) was .064, which exceeds the acceptance threshold of $\leq$ .06 (Maggiori
et al, 2015; Polit & Yang, 2016).

Items. Three items on the CAAS-SF measure the adaptability resource of concern;
"Thinking about what my future may be like", "Preparing for the future", and "Becoming aware
of the educational and vocational choice that I must make." (Maggiori et al., 2015, p.11). Three
items measure the adaptability resource of control; "Making decisions by myself", "Taking
responsibility for my actions", and "Counting on myself" (Maggiori et al., 2015, p.11). Three
items measure the career adaptability resource of curiosity; "Looking for opportunities to grow
as a person", "Investigating options before making a choice", and "Observing different ways of
doing things" (Maggiori, et al., 2015, p.11). Three items measure the adaptability resource of
confidence: "Taking care to do things well", "Learning new skills", and "Working up to my
ability" (Maggiori et al., 2015, p.11).

A 5-point Likert scale ranging from one for "not strong" to five for "strongest" was used
to measure how strongly an individual has developed each of the career adaptability resources
(Maggiori et al., 2015). Career adaptability is measured by a total summed score (range 12 to
60) and mean values on the four sub-scale scores (range 1 to 5) (Maggiori et al., 2015). Career
adaptability increases along each of the four dimensions of concern, control, curiosity, and
confidence (Maggiori et al, 2015). Higher levels of adaptation are expected of those who have
higher levels of career adaptability resources to address changing conditions (Savikas & Porfeli,
2012). Those with lower levels of career adaptability resources may have difficulty or be unable
to cope with change and regulation of strengths or capabilities (Savickas, 1997).

Instructions for the CAAS-SF are self-explanatory, instructing participants to rate how strongly they have developed each of the career adaptability resources, selecting from one for "not strong" to five for "strongest" (Maggiori et al., 2015). It was estimated to take five to ten minutes to complete the tool. There was no information available on reading level.

No specific training was required to administer the CAAS-SF and no cost was associated with the use of the tool. Permission to use the CAAS-SF and scoring information was obtained from Dr. Christian Maggiori via email (Maggiori et al., 2015) (See Appendix D).

Utrecht Work Engagement Scale

Work engagement is "a positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption", operationally defined in the study as the degree of vigor, dedication, and absorption a new graduate nurse has about his/her current job (Schaufeli & Bakker, 2006, p. 701). Several instruments are available to measure work engagement; however, the Utrecht Work Engagement Scale (UWES) is the most commonly used instrument in nursing research and is appropriate for measuring work engagement of new graduate nurses in acute care hospitals (Keyko et al., 2016; Manning, 2016). The UWES-9 was used for the study and is included in Appendix E (see Appendix E).

The UWES is a self-reported questionnaire developed by Schaufeli and Bakker in 1999, originally containing 24 items to measure the three dimensions of work engagement: vigor, dedication, and absorption (Manning, 2016; Schaufeli & Bakker, 2006). Since 1999, the UWES has been used in national and international studies with a variety of occupations. It is also available in student versions and has been translated into 22 different languages (Bargagliotti, 2012). There are three versions of the UWES, including the UWES-24, UWES-17, and UWES-9 (Schaufeli & Bakker, 2004). Psychometric testing was conducted to reduce the original 24 item

UWES to 17 items, with additional psychometric testing conducted to reduce the 17 item UWES to 9 items (Schaufeli & Bakker, 2004; Schaufeli & Bakker, 2006). The UWES-9 is now preferred by researchers over the UWES-17 (Kulikowski, 2017).

Sample and data collection. A database was compiled of 27 studies conducted between 1999 and 2003 in 10 different countries (Schaufeli & Bakker, 2006). The database included 14,521 study participants, with 53.3% (N=7621) male and 46.7% (N=6684) female and ages ranging from 16 to 68 years (M=40.3, SD=11.7) (Schaufeli & Bakker, 2006). Population groups varied, with 3041 teachers (21.4%), 2777 healthcare (18.8%), 2650 police (18.7%), 1374 white collar (profit) (9.7%), 1024 blue collar (7.2%), 871 management (6.1%), 822 social work (5.8%), 314 with missing information (2.2%), and 147 white collar (not for profit) (1.2%) (Schaufeli & Bakker, 2006). UWES items were grouped into three groups designating the three dimensions of work engagement, with six items for vigor, five items for dedication, and six items for absorption (Schaufeli & Bakker, 2004). There is no discussion of IRB approval or informed consent.

Internal consistency reliability. Cronbach's alpha was used to calculate internal consistency for vigor, dedication, and absorption, the three dimensions of work engagement. The Cronbach's alpha for vigor varied across countries between .60 and .88 (median .77), with Finland .65 and France .60 being the only two countries lower than .70 (Schaufeli & Bakker, 2006). The Cronbach's alpha for dedication varied across countries between .75 and .90 (median .85) (Schaufeli & Bakker, 2006). The Cronbach's alpha for absorption varied across countries between .66 and .86 (median .78), with Spain (.66) being the only country lower than .70 (Schaufeli & Bakker, 2006). Cronbach's alpha for the 9-item scale varied from .85 to .92, with a median of .92 across all 10 countries (Schaufeli & Bakker, 2006). With the exception of Finland,

France and Spain, all values for all three dimensions of work engagement and the total 9-item UWES are above the acceptable value of .70 (Polit & Yang, 2016; Schaufeli & Bakker, 2006).

An iterative process was used to remove items. This resulted in a revised nine item tool, with vigor measured by three items, dedication measured by three items, and absorption measured by three items (Schaufeli & Bakker, 2006).

Construct validity/confirmatory factor analysis. Several fit indices were used to determine if the model was a good fit for the data. The c2 goodness of fit statistic, a root mean square error of approximation (RMSEA), the goodness of fit index (GFI) and the adjusted goodness of fit index (AGFI) were also calculated.

One-factor and three-factor models were used simultaneously with all 10 national samples. The three-factor model was found to be superior to the one-factor model (Schaufeli & Bakker, 2006). The RMSEA was .04, meeting the acceptance threshold of $\leq$ .06 (Polit & Yang, 2016; Schaufeli & Bakker, 2006). The CFI was .96, which is above the acceptable threshold of $>$ .95 (Polit & Yang, 2016; Schaufeli & Bakker, 2006). The one-factor model was also found to be acceptable, with an RMSEA of .04 and a GFI of .89, slightly less that the acceptable threshold of $>$ .95 (Polit & Yang, 2016; Schaufeli & Bakker, 2006).

Correlations. Correlations were calculated to determine the strength and direction of the relationship between the three dimensions measured by the UWES-17 and the UWES-9, with correlations between the three items measuring vigor and the original six items exceeded .90 in all countries except France (r=83/.91) (Schaufeli & Bakker, 2006). The correlations between the three items measuring dedication and the original five items exceeded .95 in all countries (Schaufeli & Bakker, 2006). The correlations between the three items to measure absorption and the original six items exceeded .95, except Belgium (r=.85) and Spain (r=.89/.92) (Schaufeli &

Bakker, 2006). The UWES-9 shares more than 80% of the variances with the UWES-17 (Kulikowski, 2017).

Items. There are three items to measure each of the three dimensions of work engagement: vigor, dedication, and absorption (Schaufeli & Bakker, 2006). The three items measuring vigor are "At my work, I feel bursting with energy", "At my job, I feel strong and vigorous", and "When I get up in the morning, I feel like going to work" (Schaufeli & Bakker, 2004, p.714). The three items measuring dedication are "I am enthusiastic about my job", "My job inspires me", and "I am proud of the work that I do" (Schaufeli & Bakker, 2004, p.714). The three items measuring absorption are "I get carried away when I am at work", "I feel happy when I am working intensely", and "I am immersed in my work" (Schaufeli & Bakker, 2004, p.714).

Using a 7-point Likert scale ranging from zero for "never "to six for "always", responses measure how frequently an employee has the feelings while at work (Schaufeli & Bakker, 2004). Work engagement is measured by a total summed score (range zero to 54) and mean values on the four sub-scale scores (range zero to six) (Schaufeli & Bakker, 2004). Higher scores on vigor indicate more energy and stamina and those with low scores indicate less energy and stamina (Schaufeli & Bakker, 2004). Higher scores on dedication indicate strong identification with work and lower scores indicate less identification with work (Schaufeli & Bakker, 2004). Higher scores on absorption indicate engrossment and immersion in work and lower scores indicate being less engrossed and immersed in work (Schaufeli & Bakker, 2004).

The instructions are self-explanatory, instructing the participant to complete statements about how they feel at work, reading each of the statements carefully, and selecting from zero for "never" to six for "always" to describe their feelings (Schaufeli & Bakker, 2004). No

information is available on reading level. It was estimated to take up to ten minutes to complete the UWES-9.

No specific training was required to administer the tool and no cost was associated with the use of UWES-9. No explicit permission was required; however, researchers must agree that the tool is only being used for non-commercial educational or research purposes, no fees will be charged, and a raw data file will be shared with the tool owners for their international database and further validation of the tool.

Career Intentions

Career intentions were defined as the new graduate nurse's voluntary and planned desire to change roles, careers, or educational preparation. The operational definition for the study was the degree of desire a new graduate nurse has to voluntarily change jobs, employers, professions, or educational preparation. The variables turnover intention, intent to leave, and intent to quit relate to a voluntary desire to change jobs or organizations are often found in the literature; however, these variables are only one small component of the broader career intentions of new graduate nurses in planning their career in nursing. Career intentions questions were used for the study and are included in Appendix F (see Appendix F).

Career Intentions Questions

Nine researcher-developed questions informed by available literature were used in this study to measure career intentions, including "Are you currently working as a staff nurse in a direct care role?", "If yes, how long do you intend to remain at the bedside in a direct care role?", "Have you changed jobs in your current hospital since you began employment?", "If no, do you intend to look for another job in your current hospital within the next 12 months?", "Do you intend to look for a job outside of your current hospital in the next 12 months?", "How likely are

you to leave the profession of nursing?", "How likely are you to pursue advanced education in nursing?", "Which of the following advanced education pathways in nursing are you planning to pursue?", and "What is your time frame for pursing an advanced education pathway in nursing." Questions were self-explanatory and it was estimated to take less than five minutes to complete the career intentions questions.

Using a yes/no response for the first question, responses measured if the participant is currently working as a staff nurse in a direct care role. If the participant answered "yes", the additional question "how long do you intend to remain at the bedside in a direct care role" will be asked. The participant selected from a list of timeframe options ranging from less than one year, one to two years, and more than two years to describe how long they intend to remain at the bedside in a direct care role.

Using a yes/no response for the third question, responses measured if the participant has changed jobs in their current hospital since beginning employment. If the participant answers "no", the additional question "Do you intend to look for another job in your current hospital within the next 12 months?" will be asked. Using another yes/no response, responses measured if the participant is currently looking for another job in their current hospital.

Using a yes/no response for the fifth question, responses measured if the participant intends to look for a job outside of their current hospital in the next 12 months. Question six used a 5-point Likert scale ranging from one for "very unlikely" to five for "very likely" to measure how likely a participant is to leave the profession of nursing. Question seven used the same 5-point Likert scale to measure how likely a participant is to pursue advanced education in nursing. If the participant responses were "unsure", "likely" or "very likely", two additional questions were asked. These included "Which of the following advanced education pathways in nursing

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are you planning to pursue?, with the participant selecting from a list of nursing advanced education pathway options and "What is your time frame for pursing an advanced education pathway in nursing?", with the participant selecting from a list of timeframes.

Personal Characteristics

Personal characteristics questions were used for this study to describe the sample, determine if the population is a representative sample, and determine if there is a moderating effect on career adaptability and work engagement. Personal characteristics questions are included in Appendix G (see Appendix G). The questions were self-explanatory and participants were asked to select answers specific to each question. It was estimated to take less than five minutes to complete the personal characteristics questions.

Six researcher developed questions informed by the literature were used to gather data regarding age, gender, education level, months of clinical practice, primary work area, and patient population. Age, gender, education level, and months of clinical practice were also used to determine if there is a moderating effect on the strength or relationship among career adaptability or work engagement in relation to career intentions (Polit & Beck, 2017).

Sample

A purposive convenience sample of registered nurses was identified through a North Carolina Board of Nursing (NC BON) data set, which provided access to all registered nurses in North Carolina. It is important; however, to have as large of a sample as possible to ensure representativeness of the study population (Polit & Beck, 2017). Using the inclusion criteria, a purposive convenience sample of 19,672 registered nurses was extrapolated from the NC BON data set. Participants were removed from the sample when emails returned as undeliverable (n = 331), which adjusted the sample size to 19,341 prospective participants.

Inclusion Criteria

The population of interest is registered nurses who work in acute care hospitals. Inclusion criteria includes individuals licensed as a registered nurse, working in an acute care hospital, original North Carolina license date within the last 36 months, and have an email address. While most studies on turnover intention examine the first year of employment, this study will extend the length of clinical tenure to the first 36 months of clinical practice to fully understand the relationships among career adaptability, work engagement, and career intentions of new graduate nurses over a more extended period of time.

Procedures

Using a process established by the North Carolina Board of Nursing (NCBON), a data set was procured in August 2019 by East Carolina University College of Nursing (ECU CON). This data set provided access to all registered nurses in North Carolina and data set elements included nurse name, county of residence, email address (when available), practice setting, position of employment, field of employment, basic degree, highest degree, certification number, date originally licensed, expiration date, and compact state. The data set was maintained by the ECU CON on a secure university drive.

After obtaining IRB approval on October 9, 2019, the researcher sorted the NCBON data set on October 10, 2019 to determine the sample population meeting inclusion criteria. The researcher found that there were missing data entries for registered nurses who obtained their original nursing license between September 16, 2016 and September 16, 2019 related to field, which included employment locations like hospital, and position, which included positions like staff nurse. This was an unexpected and unanticipated finding.

To determine the total sample population who met inclusion criteria, the researcher sorted the data into separate categories. One category was staff nurse and hospital, which totaled 6,605 registered nurses. A second category was staff nurse with missing information related to field, which totaled 5,196 registered nurses. A third and final category, was missing information related to position or field, which totaled 8,031 registered nurses. It is anticipated that registered nurses who do not have prearranged employment plans may have left the position and field sections blank when completing their initial nursing licensure paperwork. Finally, those with no email address or an invalid email address were also excluded (n=160). This additional sorting resulted in a final total of 19,672 prospective participants.

Using the email addresses available in the NCBON data set, registered nurses meeting inclusion criteria were recruited electronically via email by the researcher regarding study participation. Emails included an overview of the study, inclusion criteria, consent information, and a link to the 36-item study instrument in REDCap (see Appendix H and Appendix I). When emails were returned as undeliverable, email addresses were removed from the distribution list and the sample size was adjusted. Completion of the study instrument was estimated to take five to 10 minutes and did not pose unfair or unethical demands on the participants. No cost was associated with study participation.

The survey instrument was kept open in REDCap for eight weeks, from 0800 on Tuesday, October 22, 2019 to 0800 on Tuesday, December 17, 2019. Three reminder emails were sent to registered nurses meeting inclusion criteria at two-week intervals throughout the eight-week data collection period (see Appendix J). These reminder emails were sent at two weeks, four weeks, and six weeks.

Incentives

After completing the study survey, participants were eligible to participate in a drawing

for a $25 Amazon gift card (see Appendix J). A total of eight $25 Amazon gift cards were given

away. If interested in participating in the drawing, each interested participant submitted their

email address. The information was submitted in REDCap; however, survey instrument

responses were not be connected with the personal information related to the gift card drawing.

This process ensured confidentiality of survey instrument responses. The researcher compiled a

numbered list of all study participants interested in the drawing. Using a random number

generator application downloaded on the researcher's Apple smartphone, eight winners were

identified. Randomly drawn numbers were matched with the numbered list of interested study

participants. The researcher notified each of the eight winners via email and a mailing address

was requested. The researcher mailed a $25 Amazon gift card to each winners. The researcher

was personally and financially responsible for the purchase of the eight $25 Amazon gift cards

and costs associated with mailing the gift cards via United States Postal Service.

Data Analysis

All data was kept on a secure drive maintained by ECU. Data was extracted from

REDCap and SPSS version 24 was used to analyze the data. Response frequencies were run on

the data to look for missing values, out-of-range values, or other data anomalies. Total summed

scores and sub-scale scores were calculated for the CAAS-SF and UWES-9. Total summed

scores were calculated for career intentions questions. Descriptive statistics were calculated to

describe the sample and ensure a representative sample.

Question 1.

What are the levels of career adaptability and career intentions of new graduate nurses?

Descriptive analyses, including means, standard deviations, and frequencies, as well as correlations were performed to examine each of the nine career intentions items, levels of career adaptability, and relationships among variables. Total summed scores and sub-scale scores were calculated for the CAAS-SF.

Question 2.

What are the relationships among levels of career adaptability and work engagement and the career intentions of new graduate nurses?

Descriptive statistics, including means and standard deviations, were used to describe the scales of the CAAS-SF and UWES-9. Pearson correlations were used to examine the relationships among the CAAS-SF and UWES-9 total scores and subscale scores and career intentions subgroups.

Question 3.

Are the relationships among career adaptability, work engagement, and/or career intentions of new graduate nurses moderated by age, education level, and/or months of clinical practice?

Age, education level, and months of clinical practice are variables that may moderate or influence the direction or strength of the relationship between the career adaptability or work engagement and career intentions (Polit & Beck, 2017). ANOVAs were used to examine mean differences between the demographic subgroups on the CAAS-SF and UWES-9 subscales and career intentions subgroups. Standard multiple linear regression was used to assess if career adaptability, changing or intending to change jobs, age, years of clinical experience, or intention to pursue an advanced education pathway are predictors of work engagement.

Ethical Considerations

Approval was obtained by the researcher through the University and Medical Center Institutional Review board for an expedited, nonhuman subject quantitative research study prior to accessing the NCBON data set for study purposes (see Appendix A). After IRB approval was obtained, the researcher sorted the NCBON data set to identify a convenience sample of nurses who meet the study criteria and were eligible for study participation.

Limitations

This study was a cross sectional descriptive correlational study collecting self-reported data; therefore, causal relationships could not be established and the generalizability of findings was limited (Polit & Beck, 2017). This was a limitation of the research design; therefore, efforts were made to limit other internal validity threats through sample selection, limiting attrition, and instrument selection.

Self-selection was a second limitation. This remains a challenge when using a pre-existing group, like nurses who obtained a NC nursing license in the last 36 months, as it does not account for any pre-existing differences of the group (Polit & Beck, 2017). Inclusion and exclusion criteria were carefully considered to minimize bias in the convenience sample (Polit & Beck, 2017).

Limiting the number of items and being able to suspend the tool for completion at a later time are strategies that can help decrease attrition (Polit & Beck, 2017). The study measurement tool had 36 items, yet the estimated completion time was only five to ten minutes. All data was collected in one survey in REDCap, which increased the likelihood of completing the survey at one time. REDCap does not provide an option to suspend the tool.

External validity relates to the ability to make an inference about whether observed relationships "hold true over variations in people, conditions, or settings" (Polit & Beck, 2017, p. 229). Representativeness, replication, and interaction effects may limit external validity threats (Polit & Beck, 2017). Representativeness was ensured in this study by recruiting as large of a study sample as possible.

Response rates can also be lower for web-based surveys as compared to paper-based surveys (Polit & Beck, 2017). The response rate for this study was low and the data collection period could have be extended; however, the researcher chose to continue the email reminders every two weeks as an effort to increase participation. Any alternate sampling plan, such as nurses working in one or more hospitals in eastern North Carolina, or other modifications to the study would have required approval through the university and appropriate institutional review boards.

CAAS-SF, the measurement tool used to measure career adaptability, has not been used in nursing or in relation to the new graduate nurse transition from the academic setting to clinical practice. It has, however, been used in other professional population. Using the CAAS-SF in this study provided an opportunity to expand use to the study of career adaptability and work engagement in nursing and to the new graduate nurse populations.

CHAPTER 4: CAREER ADAPTABILITY AND CAREER INTENTIONS: NEW PERSPECTIVES FOR THE NEW GRADUATE NURSE TRANSITION TO CLINICAL PRACTICE

The new graduate nurse's ability to adapt to the hospital practice environment is critical. This adaptation, however, is difficult and turnover remains a concern (Barnett, Minnick, & Norman, 2014). Understanding new graduate nurse turnover requires an awareness of the length of time new graduate nurses plan to remain in their jobs and at the bedside. One study found that a staggering 57% of new graduate nurses leave their job within the first two years of employment (Bowles & Candela, 2005).

The cost and disruption associated with this turnover remains a major concern for hospitals (Beecroft, Dorey, & Wenten, 2008). The average cost of turnover for a bedside nurse ranges from $37,700 to $58,400, with hospitals losing between 5.2 and 8.1 million dollars per year (Nursing Solutions, Inc., 2016). Retention of new graduate nurses is imperative for hospitals to remain competitive and fiscally sound, which is important in the current economic environment.

The purpose of this study was to explore career intentions and career adaptability levels of new graduate nurses in the first 36 months of clinical practice. The study also evaluates the CAAS-SF instrument for use in nursing and examines the influence of age, education level, and years of clinical practice on career intentions and career adaptability.

Background

Career Intentions

Historically, nursing research on new graduate nurse transition has been limited to the first two years of clinical practice and has explored new graduate nurse turnover rather than career intentions (Laschinger, 2012). Career intentions involve a new graduate nurse's future

state, defined in this study as the voluntary, planned desire to change jobs, employers, professions, or education preparation within a 36-month period. Turnover intention, intent to leave, and intent to quit, terms traditionally found in the literature, are but one dimension of the broader career intentions of new graduate nurses in planning their careers in nursing (Memon et al. 2016).

Focusing on the transition to the hospital practice environment while supporting career intentions of new graduate nurses requires viewing retention differently and necessitates more comprehensive strategies to develop and support new graduate nurses. Examining the career intentions of new graduate nurses in the first three years of clinical practice can help hospitals move from a sole focus on retaining new graduate nurses at the bedside to a multifaceted focus on expanding organizational capacity by mobilizing career aspirations of new graduate nurses.

Career Adaptability

Career adaptability, a component of Career Construction Theory (CCT), may be the missing link to better understand both new graduate nurse transitions and career intentions (Savickas, 2013). Career adaptability has been studied extensively in vocational psychology but has never been studied in new graduate nurses (Savickas, 2013). It relates to "an individual's resources for coping with current and anticipated tasks, transitions, and traumas in their occupational roles" (Savickas & Porfeli, 2012, p. 662). Applied to new graduate nurses, the focus of career adaptability is on developing the new graduate nurse and supporting career trajectories within hospitals instead of concentrating solely on clinical competence, turnover, and keeping new graduate nurses at the bedside in direct patient care roles.

This change in perspective is particularly important for retention of the millennial new graduate nurses, who now dominate the nursing workforce (Hutchinson, Brown, & Longworth,

2012). They thrive on finding purpose and meaning in their work (Tyndall et al., 2019).

Millennial new graduate nurses may benefit from not only focusing on their transition to the

practice environment, but also on developing a career trajectory within the hospital. Hospitals

that do not incorporate new graduate nurse career planning into the transition to clinical practice

may unintentionally lose those nurses within the first three years.

CCT and Career Adaptability

CCT, a grand theory of career development from vocational psychology, served as the

theoretical foundation for this study (Rudolph et al., 2019; Savickas, 1997). CCT focuses on 21st

century workforce issues driven by changes in the economy and reshaping of jobs and the

workforce, examining how people manage work related demands, transitions, and traumas

(Johnston, 2018). Vocational counselors have used CCT to work with clients on career decisions,

career training, and skill development, as well as empirical study of how individuals construct

careers and adjust throughout careers (Savickas, 2002).

CCT relates to psychosocial adaptation and how individuals cope with work, work

transitions, and work traumas (Savickas, 2002). According to Savickas (2013), work transitions

are "movements from one job to the next" (p.156), which may be "wanted or unwanted, planned

or unexpected, and promotions or demotions" (p.156). Work traumas are "painful events, such as

plant closings, industrial accidents, occupational injuries, and contract violations" (Savickas,

2013, p. 156). Career adaptability relates to the resources used by an individual to cope with

these work transitions and traumas (Savikas, 2013).

Psychosocial adaptation is fostered by a cycle of adaptation and four career adaptability

resources (Savickas, 2013). To date, CCT is untested in relation to new graduate nurses;

however, has relevance for exploring the self-management of the reality shock experienced by

new graduate nurses and how to optimize transition to the hospital practice environment and development of careers in nursing (Sargis, 1975).

Career Adaptability Resources

Four self-regulated, psychosocial career adaptability resources are used by individuals as problem-solving strategies and coping behaviors to deal with work transitions and work traumas (Savickas & Porfeli, 2012). Concern, the first career adaptability resource, is future-oriented and relates to constructing one's own career (Savickas, 2013). In the new graduate nurse, concern is the ability to look ahead and plan for their future in nursing (Johnston, 2018). A new graduate nurse who lacks concern may be indifferent, pessimistic, or lack a plan for their future (Savickas, 2013). Control, the second career adaptability resource, relates to being conscious, deliberate, organized, and decisive about one's own career (Savickas, 2013). Control is the new graduate nurse's ability to shape their own future, using effort, persistence, and self-discipline in facing challenges (Johnston, 2018). A new graduate nurse who lacks control may be indecisive, confused, impulsive, or procrastinate (Savickas, 2013). Curiosity, the third career adaptability resource, relates to being inquisitive and exploring options, providing a realistic and objective perspective about options (Savickas, 2013). Curiosity is the new graduate nurse's exploration of alternatives for themselves and their environments, such as remaining on their current unit, leaving their current organization, leaving the profession of nursing, or intending to pursue an advanced degree (Johnston, 2018). New graduate nurses who lack curiosity may be unrealistic about their options or have an inaccurate perspective (Savickas, 2013). Finally, confidence relates to self-efficacy and an individual's belief in their ability to obtain goals (Savickas, 2013). Confidence relates to the new graduate nurse's belief in their ability face and solve job or career

issues and achieve their career goals (Johnston, 2018). New graduate nurses who lack confidence may inhibit their ability to achieve their goals (Savickas, 2013).

CCT and Career Adaptability in Research

CCT has been discussed in vocational literature for over 30 years (Randolph, Lavigne, & Zacher, 2017). Empirical study was limited prior to the development of the Career Adapt-Abilities Scale (CAAS) in 2012 and the Career Adapt-Abilities – Short Form (CAAS-SF) in 2015 to operationalize the measurement of career adaptability (Maggiori, Rossier, & Savickas, 2015; Savickas & Porfeli, 2012). The original 24 item CAAS and the revised 12 item CAAS-SF measure career adaptability and the four adaptability resources of concern, control, curiosity, and confidence.

Most studies focused on career adaptability in international populations outside of nursing (Maggiori et al., 2013). One study examined the effect of personal characteristics on career adaptability in Australian employees working 20 hours or more, finding that education level and age were positively correlated with levels of career adaptability (Zacher, 2014). Other studies of employees in South Africa and China found a positive relationship between higher levels of career adaptability and decreased turnover intention (Chan & Mei, 2015; Tiadinyane & Van der Merwe, 2016).

No research on career adaptability in nursing has been conducted in the United States and only a few international studies have been conducted. Two studies explored career adaptability in undergraduate nursing students in China, finding a positive association between career adaptability and positive clinical learning environments, experience as a student nurse leader, and optimism (Tian & Fan, 2014; Fang, Zhang, Mei, Chai, & Fan, 2018).

The only known study involving practicing nurses was in a public, state funded Hungarian medical center (Pajic, Keszler, Kismmikok, Mol, & Den Hartog, 2018). The purpose of this cross-sectional study was to translate the CAAS to Hungarian, examine the relationship between career adaptability and trait-based antecedents, adapting behaviors, and work related outcomes (Pajic et al., 2018). The study found a positive correlation between conscientiousness, proactive personality, career planning, and proactive skill development (Pajic et al., 2018).

Methods

This study used a cross-sectional quantitative design to explore career adaptability and career intentions in new graduate nurses. Data were collected during an eight-week period via a REDCap survey. Ethics approval was obtained from the university's institutional review board prior to sending the surveys.

Sample and Setting

Study participants were registered nurses working in acute care hospitals in North Carolina. Inclusion criteria were being licensed as a registered nurse, working in an acute care hospital, having a valid email address, and acquiring an original North Carolina license within the last 36 months. The sample for this study was drawn from a North Carolina Board of Nursing (NCBON) dataset that included email addresses (when available), practice setting, position of employment, field of employment, and date originally licensed as a registered nurse in North Carolina. Using the inclusion criteria, a purposive convenience sample of 19,672 registered nurses was extrapolated. Participants from the sample were removed when emails returned as undeliverable (n = 331), which adjusted the sample size to 19,341 prospective participants.

Data Collection

Registered nurses were invited to participate in the study via an email, which included a link to a 36 item REDCap study instrument. Completion of the study instrument took 5 to 10 minutes and did not pose unfair or unethical demands on the participants. No costs were associated with participation. After completing the study instrument, participants were eligible to participate in a gift card drawing.

Measurement

The 36 item REDCap study instrument was comprised of 12 items from the CAAS-SF, nine items from the Utrecht Work Engagement Scale (UWES-9), nine researcher-developed career intentions questions, and six researcher-developed personal characteristics questions. Findings from the UWES-9 are not reported in this article.

Career Adapt-Abilities – Short Form

The 12-item CAAS-SF measuring career adaptability was used with permission. Original testing of the CAAS-SF instrument suggested a four-factor solution, accounting for 73.34% of the variance (Maggiori, Rossier, & Savickas, 2015). Three items measure each of the four adaptability resources of concern, control, curiosity, and confidence using a 5-point Likert scale ranging from one for "not strong" to five for "strongest" (Maggiori et al., 2015). Responses measure how intensely an individual has developed each of the career adaptability resources, resulting in a total summed score (range 12 to 60) and mean values on the four sub-scale scores (range 1 to 5) (Maggiori et al., 2015). Career adaptability increases along each of the four dimensions of concern, control, curiosity, and confidence (Maggiori et al., 2015). Higher levels of adaptation are expected of those who have higher levels of career adaptability resources to address changing conditions (Savikas & Porfeli, 2012). Those with lower levels of career

adaptability resources may have difficulty or be unable to cope with change and regulation of strengths or capabilities (Savickas, 1997).

Career Intentions

Nine researcher-developed questions were used to measure new graduate nurse career intentions. Questions were self-explanatory, with yes/no responses, 5-point Likert scale responses, or selection from a list of possible answers.

Personal Characteristics

Six researcher developed questions were used to gather data regarding age, gender, education level, months of clinical practice, primary clinical area, and patient population.

Data Analysis

Data were exported from REDCap, analyzed using SPSS version 24, and maintained on a secure drive. Descriptive analyses, including response frequencies, were performed to describe the sample, look for out-of-range values, missing values, or other data anomalies, and ensure a representative sample. Descriptive analyses and correlations were performed to examine each of the nine career intentions items, levels of career adaptability, and relationships among variables. Total summed scores and sub-scale scores were calculated for the CAAS-SF.

Results

During the eight-week data collection period, 315 (1.6%) of the 19,341 registered nurses meeting inclusion criteria completed the study instrument. Of those participants, 38 were removed from the sample because they were not working as staff nurses or did not indicate if they were or were not working as staff nurses. Data analysis was calculated based on data gathered from the remaining 277 registered nurses working as staff nurses.

Personal Characteristics

The majority of new graduate nurses were female (87%). More than 75% of the

participants were ages 21 to 39, with a mean age of 31.8 years. Over half of the participants held

a BSN, with the remainder holding an ADN, MSN, or PhD. Clinical experience was divided

almost equally among participants, with 40% having one year of experience, 28% with one to

two years of experience, and 33% with two to three years of experience. The majority of

participants worked in general care (39%) or critical care (28%), with the remainder working in

emergency care (17%), obstetrics (7%), operating room (4%), psychiatry/mental health (2%),

rehabilitation (2%), and post anesthesia care (1%). Sixty four percent of participants cared for

adults, 27% cared for adult and pediatric patients, and 9% cared for pediatric patients < 18 years

of age. Table 1 illustrates personal characteristics of the new graduate nurses.

Table 1

New Graduate Nurse Personal Characteristics (N = 277)

Characteristic	n	%
Age		
21-25	99	36
26-39	114	41
40+	57	21
Missing	7	2
Highest education level		
ADN	116	42
BSN	151	55
MSN	6	2
PhD	1	<1
Missing	3	1
Months of clinical experience		
0-12 months	111	40
13-24 months	76	28
25-36 months	90	33

Career Intentions

        Career intentions of the new graduate nurses are presented in Table 2. Of the 277 study

participants, almost one-half (45%) intended to leave the bedside within three years. One-quarter

had already changed jobs in their current hospital since their employment. Of those who had not

changed jobs, more than one-third intend to look for another job in their current hospital in the

next 12 months. Almost half of all participants (41%) intended to look for a job outside of their

current hospital in the next 12 months. Seventy-five percent of participants were unlikely or very

unlikely to leave the profession of nursing. The remaining quarter are very likely or likely to

leave or unsure about leaving the profession of nursing. Almost three-quarters (70%) of study

participants were very likely or likely to pursue an advanced education pathway. Nearly 40%

intended to pursue advanced education within the next year, 47% in the next two to three years,

and the remaining participants in more than three years. Advanced education pathways of most

interest were MSN (51%), nurse practitioner (44%), BSN (36%), and DNP (36%).

Table 2

New Graduate Nurse Career Intentions (N = 277)

Career Intentions	n	%
How long do you intend to remain at the bedside in a direct care role?		
< 1 year	21	8
1-2 years	49	18
2-3 years	53	19
> 3 years	154	55
Have you changed jobs in your current hospital since you began employment?		
Yes	63	23
No	213	77
Missing	1	<1

If No, do you intend to look for another job in your current
hospital in the next 12 months? (n = 213)

Yes	77	36
No	136	64

Do you intend to look for a job outside of your current hospital
in the next 12 months?

Yes	115	41
No	162	59

How likely are you to leave the profession of nursing?

Likely/Very likely	20	7
Unsure	48	17
Unlikely/Very unlikely	208	75
Missing	1	<1

How likely are you to pursue an advanced education
pathway in nursing?

Likely/Very likely	196	71
Unsure	53	19
Unlikely/Very unlikely	27	10
Missing	1	<1

What is your time frame for pursuing an advanced education
pathway in nursing? (n = 196)

Within the next year	72	37
Within the next 2 years	42	21
Within the next 3 years	51	26
More than 3 years	30	15
Missing	1	<1

What advanced education pathway to you plan to
pursue? (n = 196)

MSN	100
Nurse Practitioner	86
BSN	77
DNP	71
PhD	13
Nursing Education	42
Nursing Leadership	24
Nurse Anesthetist	23
Clinical Nurse Specialist	20
Nurse Midwife	11
Nursing Informatics	10
Other	7

Career Adaptability

Levels of career adaptability of new graduate nurses are presented in Table 3. Of the four career adaptability resources, levels of confidence were highest, followed by levels of curiosity, control, and concern.

Table 3

Levels of Career Adaptability of New Graduate Nurses

CAAS-SF Scales	M	SD
Concern	3.6	.85
Control	3.8	.79
Curiosity	3.9	.74
Confidence	4.0	.76
Total CAAS-SF	3.8	.65

One way between groups ANOVAs were used to compare new graduate nurse CAAS-SF sub-scale and total scale scores with age, education level, months of clinical experience, whether they changed jobs, or intend to pursue advanced education. Findings reveal that mean sub scale and total scale scores increased with participant age, with the 21-25 group having the lowest mean sub scale and total scores and the 40+ group having the highest. Only the career adaptability resource of control was statistically significant ($p = .02$), with a small effect size (eta squared = .028). Other differences in mean sub scale and total scale scores for concern, curiosity, and confidence of the three groups based on age were not statistically significant.

Findings also reveal that participants with ADNs have higher mean curiosity and confidence sub scale scores, as well as total scale scores when compared with participants with BSNs. These differences, however, were not statistically significant.

When comparing months of clinical experience, the career adaptability resource concern was highest for those with one year or less of experience (M = 3.74, SD = .81), as compared to one to two years (M = 3.37, SD = .81), and two to three years (M = 3.52, SD = .88). This difference was statistically significant (p = .011), with a small effect size (Eta squared = .012). Other differences in mean sub scale and total scale scores for control, curiosity, and confidence of the three groups based on months of clinical experience were not statistically significant. Mean CAAS-SF sub scale scores and total scale scores were higher for those who changed jobs as compared to those who did not. There was, however, no statistically significant difference in sub scale or total scale scores between these two groups.

As presented in Table 4, mean sub scale scores for the career adaptability resource of concern, control, curiosity, and confidence, as well as the total scale score were statistically higher (p = < .05) for those who were likely or very likely to pursue advanced education as compared to those who were unsure, unlikely, or very unlikely. Concern, control, curiosity, confidence, and total scale findings had small effect sizes.

Table 4

Career Adaptability Differences Between Individuals Likely to Pursue Advanced Education and Those Unsure or Unlikely to Pursue Advanced Education

| CAAS-SF Scales | Unlikely to Pursue | | Likely to Pursue | | t (274) | p | η^2 |
	M	SD	M	SD			
Concern	3.31	0.82	3.67	0.84	3.26	.001	.037
Control	3.58	0.86	3.91	0.73	3.22	.001	.037
Curiosity	3.66	0.77	3.95	0.71	2.98	.003	.031
Confidence	3.79	0.77	4.04	0.74	2.51	.013	.023
Total	3.59	0.80	3.89	0.63	3.63	<.001	.046

Discussion

The aim of this study was to explore career intentions and career adaptability in new graduate nurses during the first 36 months of clinical practice. Findings provide new insight into the first three years of clinical practice for new graduate nursing, addressing the major limitation of previous studies that focused only on the first two years of clinical practice. Lastly, this study spawns a new area of career intentions and career adaptability in nursing.

New Graduate Nurse Career Intentions

Findings from this study supports instability of the new graduate nurse workforce, as well as the disruption and high costs noted in the literature (Beecroft, Dorey, & Wenten, 2008). It is of interest that 63 study participants, almost one-quarter of the new graduate nurses studied, had already changed jobs in their current hospital since beginning employment. Of those who had not changed jobs, 77 new graduate nurses intend to look for another job in their current hospital in

the next 12 months. Together, this accounts for more than 50% of the new graduate nurses studied who had changed jobs or will change jobs in their current hospital. These job changes result in additional orientation time, as well as cost and disruption to day to day clinical operations for hospitals.

In addition to intending to look for another job in their current hospital, 115 (41%) of the new graduate nurses studied intended to look for a job outside of their hospital in the next 12 months. This turnover creates even more cost and disruption for hospitals. Using $37,700 to $58,400 as the average cost of turnover for a bedside nurse, hospitals would collectively lose between 4.3 and 6.7 million dollars if all 115 new graduate nurses left their current hospital in the next 12 months (Nursing Solutions, Inc., 2016).

We should not be surprised by the desire to change jobs, particularly if the new graduate nurses are interested in jobs away from the bedside. When asked, over half of the new graduate nurses revealed that they will leave the bedside within three years. Hospitals cannot continue to be surprised when new graduate nurses pursue other job options within nursing.
The desire to change jobs, however, should not be confused with a desire to leave nursing.

Findings reveal that three-quarters of the new graduate nurses studied do not want to leave the profession of nursing. They are, however, interested in is advancing their education. Almost three-quarters of those studied are likely or very likely to pursue an advanced degree and over 80% will do so within three years.

To manage the inevitable new graduate nurse workforce churn, we must proactively work to close the gap between current hospital realities and what new graduate nurses need for professional and personal fulfillment. First, we must ask new graduate nurses what they want from their careers in nursing and where they see themselves in three years. While on boarding

through residency programs is important for ensuring clinical competence, millennial new graduates need more. Their experience must be individualized and by asking new graduate nurses about their career intentions and where they see themselves in three years. Then, we must individualize their on-boarding experience.

Existing mentorship and clinical ladder programs could be modified to align with a new graduate nurse's future career in nursing as only 55% of new graduate nurses intend to stay at the bedside more than three years. Almost half of the new graduate nurses studied plan to pursue nurse practitioner education. This is consistent with other research finding a 109% increase in nurse practitioners in the United States found between 2010 and 2017 (Auerbach et al., 2020). Through an enhanced mentorship program, a new graduate nurse could be paired with a practicing nurse practitioner. This experience may result in a continued interest in becoming a nurse practitioner or a desire to pursue other advanced education. Regardless of the outcome, the mentorship experience supports the new graduate nurse's career trajectory and intention to leave the bedside within three years.

New Graduate Nurse Career Adaptability

Findings from this study provide new information for nursing as no study has measured levels of career adaptability in new graduate nurses. Of interest is that levels of confidence are highest for new graduate nurses. On a scale of one to five, the mean score for confidence levels was 4.0, meaning that new graduate nurses have a high belief in their ability to face and solve job or career issues and achieve their career goals (Savickas & Porfeli, 2012). Curiosity, the new graduate nurses' exploration of alternatives for themselves and their environments, is also high with a mean of 3.9 (Savickas & Porfeli, 2012). Control or being conscious, deliberate, organized, and decisive about one's own career was high as well with a mean of 3.8 (Savickas & Porfeli,

2012). Levels of concern are lowest for new graduate nurses, with a mean of 3.6. This may indicate that new graduate nurses, as a whole are not future oriented.

Individual factors were also examined to better understand the difference in new graduate nurse CAAS-SF sub scale and total scale scores. Levels of education, such as being ADN or BSN prepared, and age, comparing the age groups 21-25, 26-39, and 40+ was not associated with differences in scores.

Years of clinical experience explained some of the differences in CAAS-SF sub-scale and total scale scores. The career adaptability resource concern was highest for those with one year or less of clinical experience. This finding reveals that new graduate nurses with one year of less of clinical experience are future-oriented and focused on constructing their careers. This finding may provide some insight into the new graduate nurses who leave their job in the first year.

NGN Career Intentions and Career Adaptability

Career intentions were also examined to better understand the difference in new graduate nurse CAAS-SF sub scale and total scale scores. Changing jobs since beginning employment or not changing jobs was not associated with differences in scores. The likelihood of pursuing an advanced education pathway, however, is associated with differences in new graduate nurse sub-scale and total scale scores. New graduate nurses who are likely to purse an advanced education pathway are future oriented, deliberate, decisive about their career, inquisitive, and confident in their ability to obtain their goals. Given that the increased levels of all four career adaptability resources and the total scale scores were statistically significant, these are the new graduate nurses who should have an individualized orientation and connection with a mentor in the education pathway of choice. It is important for hospitals to remember that it is unrelated to age, education, or months of clinical practice as evidenced by previous statistical analysis.

Future Research

This study is the first study of career adaptability of staff nurses in the hospital setting in the United States and the only study of the relationship between career intentions and career adaptability in nursing. Further study is needed. Additional analysis is also needed to better understand those nurses who are no longer working as staff nurses in a direct care role and those who had already changed jobs in their current hospital since beginning employment.

Limitations

Despite the high volume of prospective participants meeting inclusion criteria, there was only a 1.6% response rate. Response rates, however, may be lower for web-based surveys as compared to mailed surveys (Polit & Beck, 2017). Secondly, career adaptability and the CAAS-SF have never been used to research new graduate nurses, prospective participants may have been unwilling to participate or uninterested in the research topic. Lastly, the researcher did not include a career intention question related to being currently enrolled in an advanced education pathway. This would have been helpful when analyzing career intentions of new graduate nurses and the relationship with career adaptability.

Conclusions

Using CCT to study career intentions and career adaptability of new graduate nurses in the first three years of clinical practice presents a new perspective on the transition to clinical practice, consideration of career trajectories in nursing, and a new area of research for nursing. Traditional thinking has been to implement strategies, like residency programs, to retain new graduate nurses at the bedside. We have made assumptions about new graduate nurses based on hospitals' needs to retain new graduate nurses at the bedside with little recognition of the

individuality and variability of these new graduate nurses. And, we have missed the opportunity to foster new graduate nurses' careers in nursing,

These assumptions and approaches have come at great cost to hospitals and new graduate nurses themselves. We will best serve the new graduate nurse with encouragement and mentorship as they pursue new opportunities and advanced education pathways. Gone are the days when we spend time, money, and resources to keep new graduate nurses at the bedside and perceive their desire to pursue new opportunities or an advanced education pathway as failure, tracked by a hospital as turnover. New graduate nurses are thinking about their futures and their careers in nursing. It is important that we not only ask, but that we also listen. This is an exciting time in nursing and a time for innovative onboarding and mentoring approaches to foster new graduate nurse career aspirations and retain new graduate nurses within hospitals throughout their careers.

CHAPTER 5: WORK ENGAGEMENT AND CAREER ADAPTABILITY: INSIGHT INTO NEW GRADUATE NURSE RETENTION

Today, the ability to engage and retain new graduate nurses has become increasingly important for hospitals to gain a competitive advantage (Kovner et al., 2014). Work engagement, often characterized as work related vigor, dedication, and absorption, has been viewed as a function of working conditions and a balance between work demands and resources to meet those demands (Schaufeli & Bakker, 2006). In nursing, work engagement has been found to impact nursing turnover (Laschinger, 2012; Simpson, 2009b).

Career adaptability can be viewed as a personal resource used by new graduate nurses to adapt to the demands of the hospital practice environment and may also impact nursing turnover. Career adaptability is a predisposition for coping with professional responsibilities, traumas, and transitions (Savickas, 1997). This is a new concept for nursing but may provide insight into how new graduate nurses adapt to changes during the transition to clinical practice and throughout their careers in nursing. According to Savickas and Porfeli (2012), individuals with higher levels of career adaptability are often more ready to cope with work and adjust to unpredictable changes.

Career adaptability has been studied extensively in non-healthcare settings, particularly in vocational psychology (Savickas, 2013). It is unstudied in relation to the new graduate nurse transition to clinical practice. The purpose of this article is to explore the relationship among work engagement and career adaptability in new graduate nurses in the first 36 months of clinical practice. A second aim is to discuss the impact of career intentions, age, education level, and months of clinical practice on work engagement and career adaptability. This information

may be used to better understand the new graduate nurse transition to clinical practice and facilitate development of strategies to retain nurses within hospitals.

<div align="center">**Background**</div>

Work Engagement

Work engagement emerged in the nursing literature over the last 15 years, with early research focusing on non-healthcare settings and burnout (Bargagliotti, 2012). Across all disciplines, the most common definition of work engagement is "a positive work-related state of fulfillment that is characterized by vigor, dedication and absorption" (Schaufeli & Bakker, 2006, p. 701). Work engagement occurs when resources are adequate to meet job demands (Bakker & Demerouti, 2016). In contrast, burnout or other negative outcomes occur when resources are inadequate to meet job demands (Bargagliotti, 2011).

There is evidence linking work engagement to the career intentions of employees, historically measured as turnover in nursing studies (Simpson, 2009b). Low levels of work engagement were found to increase turnover intention in new graduate nurses in the first two years of clinical practice (Laschinger, 2012). Career intentions, such as desiring to change jobs or pursue advanced education, may therefore be viewed as the psychological by-product of the job resources to job demands ratio in the new graduate nurse transitioning to clinical practice.

Career Adaptability

Career adaptability, a concept studied extensively in vocational psychology, relates to an individual's problem-solving strategies and coping behaviors to deal with work transitions and traumas (Savickas & Porfeli, 2012). Career adaptability can be viewed as a personal resource used by new graduate nurses to successfully transition to clinical practice and develop a career in nursing.

Four specific career adaptability resources are used by individuals, including concern, control, curiosity, and confidence (Savickas & Porfeli, 2012). Concern is future-oriented and relates to constructing one's own career (Savickas, 2013). Control relates to being conscious, deliberate, organized, and decisive about one's own career (Savickas, 2013). Curiosity relates to being inquisitive and exploring options, providing a realistic and objective perspective about options (Savickas, 2013). Finally, confidence relates to self-efficacy and an individual's belief in their ability to obtain career goals (Savickas, 2013).

Few studies have explored career adaptability in nursing. International studies outside of nursing have explored career adaptability in relation to turnover intention and personal characteristics (Maggiori, Rossier, & Savickas, 2013). South African and Chinese studies found a positive relationship between higher levels of career adaptability and decreased turnover intention (Chan & Mei, 2015; Tiadinyane & Van der Merwe, 2016). An Australian study found that education level and age were positively correlated with levels of career adaptability (Zacher, 2014).

Two international studies explored career adaptability in undergraduate nursing students; however, no research on career adaptability in undergraduate students has been conducted in the United States. These Chinese studies found a positive association between career adaptability and positive clinical learning environments and experience as a student nurse leader (Tian & Fan, 2014; Fang, Zhang, Mei, Chai, & Fan, 2018).

Only one international study explored career adaptability in practicing nurses; however, no nursing research has been conducted in the United States. This Hungarian study translated the CAAS to Hungarian and explored the relationships between career adaptability and trait-based antecedents, adapting behaviors, and work-related outcomes (Pajic, Keszler, Kismmikok, Mol, &

Den Hartog, 2018). They found a positive correlation between levels of career adaptability and conscientiousness, proactive personality, career planning, and proactive skill development (Pajic et al., 2018).

Work Engagement and Career Adaptability Research

All studies examining work engagement and career adaptability focused on international populations outside of nursing. A significant positive relationship was found between levels of work engagement and level of career adaptability in South African insurance industry employees and Chinese employees (Tiadinyane and van der Merwe, 2016; Yang, Feng, Meng, & Qui, 2019; Chen, Liu, & Chen, 2018). Coetzee, Ferrier, and Shunmugum (2017) found that increased confidence, one of the four career adaptability resources, and age predicted work engagement in South African media industry employees. While no research has explored work engagement and career adaptability in nursing or in the United States, these international non-nursing studies suggest the viability of linking these concepts for research and evaluation in nursing.

Conceptual Model

To structure a study to explore relationships among work engagement and career adaptability in nursing, the job demands-resources (JD-R) model was used to guide the study (Bakker & Demerouti, 2016). The research model is presented in Figure 3. The JD-R model posits that the balance between job demands and job resources determines the work engagement of an employee (Bakker & Demerouti, 2016). Job demands, sometimes referred to as the work itself, are the "physical, psychological, social, or organizational aspects of the job that require sustained physical or psychological effort and are therefore associated with certain physiological and/or psychological costs" (Bakker & Demerouti, 2016, p.274; Keyko et al., 2016). Job resources are the "physical, psychological, social, or organizational aspects of the job" that

enables the employee to get the work done (Bakker & Demerouti, 2016, p. 274). In this study,

career adaptability is considered a job resource and work engagement is an outcome. It is

postulated that both career adaptability and work engagement contribute to new graduate nurse

career intentions, most often measured as turnover intention. In this study, however, career

intentions are broader and encompasses the voluntary, planned desire to change jobs, employers,

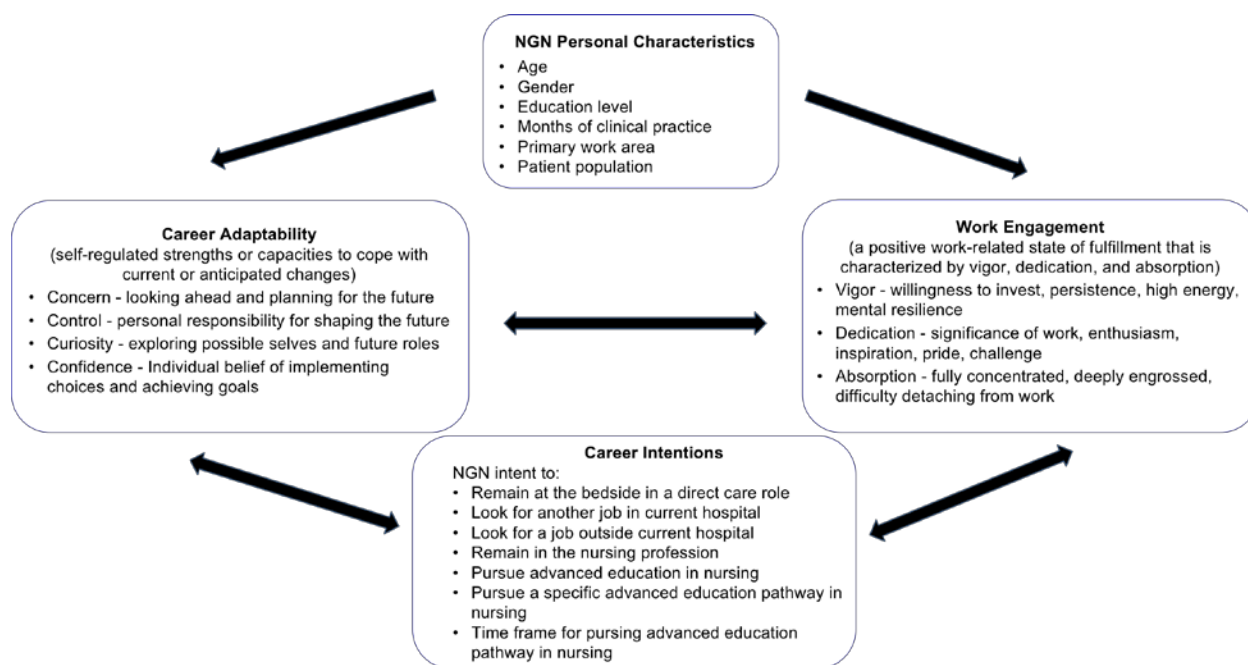professions, or education preparation within a 36-month period.

Figure 3. Research Model

Methods

A cross-sectional descriptive quantitative research design was used in this study to

explore relationships among career adaptability, work engagement, and career intentions of new

graduate nurses. Institutional Review Board approval was obtained prior to survey distribution.

Sample and Setting

A purposive convenience sample of 19,672 registered nurses was drawn from a North Carolina Board of Nursing (NCBON) dataset, which included email addresses (when available), practice setting, position of employment, field of employment, and date originally licensed as a registered nurse in North Carolina. Inclusion criteria for study participation were being licensed as a registered nurse, working in an acute care hospital, having a valid email address, and acquiring an original North Carolina license within the last 36 months. Participants were removed from the email distribution group (n = 331) when emails were returned as undeliverable, adjusting the sample size to 19,338 prospective participants.

Data Collection

Registered nurses were invited to participate in the study via an email that provided a link to the REDCap study instrument. Completion of the survey was estimated to take five to ten minutes. Three reminder emails were sent at two-week intervals during the eight-week data collection period. To incentivize participation, registered nurses who completed the survey were eligible to participate in a gift card drawing.

Measurement

The 36 item REDCap study instrument included 12 items from the Career Adapt-Abilities Scale – Short Form (CAAS-SF), nine items from the Utrecht Work Engagement Scale (UWES-9), nine researcher-developed career intentions questions, and six researcher developed demographic characteristics questions.

Career Adapt-Abilities – Short Form

The 12-item CAAS-SF was used to measure career adaptability. Original confirmatory factor analysis of the CAAS-SF instrument suggested a four-factor solution, accounting for 73.34% of the variance (Maggiori et al., 2015). Using a 5-point Likert scale ranging from one for

"not strong" to five for "strongest", three items measured each of the four adaptability resources, concern, control, curiosity, and confidence (Maggiori et al., 2015). Responses measure how intensely an individual has developed each of the career adaptability resources, resulting in mean values on each of the four sub-scale scores (range 1 to 5) and a total summed score (range 12 to 60) (Maggiori et al., 2015). Career adaptability increases along each of the four adaptability resources. Higher levels of concern, control, curiosity, and confidence are expected of those who have higher levels of career adaptability (Savickas & Porfeli, 2012). Those with lower levels of career adaptability resources may have difficulty or be unable to cope with change and regulation of strengths or capabilities (Savickas & Porfeli, 2012).

Utrecht Work Engagement Scale

The 9-item UWES was used to measure work engagement. Original testing suggested the three-factor model was found to be superior to the one-factor model, with RMSEA of .04 and CFI was .96 (Schaufeli & Bakker, 2006). Using a 7-point Likert scale ranging from zero for "never" to six for "always", three items measure each of the three dimensions of work engagement: vigor, dedication, and absorption, (Schaufeli & Bakker, 2004). Responses measure how frequently an employee has the feelings while at work, resulting in a mean value on the four sub-scale scores (range zero to six) and a total summed score (range zero to 54) (Schaufeli & Bakker, 2004). Higher scores on vigor indicate more energy and stamina and lower scores indicate less energy and stamina (Schaufeli & Bakker, 2004). Higher scores on dedication indicate strong identification with work and lower scores indicate less identification with work (Schaufeli & Bakker, 2004). Higher scores on absorption indicate engrossment and immersion in work and lower scores indicate being less engrossed and immersed in work (Schaufeli & Bakker, 2004).

Career Intentions and Personal Characteristics

Using yes/no responses, 5-point Likert scale responses, or selection from a list of advanced education pathway and timeframe options, nine researcher-developed questions informed by relevant literature were used to measure career intentions. For study purposes, career intentions were defined as the degree of new graduate nurse desire to voluntarily change jobs, employers, professions, or educational preparation within 36 months. Six additional researcher developed questions informed by relevant literature were used to gather data regarding age, gender, education level, months of clinical practice, primary work area, and patient population.

Data Analysis

Descriptive statistics, including means and standard deviations, were used to describe the study participants and scales of the CAAS-SF and UWES-9. Pearson correlations were used to examine the relationships among the CAAS-SF and UWES-9 total scores and subscale scores and career intentions subgroups. ANOVAs were used to examine mean differences between the demographic subgroups on the CAAS-SF and UWES-9 subscales and career intentions subgroups. Standard multiple linear regression was used to assess if career adaptability, changing or intending to change jobs, age, years of clinical experience, or intention to pursue an advanced education pathway were predictors of work engagement.

Results

During the eight-week data collection period, 315 (1.6%) of the 19,341 registered nurses meeting inclusion criteria completed the study instrument. Thirty-eight registered nurses were removed from the sample because they were not working as staff nurses or did not indicate if

they were or were not working as staff nurses. Data analysis was calculated based on data gathered from the 277 registered nurses working as staff nurses.

Personal Characteristics

Participant personal characteristics are presented in Table 1. The majority of participants were female (87%). Mean age was 31.8 years, with 77% of the participants ages 21 to 39. The majority of participants held a BSN (55%) or ADN (42%), with few holding an MSN (2%) or a PhD (< 1%). Clinical experience was divided almost equally among participants, with slightly more than one-third having one year of experience, slightly less than one-third with one to two years of experience, and exactly one-third with two to three years of experience. The majority of participants worked in general care (39%) or critical care (28%), with the remainder working in emergency care (17%), obstetrics (7%), operating room (4%), psychiatry/mental health (2%), rehabilitation (2%), and post anesthesia care (1%). Sixty four percent of participants cared for adults, 27% cared for adult and pediatric patients, and 9% cared for pediatric patients < 18 years of age.

Table 5

New Graduate Nurse Personal Characteristics (N = 277)

Characteristic	n	%
Age		
21-25	99	36
26-39	114	41
40+	57	21
Missing	7	2
Highest education level		
ADN	116	42
BSN	151	55
MSN	6	2
PhD	1	<1
Missing	3	1
Months of clinical experience		
0-12 months	111	40
13-24 months	76	28
25-36 months	90	33

Career Intentions

Of the 277 new graduate nurses, 23% had already changed jobs in their current hospital since beginning employment. Of those who had not changed jobs, 36% intended to look for another job in their current hospital within the next 12 months. Almost half of all participants (41%) intended to look for a job outside of their current hospital within the next 12 months. Almost half of the study participants (45%) intended to leave the bedside within three years. One-quarter reported they were very likely, likely, or unsure about leaving the profession of nursing.

Almost three-quarters (70%) of study participants were very likely or likely to pursue advanced education. Nearly 40% intended to pursue advanced education within the next year, 47% in the next 2 to 3 years, and the remaining participants in more than 3 years. Advanced education pathways of most interest were MSN (51%), nurse practitioner (44%), BSN (36%), and DNP (36%).

Levels of career adaptability and work engagement for new graduate nurses are presented in Table 2. Mean total scale score on CAAS-SF for new graduate nurses was 3.8 on a scale of one to five. Of the four career adaptability resources, levels of confidence were highest, followed by levels of curiosity, control, and concern. Mean total scale score on UWES-9 for new graduate nurses was 3.8 on a scale of one to five. Of the three work engagement components, levels of dedication are highest, followed by levels of absorption, and vigor.

Table 6

Levels of Career Adaptability and Work Engagement of New Graduate Nurses

CAAS-SF and UWES-9 Scales	M	SD
Concern	3.6	.85
Control	3.8	.79
Curiosity	3.9	.74
Confidence	4.0	.76
Total CAAS-SF	3.8	.65
Vigor	3.4	1.26
Dedication	4.3	1.16
Absorption	3.8	1.12
Total UWES-9	3.8	1.06

All correlations between CAAS-SF and UWES-9 sub scales and total scale scores were found to be statistically significant (p = < .05). To further explore these relationships, personal characteristics, such as age, education level and years of clinical experience, were examined to understand the difference in the new graduate nurse CAAS-SF and UWES- 9 sub scale and total scale scores. Three age groups of 21-25, 26-39, and 40+ were compared with career adaptability and work engagement scores, with only the career adaptability resource of control being associated with differences in scores (p = .02) and that difference had a small effect size. Education at the ADN and BSN levels were not associated with differences in work engagement or career adaptability scores.

Differences in the work engagement dimensions of vigor, dedication, absorption and total UWES scale (p = < .05) by years of clinical experience were statistically significant (p = < .05), with small effect sizes. New graduate nurses with one year of experience had significantly higher levels of vigor, dedication, and total engagement than those with two years of clinical experience and significantly higher levels of absorption than those with three years of clinical experience.

Standard multiple linear regression was used to assess how well the predictor variables of career adaptability, changing or intending to change jobs, age, years of clinical experience, or intention to pursue an advanced education pathway predicted work engagement, and the relative importance of each of the predictors in predicting work engagement. Preliminary analyses were conducted to ensure there was no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. Table 3 presents the results of the multiple regression model. After entering all the predictor variables into the model, the predictors accounted for 26.2% of the total variability in work engagement. Career adaptability, after controlling for the variance explained by the other predictors, made the strongest unique contribution in explaining

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the variability in work engagement (beta = .435). The next most important predictor was job change or intention to change jobs (beta = -.212), followed by age (beta = .122). None of the other predictors were statistically significant.

Table 7

Regression Analysis Summary for Career Adaptability, Job Change or Intention to Change Job, Age, Intention to Pursue Advanced Education, and Years of Clinical Experience Predicting Work Engagement

Variable	B	SE B	β	t	p
Constant	1.194	.349	-	3.42	.001
Career Adaptability	.705	.090	.435	7.87	<.001
Change/Intend to Change Job	-.472	.121	-.212	3.89	<.001
Age	.268	.121	.122	2.21	.028
Pursue Advanced Education	.199	.129	.084	1.54	.124
Years of Clinical Experience	.119	.122	.055	.975	.330

Note. N = 268. Model R = .512, Model R^2 = .262, F (5, 263) = 18.67, p < .001.

Discussion

The purpose of this study was to explore the relationships between work engagement and career adaptability, and the influence of career intentions, age, education level, and clinical experience during the first 36 months of clinical practice. This is the first study to provide insight into how career adaptability influences work engagement and provides a new lens to view new graduate nurse retention. Findings also support the importance of identifying the career intentions of new graduate nurses and fostering their career trajectories while working as staff nurses in hospitals. The findings from this study provide empirical direction for future research

on work engagement and career adaptability in nursing and a novel approach to understanding the theoretical underpinning of work engagement.

Work Engagement and Career Adaptability

This study provides new insight into the strong relationship between work engagement and levels of career adaptability in new graduate nurses. Of interest is that all work engagement sub scale and total scale scores correlated with and all career adaptability sub scales and total scale scores. Career adaptability is a personal resource and one that new graduate nurses bring with them to clinical practice and their careers in nursing. Work engagement, on the other hand, occurs over time and develops after the new graduate nurse has transitioned to clinical practice within the hospital. Measuring levels of career adaptability of new graduate nurses provides a window into the future by understanding their ability successfully transition to clinical practice and developing careers in nursing (Savickas & Porfeli, 2012). Understanding the relationship between career adaptability and work engagement, and subsequently retention, nurse educators and nurse leaders are uniquely positioned to use this information to facilitate successful transitions to clinical practice and retention within the hospital.

Career Adaptability and Career Intentions

Understanding career adaptability provides a new lens to view new graduate nurse career intentions and informs potential strategies to foster career growth and retention within hospitals. It is of interest that the career adaptability resource of confidence (M = 4.0, SD = .76) was highest, relating to the new graduate nurse's belief in their ability to face and solve job or career issues and achieve career goals (Savickas & Porfeli, 2012). This finding contrasts with other nursing research finding a lack of confidence in new graduate nurses (Ortiz, 2016). Understanding a new graduate nurse's level of confidence is important because new graduate

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nurses who lack confidence may inhibit their ability to successfully transition to the clinical practice environment or achieve their goals (Savickas, 2013).

Levels of the career adaptability resource of curiosity, relating to the exploration of alternatives for themselves and their environment, are also important to understand as it provides insight into new graduate nurses who are likely to change jobs or leave the hospital (Savickas & Porfeli, 2012). In the study population, high levels of curiosity were reflected in the 25% of new graduate who had already changed jobs in their current hospital since beginning employment and the additional 36% who intended to look for another job in their current hospital in the next 12 months. Additionally, 41% of new graduate nurses who intended to look for a job outside of their hospital in the next 12 months.

High levels of control demonstrated the ability of the new graduate nurses in the study to shape their own future, using effort, persistence, and self-discipline in facing challenges (Savickas & Porfeli, 2012). High levels of control were demonstrated in the new graduate nurses by the staggering 45% who intended to leave the bedside within three years.

Lastly, concern relates to the new graduate nurse's ability to look ahead and plan for their future in nursing (Savickas & Porfeli, 2012). New graduate nurses who lacks concern may be indifferent or lack a plan (Savickas, 2013). Study finding demonstrated that concern was the least developed of the four career adaptability resources, however, concern is demonstrated by the 70% of new graduate nurses in the study who were very likely or likely to pursue advanced education. In addition, 40% intended to return to school within the next year. Of those, 58% intend to return within 2 years. This finding is consistent with the literature, with millennial nurses valuing education (Faller, 2018)

It is important to note that mean levels of career adaptability were high in the study population, indicating that these new graduate nurses have the ability to transition successfully to clinical practice and the resources to develop careers in nursing (Savickas, 2013). In contrast, low levels of career adaptability would have indicated that these new graduate nurses may have difficulty or be unable to cope with the transition to clinical practice or develop careers in nursing (Savickas, 2013). This difficulty or inability may then lead to decreased work engagement and increased nursing turnover.

Career adaptability is a predictor of work engagement and work engagement leads to retention; therefore, identifying levels of career adaptability and intervening with new graduate nurses early in the transition to clinical practice may be essential for retention in hospitals. Hospitals should measure and proactively plan for the new graduate nurse's ability to successfully transition to clinical practice, desire to changes jobs, intention to leave the bedside, and desire to pursue advanced education. Measurement of levels of career adaptability and career intentions can be completed during onboarding or incorporated into an existing residency program. Having knowledge of these levels of career adaptability and career intentions may allow for successful transition to clinical practice and retention within hospitals through individualization of strategies to support their careers in nursing.

Career Adaptability and Personal Characteristics

Findings regarding the influence of age, education level, and months of clinical experience provided little insight into the transition of new graduate nurses or the likelihood of impacting new graduate nurse turnover. Only the career adaptability resource of control was associated with age, which may mean that older nurses have more maturity or life experience when shaping their own future or using effort, persistence, and self-discipline to face work

related challenges (Johnston, 2018). This finding is similar to Zacher's (2014) Australian study, which found that age was positively correlated with levels of career adaptability.

Education and was not associated with any differences in levels of career adaptability. This finding differs from the positive relationship found in other studies (Rudolph et. al, 2017; Zacher, 2014). Perhaps the difference in findings is related to differences in study populations, as Zacher (2014) studied Australian employees.

The career adaptability resource of concern was highest in new graduates with less clinical experience. This may indicate that new graduate nurses are more focused on looking ahead and planning for their future in nursing than those with more clinical experience who may have adapted and decided to stay where they are in nursing. Perhaps those with more clinical experience have had more time to achieve the future they desired in nursing; therefore, it is no longer as high of a priority. There are no other nursing studies for comparison; therefore, this finding serves as the foundation for the influence of years of clinical experience on career adaptability of new graduate nurses.

Recommendations for Nurse Leaders

Understanding levels of career adaptability of new graduate nurses as they transition to the hospital practice setting provides insight into new graduate nurses who are likely to change jobs, leave the bedside, leave the hospital, or pursue advanced education. It also provides an opportunity to assist new graduate nurses with identification of career interests and goals, strategies to pursue goals, and facilitate career related decision making to increase career adaptability, work engagement, and retention in hospitals (Koen et al., 2012). Armed with this new knowledge, nurse educators and nurse leaders could ensure that new graduate nurses are mentored throughout the first 36 months of clinical practice and their careers in nursing. Having

this knowledge of career adaptability and modifying how we interact with new graduates as they transition to clinical practice allows for proactive planning, which could lead to future work engagement and may impact retention of new graduate nurses in hospitals.

Limitations

While response rates for web-based surveys are traditionally lower, a response rate of 1.6% was much lower than anticipated given the high volume of registered nurses meeting inclusion criteria (Polit & Beck, 2017). Having university or community college email addresses on record with the NCBON was also an unanticipated and resulted in 331 emails returning as undeliverable. The concept of career adaptability is new to nursing and career adaptability and work engagement have never been studied together in nursing; therefore, participants may have been unfamiliar with or uninterested in these concepts or the CAAS-SF used to measure career adaptability. Lastly, an additional career intentions question asking if participants were enrolled in an advanced education pathway program would have provided valuable insight into the career intentions of new graduate nurses.

Conclusions

The purpose of this study was to explore the relationship between work engagement and career adaptability in new graduate nurses in the first 36 months of clinical practice. A second aim was to explore the impact of career intentions, age, education level, and months of clinical practice on work engagement and career adaptability. Study findings demonstrate that new graduate nurses are aware of and plan for a career in nursing. In addition, findings demonstrate that new graduate nurses have the ability to explore alternatives for themselves and their environments, shape themselves and their environment, use effort, persistence, and self-

discipline in facing challenges, and have the self-confidence to face and solve job and career problems.

This new knowledge of career adaptability and work engagement will increase hospital educators and leadership's understanding of new graduate nurse career intentions and will aid in the reduction of turnover intention within the first 36 months. In addition, it will facilitate implementation of strategies to increase career adaptability and work engagement and develop career development programs to support successful career trajectories within the hospital.

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APPENDIX A: UNIVERSITY & MEDICAL CENTER INSTITUTIONAL REVIEW BOARD APPROVAL

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** ·
rede.ecu.edu/umcirb/

Notification of Initial Approval: Expedited

From: Biomedical IRB
To: Christine Walden
CC:
            Elaine Scott
Date: 10/9/2019
Re: UMCIRB 18-001581
            Exploring Relationships among Career Adaptability, Work Engagement, and Career Intentions of New
            Graduate Nurses

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) occurred on 10/8/2019. The research study is eligible for review under expedited category # 7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a Final Report application to the UMCIRB prior to the Expected End Date provided in the IRB application. If the study is not completed by this date, an Amendment will need to be submitted to extend the Expected End Date. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Name	Description
CAAS-SF permission	Surveys and Questionnaires
CWalden Dissertation Proposal	Study Protocol or Grant Application
REDCap Partcipant Survey Instrument	Data Collection Sheet
REDCap Partcipant Survey Instrument	Surveys and Questionnaires
REDCap Participant Incentive Option	Surveys and Questionnaires
Study Participant Recruitment and Reminder Emails	Consent Forms
Study Participant Recruitment and Reminder Emails	Recruitment Documents/Scripts

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

APPENDIX B: VARIABLES, DEFINITIONS, AND MEASUREMENTS

Variable	Theoretical Definition	Operational Definition	Measurement
Work Engagement	"A positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption" (Schaufeli & Bakker, 2006, p. 701).	The degree of vigor, dedication, and absorption a new graduate nurse has about his/her current job.	Total summed score (range 0 to 54) on the 9-item Utrecht Work Engagement Scale.
Vigor	An employee's feelings of energy, resilience, and excitement for work (Schaufeli & Bakker, 2006).	The degree of vigor a new graduate nurse has about his/her job.	Sub-scale scores (range 0 to 6) on the 9-item Utrecht Work Engagement Scale, measured by three items: "At my work, I feel bursting with energy", "At my job, I feel strong and vigorous", and "When I get up in the morning, I feel like going to work" (Schaufeli & Bakker, 2006, p. 714).
Dedication	An employee's devotion to their work, being inspired, prideful, and feeling that the work has a purpose (Schaufeli & Bakker, 2006).	The degree of dedication a new graduate nurse has about his/her current job.	Sub-scale scores (range 0 to 6) on the 9-item Utrecht Work Engagement Scale, measured by three items: "I am enthusiastic about my job", "My job inspires me", and "I am proud of the work that I do" (Schaufeli & Bakker, 2006, p. 714).

Absorption	An employee being immersed or engrossed in their work, with time losing its relevance or passing quickly (Schaufeli & Bakker, 2006).	The degree of absorption a new graduate nurse has about his/her current job.	Sub-scale scores (range 0 to 6) on the 9-item Utrecht Work Engagement Scale, measured by three items: "I feel happy when I am working intensely", "I am immersed in my work", and "I get carried away when I am working" (Schaufeli & Bakker, 2006, p. 714).
Career Adaptability	"A psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions, and traumas in their occupational roles" (Savikas & Porfeli, 2012, p. 662).	The degree of concern, control, curiosity, and confidence a new graduate nurse has about his/her job and future.	Total summed score (range 1 to 60) on the 12-item Career Adapt-Abilities Scale-Short Form
Concern	An employee's ability to be aware of and plan for a career future (Savikas & Porfeli, 2012).	The degree of concern a new graduate nurse has for his/her future.	Sub-scale scores (1 to 5) on the 12-item Career Adapt-Abilities Scale-Short Form, measured by three items: "Thinking about what my future may be like", "Preparing for the future", and "Becoming aware of the educational and vocational choice that I must make" (Maggiori, Rossier, & Savickas, 2017, p. 11).

Control	An employee's ability to shape themselves and their environment and to use effort, persistence, and self-discipline in facing challenges (Savikas & Porfeli, 2012)	The degree of control a new graduate nurse has to shape themselves and their environment and to use effort, persistence, and self-discipline in facing challenges.	Sub-scale scores (1 to 5) on the 12-item Career Adapt-Abilities Scale-Short Form, measured by three items: "Making decisions by myself", "Taking responsibility for my actions", and "Counting on myself" (Maggiori, Rossier, & Savickas, 2017, p. 11).
Curiosity	An employee's ability to explore alternatives for themselves and their environments (Savikas & Porfeli, 2012).	The degree of curiosity a new graduate nurse has about exploring alternatives for themselves and their environment.	Sub-scale scores (1 to 5) on the 12-item Career Adapt-Abilities Scale-Short Form, measured by three items: "Looking for opportunities to grow as a person", "Investigating options before making a choice", "Observing different ways of doing things" (Maggiori, Rossier, & Savickas, 2017, p. 11).
Confidence	An employee's self-confidence about facing and solving job and career problems (Savikas & Porfeli, 2012).	The degree of confidence a mew graduate nurse has to face and solve job and career problems.	Sub-scale scores (1 to 5) on the 12-item Career Adapt-Abilities Scale-Short Form, measured by three items: "Taking care to do things well", "Learning new skills", and "Working up to my ability" (Maggiori,

Career Intentions	The voluntary desire to change roles, organization, profession, or education preparation in the future	The degree of desire a new graduate nurse has to voluntarily change jobs, employers, professions, or educational preparation.	Rossier, & Savickas, 2017, p. 11). Total sum scores on 7 researcher developed questions using a 5-point Likert scale ranging from 1 for Very Unlikely to 5 for Very Likely: "How likely are you to remain as a staff nurse at the bedside in a direct care role?", "How likely are you to look for a job on another unit in this hospital within the next 12 months?", "How likely are you to look for a job in another hospital within the next 12 months?", "How likely are you to leave the profession of nursing?", "How likely are you to pursue advanced education in nursing?." If the participant answers the question "How likely are you to pursue advanced education in nursing?" with the responses "likely" or "very likely", two additional questions will be asked, including "Which of the following advanced education pathways in nursing

are you planning to pursue?, with the participant selecting from a list of nursing advanced education pathway options and "What is your time frame for pursing an advanced education pathway in nursing?", with the participant selecting from a list of timeframes.

APPENDIX C: CAREER ADAPT-ABILITIES SCALE – SHORT FORM

Different people have different strengths to build their careers. Please rate how strongly you have developed each of the following abilities using the 5-point Likert scale Strongest, Very Strong, Strong, Somewhat Strong, Not Strong

1. Thinking about what my future will be like

2. Preparing for the future

3. Becoming aware of the educational and vocational choices that I must make

4. Making decisions by myself

5. Taking responsibility for my actions

6. Counting on myself

7. Looking for opportunities to grow as a person

8. Investigating options before making a choice

9. Observing different ways of doing things

10. Taking care to do things well

11. Learning new skills

12. Working up to my ability

APPENDIX D: CAREER ADAPT-ABILITIES SCALE – SHORT FORM PERMISSION

Re: Permission to use the CAAS-SF in doctoral research

Maggiori Christian <Christian.Maggiori@hefr.ch>

Mon 08/19/2019 03:48 AM

To:Walden, Christine Martin <waldenc82@students.ecu.edu>;

1 attachments (2 KB)

inconnu.png;

Dear Christine Walden

Thank you very much for your e-mail. Regarding your request, of course you can use the CAAS-SF (is a free-licence questionnaire) and we are glad that others researchers will integrate the questionnaire their research protocol. If you have any question, please don't hesitate to contact me.

I wish you a good continuation of the day and good luck for your project!

Best Regards,

Christian

Christian Maggiori

[cid:20CA8CB9-88CD-4814-9243-26AF7B37D691@fritz.box]Christian Maggiori ▪ Professor
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christian.maggiori@hefr.ch<mailto:christian.maggiori@hefr.ch> ▪ www.hets-fr.ch<http://www.hets-fr.ch/>

https://www.researchgate.net/profile/Christian_Maggiori

Le 4 août 2019 à 18:05, Walden, Christine Martin
<waldenc82@students.ecu.edu<mailto:waldenc82@students.ecu.edu>> a écrit :

Good morning Dr. Maggiori

My name is Christine Walden and I am an doctoral student in the College of Nursing at East Carolina
University in Greenville, North Carolina in the United States. My dissertation focuses on relationships among

APPENDIX E: UTRECHT WORK ENGAGEMENT SCALE (UWES-9)

Work and Well-Being Survey

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, select the '0' (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by selecting the number (from 1 to 6) that best describes how frequently you feel that way.

Almost never	Rarely	Sometimes	Often	Very Often	Always
0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

1. _____ At my work, I feel bursting with energy (VI1)
2. _____ At my job, I feel strong and vigorous (VI2)
3. _____ I am enthusiastic about my job (DE2)
4. _____ My job inspires me (DE3)
5. _____ When I get up in the morning, I feel like going to work (VI3)
6. _____ I feel happy when I am working intensely (AB3)
7. _____ I am proud of the work that I do (DE4)
8. _____ I am immersed in my work (AB4)
9. _____ I get carried away when I'm working (AB5)

Note: VI = Vigor Scale; DE = Dedication scale; AB = Absorption scale

Source: Schaufeli and Bakker (2003)

APPENDIX F: CAREER INTENTIONS

Please respond to the following nine statements regarding career intention using yes or no, a 5-point Likert scale Very Unlikely, Unlikely, Unsure, Likely, Very Likely or selecting from a list of options

1) Are you currently working as a staff nurse in a direct care role? Y/N

2) If YES, how long do you intend to remain at the bedside in a direct care role? < 1 year, 1-2 years, 2-3 years, > 3 years

3) Have you changed jobs in your current hospital since you began employment? Y/N

4) If NO, do you intend to look for another job in your current hospital within the next 12 months? Y/N

5) Do you intend to look for a job outside of your current hospital in the next 12 months? Y/N

6) How likely are you to leave the profession of nursing?   Very Unlikely, Unlikely, Unsure, Likely, Very Likely

7) How likely are you to pursue advanced education in nursing?   Very Unlikely, Unlikely, Unsure, Likely, Very Likely

8) Which of the following advanced education pathways in nursing are you planning to pursue? Select all that apply
   a) BSN
   b) MSN
   c) DNP
   d) PhD
   e) Clinical Nurse Specialist
   f) Nurse Anesthetist
   g) Nursing Education
   h) Nursing Informatics
   i) Nursing Leadership
   j) Nurse Midwife
   k) Nurse Practitioner
   l) Other _____

9) What is your time frame for pursing an advanced education pathway in nursing?
   a. within the next 1 year
   b. within the next 2 years
   c. within the next 3 years
   d. more than 3 years

APPENDIX G: PERSONAL CHARACTERISTICS

Please select the answer that best describes you
1) Age. Enter the number
2) Gender. Select one option
   a. Male
   b. Female
   c. Non-binary/third gender
   d. Prefer to self-describe _____
   e. Prefer not to say
3) Highest education level
   a. ADN
   b. BSN
   c. MSN
   d. DNP
   e. PhD
4) Months of clinical practice. Select one option
   a. < 6 months
   b. 7 months-12 months
   c. 13 months to 18 months
   d. 19 months-24 months
   e. 25 months-30 months
   f. 31-36 months
5) Primary clinical work area or unit in the hospital. Select one option
   a. General care
   b. Critical care
   c. Emergency care
   d. Obstetrics
   e. Operating Room
   f. Post Anesthesia Care Unit
   g. Rehabilitation
   h. Psychiatry/Mental Health
   i. Other _____
6) Population in your primary clinical work area or unit in the hospital. Select one option
   a. Adults > 18 years of age
   b. Pediatrics < 18 years of age
   c. Adults and Pediatrics

APPENDIX H: REDCAP SURVEY INSTRUMENT

Exploring Career Adaptability, Work Engagement, and Career Intentions

Thank you for completing the survey below. Your answers will provide important insight into how new graduate nurses experience the transition from the academic setting to clinical practice and throughout the first 36 months of clinical practice.

Career Adapt-Abilities Scale - Short Form

Different people have different strengths to build their careers. Please rate how strongly you have developed each of the following abilities using the 5-point Likert scale Not Strong, Somewhat Strong, Strong, Very Strong, Strongest.

	Not Strong	Somewhat Strong	Strong	Very Strong	Strongest
1. Thinking about what my future will be like	O	O	O	O	O
2. Preparing for the future	O	O	O	O	O
3. Becoming aware of the educational and vocational choices that I must make	O	O	O	O	O
4. Making decisions by myself	O	O	O	O	O
5. Taking responsibility for my actions	O	O	O	O	O
6. Counting on myself	O	O	O	O	O
7. Looking for opportunities to grow as a person	O	O	O	O	O
8. Investigating options before making a choice	O	O	O	O	O
9. Observing different ways of doing things	O	O	O	O	O
10. Taking care to do things well	O	O	O	O	O
11. Learning new skills	O	O	O	O	O
12. Working up to my ability	O	O	O	O	O

Work and Well-Being Survey

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, select the '0' (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by selecting the number (from 1 to 6) that best describes how frequently you feel that way.

0/Never	1/Almost never/A few times a year or less	2/Rarely/ Once a month or less	3/Sometimes/ A few times a month	4/Often/ Once a week	5/Very often/A few times a week	6/Always/ Every day

projectredcap.org   **REDCap**

At my work, I feel bursting with energy	O	O	O	O	O	O	O
At my job, I feel strong and vigorous	O	O	O	O	O	O	O
I am enthusiastic about my job	O	O	O	O	O	O	O
My job inspires me	O	O	O	O	O	O	O
When I get up in the morning, I feel like going to work	O	O	O	O	O	O	O
I feel happy when I am working intensely	O	O	O	O	O	O	O
I am proud of the work that I do	O	O	O	O	O	O	O
I am immersed in my work	O	O	O	O	O	O	O
I get carried away when I'm working	O	O	O	O	O	O	O

Career Intentions

The following 9 questions are about your career intentions. Please respond to each question by selecting Yes or No, selecting from a list of options or using the 5-point Likert scale Very Unlikely, Unlikely, Unsure, Very Likely, Very Unlikely.

Are you currently working as a staff nurse in a direct care role?	O Yes O No
If YES, how long do you intend to remain at the bedside in a direct care role?	O < 1 year O 1-2 years O 2-3 years O > 3 years
Have you changed jobs in your current hospital since you began employment?	O Yes O No
If NO, do you intend to look for another job in your current hospital within the next 12 months?	O Yes O No
Do you intend to look for a job outside of your current hospital in the next 12 months?	O Yes O No
How likely are you to leave the profession of nursing?	O Very Unlikely O Unlikely O Unsure O Likely O Very Likely

How likely are you to pursue advanced education in nursing?	○ Very Unlikely ○ Unlikely ○ Unsure ○ Likely ○ Very Likely
Which of the following advanced education pathways in nursing are you planning to pursue? Select all that apply	☐ BSN ☐ MSN ☐ DNP ☐ PhD ☐ Clinical Nurse Specialist ☐ Nurse Anesthetist ☐ Nursing Education ☐ Nursing Informatics ☐ Nursing Leadership ☐ Nurse Midwife ☐ Nurse Practitioner ☐ Other
Other:	_____
What is your time frame for pursing an advanced education pathway in nursing?	○ within the next 1 year ○ within the next 2 years ○ within the next 3 years ○ more than 3 years

Personal Characteristics
Please select the answer that best describes you

Age. Enter the number	_____
Gender. Select one option	○ Male ○ Female ○ Non-binary/third gender ○ Prefer to self-describe ○ Prefer not to say
Prefer to self-describe	_____
Highest education level. Select one option	○ ADN ○ BSN ○ MSN ○ DNP ○ PhD
Months of clinical practice. Select one option	○ < 6 months ○ 7 months-12 months ○ 13 months to 18 months ○ 19 months-24 months ○ 25 months-30 months ○ 31-36 months

Primary clinical work area or unit in the hospital. Select one option	○ General care ○ Critical care ○ Emergency care ○ Obstetrics ○ Operating Room ○ Post Anesthesia Care Unit ○ Rehabilitation ○ Psychiatry/Mental Health
Patient population in your primary work area or unit in the hospital. Select one option	○ Adults > 18 years of age ○ Pediatrics < 18 years of age ○ Adults and Pediatrics

APPENDIX I: RECRUITMENT EMAIL

Email Subject: Exciting Research Opportunity that May Change How New Nurses Transition to Clinical Practice

Hello prospective study participant,

I am asking for your help with my research to better understand the new graduate nurse transition to clinical practice.

As a nurse of over 32 years, I know that nursing is not the same field as it once was. As a doctoral student at East Carolina University College of Nursing, it is important to me that we work to shift our approach to better the transition to clinical practice and create a work environment that allows new nurses to thrive in their nursing careers.

This research focuses on registered nurse working in an acute care hospital who obtained their original North Carolina (NC) license date within the last 36 months. Please take 5-10 minutes to complete the online study survey and lend your voice to this important research. Your participation is voluntary and there are no costs associated with participation. Your answers will be kept confidential.

To participate, click the link below. This link will remain open until 8:00 am on Monday, December 16, 2019.

https://redcap.ecu.edu/surveys/?s=F48HMW8KXL

After completing the survey, you will have an opportunity to win 1 of 8 $25 Amazon gift cards. Winners will be selected randomly and notified via email.

If you have questions about your rights as someone taking part in research, you may call the University & Medical Center Institutional Review Board (UMCIRB) at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director for Human Research Protections, at 252-744-2914. If you would like to reach me, please contact me at waldenc82@students.ecu.edu

Christine Walden
Doctoral Student
East Carolina University
College of Nursing

APPENDIX J: REMINDER EMAIL

Email Subject: Don't Miss the Exciting Research Opportunity that May Change How New Nurses Transition to Clinical Practice

As a reminder, please take 5-10 minutes to complete the online survey to better understand the new graduate nurse transition to clinical practice. This research focuses on registered nurse working in an acute care hospital who obtained their original North Carolina (NC) license date within the last 36 months. Your participation is voluntary and there are no costs associated with participation. Your answers will be kept confidential.

To participate, click the link below. This link will remain open until 8:00 am on Monday, December 16, 2019.

https://redcap.ecu.edu/surveys/?s=F48HMW8KXL

After completing the survey, you will have an opportunity to win 1 of 8 $25 Amazon gift cards. Winners will be selected randomly and notified via email.

If you have questions about your rights as someone taking part in research, you may call the University & Medical Center Institutional Review Board (UMCIRB) at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director for Human Research Protections, at 252-744-2914. If you would like to reach me, please contact me at waldenc82@students.ecu.edu

Christine Walden
Doctoral Student
East Carolina University
College of Nursing

APPENDIX K: PARTICIPANT INCENTIVE

Survey Participant Incentive Option

Thank you for completing the survey. You are now eligible to participate in a drawing to win 1 of 8 $25 Amazon Gift Cards.

1) Please provide your email address if you are

interested in participating in the drawing. You will be
notified via email if you are a winner.
09/26/2019 4:42pm

_____

REDCap