Summer 5-10-2022

Burnout and Psychological Capital in Baccalaureate Nursing Students Enrolled in Clinical Rotations

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BURNOUT AND PSYCHOLOGICAL CAPITAL IN BACCALAUREATE NURSING

STUDENTS ENROLLED IN CLINICAL ROTATIONS

BY

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Submitted in partial fulfillment of the requirements for the

degree of Doctor of Philosophy in Nursing

Seton Hall University

2022

SETON HALL UNIVERSITY
1 8 5 6

College of Nursing

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ABSTRACT

Nursing students who will successfully transition to practice as registered nurses are a crucial resource, especially now with the current nursing shortage. Using Meleis' Transition Theory as a framework, the purpose of this descriptive correlational study was to examine specific intrapersonal factors in nursing students enrolled in clinical rotations. The convenience sample consisted of 129 BSN students with a mean age of 24. Their levels of burnout (exhaustion, cynicism and inefficacy) and psychological capital (hope, efficacy, resilience and optimism), also called PsyCap, were measured using the Maslach Burnout Inventory-General Survey and the Psychological Capital Questionnaire. Findings demonstrated moderate levels of PsyCap (M=98.63, SD=15.21), high levels of exhaustion (M=21.95, SD=6.78), moderate levels of cynicism (M=12.89, SD=7.66) and low levels of inefficacy (M=9.26, SD=5.95) with 38.8% (n=50) exhibiting signs of the overextended burnout profile, considered the first stage in the development of burnout. Participants found *academic course load* & *exams and other testing* the most stressful. When asked about satisfaction with the nursing major, 31 (24%) were neutral, and 10 (7.8%) were dissatisfied. When asked if they were considering leaving nursing, 4 (3.1%) answered yes and 17 (13.2%) were unsure. The correlation between PsyCap and inefficacy had the strongest negative correlation (r=-.642, p<.001), followed by cynicism (r=-.450, p<.001), and then exhaustion (r=-.393, p<.001). PsyCap accounted for 41.2% (R^2=.412, B=-.251, p<.001) of the variance in inefficacy followed by 20.3% (R^2=.203, B=-.227, p<.001) in cynicism, and 15.4% (R^2=.154, B=-.175, p<.001) in exhaustion. Considering that early burnout and thoughts about leaving nursing were found, and that PsyCap is protective against burnout, implementation of measures to increase PsyCap and manage stressors in nursing students is imperative.

Keywords: nursing student, burnout, psychological capital, stressors

ACKNOWLEDGEMENTS

Although this PhD journey has been arduous, I am grateful to have had the experience and feel very appreciative of the individuals who have supported me throughout it.

Thank you to Dr. Bonnie Sturm, who I met at the graduate open house in 2013. She has been my mentor since that day and became my dissertation chair. I will always be thankful for her unwavering guidance and support. I thank my committee members, Dr. Joyce Maglione and Dr. Kristi Stinson for their patience, advice, and continual encouragement. Their input made my study better, my writing better and encouraged my growth as a researcher. Thank you to Dr. Judy Lothian for her timely and continual support throughout this program. I am grateful to Dr. Emily Mahon for her priceless statistical acumen and availability throughout this journey.

Thank you to Liz Fitzgerald and Lisa Foley, my graduate school partners in crime, who started the program with me and became lifelong friends. Thank you, thank you, thank you to my friend, Lisa Barfield, who came to my rescue in 2020 when I felt lost. She created a timeline for me and held me to it through countless revised to-do lists and text message reminders. She is a master of organization and motivation and I will be forever grateful for her help. I am beyond thankful to my entire village of friends and family members, who have taken care of my children, listened to me, provided advice, and laughed and cried along with me.

Finally, I wish to recognize and thank my fabulous four, my dear family—my husband John, and my children, Thomas, Colleen and Maggie. They are the reason I started this PhD program. They put up with my time spent studying, researching, and writing. They put up with my crankiness and stress. Without their support, love and understanding, I would not have completed this journey. I hope this provides an example to my children that lifelong learning and hard work is worth it!

DEDICATION

This dissertation is dedicated in memory of my father, a teacher, and my mother, a nurse. Their love, example and guidance inspired me to become a teacher of nurses, the role in which I found my calling. I know they would be very proud that I finally finished this degree!

This dissertation is also dedicated to all my fellow hard-working nurse educators and the nursing students who have inspired me and continue to inspire me.

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INTRODUCTION

Nursing students must navigate multiple challenges and stressors throughout their nursing education that put them at risk for burnout. These stressors and the pressure to succeed begin even prior to admission into a pre-licensure nursing program, due to the competition for available seats. This competition for seats results in approximately 32% of qualified applicants being turned away from pre-licensure registered nursing programs (National League for Nursing, 2018). Once admitted, pre-licensure nursing students must complete both didactic and clinical coursework that is new and rigorous. Transition to the experiential learning of clinical rotations and the process of nursing role actualization can be difficult for the nursing student. There is evidence that nursing students are exhibiting signs of burnout related to incivility from instructors and hospital staff (Ahn & Choi, 2019; Babenko-Mould & Laschinger, 2014), stress of clinical experiences (Ayaz-Alkaya et al., 2018; Michalec et al., 2013) and that this burnout may be affecting their well-being, occupational preparedness and professional self-concept (Rudman & Gustavsson, 2012; Wang et al., 2019). Educational practices to support nursing students in the clinical learning environment (George et al., 2020; Valiee et al., 2016) and interpersonal factors (between people), including the negative impacts of incivility (Vogelpohl et al., 2013) and the benefit of mentoring (Li et al., 2010; Verret & Lin, 2016), have been explored in the literature. Less is known about the influence of intrapersonal factors (from within the person) on burnout following the nursing students' transition to clinical rotations. In this study, intrapersonal factors under examination are defined and measured by the concept termed psychological capital (PsyCap), which encompasses hope, efficacy, resilience and optimism (Luthans et al., 2014).

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Understanding these factors may provide educators with the evidence and knowledge needed to positively impact the preparation of capable nurse graduates.

Regardless of the presence or absence of a nursing shortage, attrition from the profession due to retirement or other reasons will always require a regular influx of capable nursing students prepared to transition to practice as new graduate nurses. According to the 2017 National Nursing Workforce Survey, 4,639,548 individuals held an active registered nursing (RN) license in the United States. The survey found that 14.6% of the respondents were 65 and over (increased from 12.4% in 2015) and the average age of the respondents was 51 (National Council of State Boards of Nursing, 2018). These figures demonstrate that the number of nurses nearing retirement age is increasing. Recently, the COVID-19 pandemic has wreaked havoc on the nursing workforce, causing increasing levels of burnout, moral distress and disturbing staffing shortages (Schlak et al., 2022). Another concern is that up to 25% of new graduate nurses (NGNs) leave their first jobs within the first year of practice (Spector, 2015). Internationally, these new graduate nurse attrition numbers are even higher, from 30-60% (Goodare, 2015), and have been associated with lack of workplace satisfaction as well as decreased satisfaction with nursing education (Kenny et al., 2016).

Even more concerning is that some of these NGNs are also leaving or considering leaving the profession for work related reasons including lack of preparation, work related stress (shift work, sensing an inability to do the job well, incivility and administrative issues) and physical stress/exhaustion (Hunsberger et al., 2013; Huntington et al., 2011; MacKusick & Minick, 2010; Milton-Wildey et al., 2014). Rudman and colleagues (2014) performed their research in Sweden and found that 20% of nurses in practice five years were considering leaving the profession.

These new graduate nurses are a critical healthcare resource and these trends are alarming, providing a need to understand when this dissatisfaction with nursing begins.

Research in nursing students has identified that exposure to the stress of clinical rotations is associated with a sense that their eventual transition to practice will be problematic (Doody et al., 2012), with thoughts of leaving the profession (Chachula 2021; Chachula et al., 2015), and with a reduced sense of belonginess in nursing (Grobecker, 2016). Exploration of PsyCap in nursing students enrolled in clinical rotations may provide a deeper understanding of the intrapersonal factors that may be contributing to their anticipated difficulties with transition to practice. For these reasons, the population studied included baccalaureate nursing students transitioning into the nursing role during clinical rotations.

Burnout is a syndrome now being seen in nursing students but the concept is not new to nursing. It has been well researched in experienced nurses, especially those working in high-intensity areas. Cho and colleagues (2006) were the first to note that 66% of NGNs were exhibiting signs of burnout, specifically emotional exhaustion, which is often considered the first and core component of burnout. Burnout, which is composed of exhaustion, cynicism and decreased professional efficacy, or inefficacy (Maslach et al., 2016) has been linked to nurse turnover and other negative workplace outcomes (Adams, 2019; Laschinger, Wong et al., 2012). The majority of research on NGN burnout has taken place in Canada, where the healthcare system is different than the United States, and NGNs are required to have a BSN to enter nursing practice. Although this does limit generalizability to the United States, the research remains relevant and warrants consideration.

It appears that the burnout now being seen in the nursing student population is occurring for reasons similar to NGNs, such as incivility (Babenko-Mould & Laschinger, 2014) as well as problems with role actualization and stress during clinical rotations (Ayaz-Alkaya et al., 2018;

Michalec et al., 2013). In addition, thoughts regarding leaving the profession, described by Chachula et al. (2015) as the *letting go of nursing,* begin during nursing school. It is known that transition to the role of registered professional nurse is difficult. This academic-practice gap remains a critical issue that may be improved by addressing it in the academic environment (Huston et al., 2018; Rush et al., 2019). To offer the appropriate support during nursing education, a better understanding of nursing students is needed. This includes an understanding of their psychosocial state, or intrapersonal factors that are present and potentially contributing to the development of burnout.

It is widely accepted that nursing students have more stress than students that pursue other majors (Bartlett et al., 2016; Goff, 2011; Riley et al., 2019) and this stress is amplified by the COVID-19 pandemic affecting clinical experiences and causing fear about possible exposure to the virus (Aslan & Pekince, 2020; Labrague & Santos, 2020). There is significant research on stress in nursing students and measures to help manage it (Alzayyat & Al-Gamal, 2014; Galbraith & Brown, 2011; Grobecker, 2016; Jameson, 2013; Li et al., 2010). Educational preparation and transition into the nursing profession does include coping with a variety of stressors, however, this study will examine the specific relationships between and among PsyCap and the dimensions of burnout in student nurses. The demographic survey helped to provide descriptive information about their age, gender, employment status, previous experience in healthcare and satisfaction with the major, as well as the type of clinical rotations they experienced and their perceived sources of stress related to nursing education. This information helped to accurately describe the nursing student sample in study and may inform future research and guide targeted interventions.

In addition to describing the sample with the demographic survey, the current study explored Psychological Capital (PsyCap) in nursing students in relation to the dimensions of burnout. PsyCap is a multilayered and positive intrapersonal resource composed of hope,

efficacy, resilience and optimism (Luthans et al., 2007). PsyCap emerged as a concept following

research on positive organizational behavior (POB). POB is the "study and application of

positive oriented human resource strengths and psychological capacities that can be measured,

developed and effectively managed for performance improvement" (Luthans, in Luthans et al,

2014, p.2). The POB research identified several qualities that were state-like (modifiable) versus

trait-like (non-modifiable). These included hope, efficacy, resilience and optimism which

together form the higher order core concept of PsyCap (Luthans et al., 2014). PsyCap has been

found to be negatively correlated with burnout and positively correlated with indicators of a

successful transition to practice in NGNs, including less turnover intent, better job-life fit, job

satisfaction and improved work engagement (Boamah & Laschinger, 2016; Bonner, 2016;

Laschinger & Fida, 2015; Laschinger & Grau, 2012, Laschinger, Grau, et al., 2012; Stam et al.,

2015). It is a factor that can be modified or fostered in an individual (Luthans et al., 2014).

In the nursing student population, PsyCap has been associated with improved competence

(Liao & Liu, 2015) and adjustment to nursing school (Liu et al., 2015). Woo & Park (2017) and

Terry and colleagues (2020) both studied PsyCap in nursing students who had yet to begin clinical

rotations but found that PsyCap was positively associated with satisfaction with the major and self-

efficacy, respectively. Considering that burnout is now being seen in nursing students, it was relevant

to advance the research by investigating PsyCap in relation to burnout in clinical nursing students in

the US. Lending credence to the inclusion of PsyCap is growing evidence of the success of strategies

to promote resilience in nursing students and nurses (Heritage et al., 2019; Krautscheid et al., 2020;

Low et al., 2019; Rees et al., 2019; Richez, 2014; Riet et al., 2018). Resilience is only one aspect

within the complex concept of PsyCap but if the findings of the proposed research demonstrate a

lower level of resilience, there are resources available that can help to foster this. In addition,

occupational coping self-efficacy, a separate concept describing self-efficacy that is associated with the workplace, has also been found to be associated with improved transition from nursing student to registered nurse (Read & Laschinger, 2017). Considering that efficacy is also a component of PsyCap, this lends further support for the inclusion of PsyCap in the proposed research.

The Problem Statement

Burnout in nursing students has the potential to affect their ability to positively transition into the nursing role as new graduates, even after they successfully pass licensure. PsyCap is emerging as a modifiable factor that can be protective against burnout in new graduate nurses but had yet to be investigated in relation to burnout in nursing students enrolled in clinical rotations.

Purpose of the Study

The purpose of the study was to examine the relationships between and among psychological capital (hope, efficacy, resilience and optimism) and the dimensions of burnout (exhaustion, cynicism and inefficacy) in baccalaureate nursing students who had completed at least one clinical rotation. Considering that burnout is a significant factor associated with turnover and intent to leave the profession in new graduate nurses, further understanding of the phenomenon in nursing students was necessary. A better understanding of these relationships as well as the demographics of this population has the potential to support the development and adoption of educational practices that can be implemented prior to graduation and transition into the nursing role.

Variables and Definitions

Burnout

Burnout is comprised of three separate dimensions: exhaustion, cynicism and inefficacy (Leiter & Maslach, 2016). Burnout was first defined conceptually as "a syndrome of emotional

exhaustion, depersonalization, and reduced personal accomplishment that occurs frequently among individuals who do 'people work' of some kind" (Maslach, 1982, p. 2). Exhaustion, often felt to be the first and core component of burnout, involves feelings of "wearing out, loss of energy, depletion, debilitation and fatigue" (Leiter & Maslach, 2016, p. 89). Cynicism is described as "depersonalization, negative or inappropriate attitudes, detached concern, irritability and loss of idealism and withdrawal" (Leiter & Maslach, 2016, p. 89). Decreased professional efficacy or inefficacy, is described as "reduced productivity or capability, low morale and an inability to cope" (Leiter & Maslach, 2016, p.89). It is generally understood that burnout exists on a continuum with burnout on one end and engagement on the opposite end. People can move across the continuum depending on their personal state and environment, changing at different points in time (Leiter & Maslach, 2016). Leiter and Maslach (2016) further expanded on the individual dimensions of burnout and have identified burnout profiles or patterns of burnout that include: *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension).

This conceptual definition of burnout and burnout profiles have been operationalized through the development of different iterations of the Maslach Burnout Inventory (MBI). The Maslach Burnout Inventory (MBI-GS) was used to operationally define the three dimensions of burnout in the current study. The MBI-GS is a 16-item instrument measuring burnout with three subscales, targeting exhaustion, cynicism, and inefficacy. To exhibit signs of burnout, one would have high levels of exhaustion, cynicism and inefficacy (Maslach et al., 2016). In addition, considering that burnout exists on a continuum, with engagement on one end and burnout on the other, the burnout profiles discussed above can also be operationalized through the use of this instrument.

Psychological Capital

Psychological Capital (PsyCap) is conceptually defined as:

an individual's positive psychological state of development that is characterized by 1)

having confidence (efficacy) to take on and put in the necessary effort to succeed at

challenging tasks; 2) making a positive attribution (optimism) about succeeding now and

in the future; 3) persevering toward goals and, when necessary, redirecting paths to goals

(hope) in order to succeed; and 4) when beset by problems and adversity, sustaining and

bouncing back and even beyond (resilience) to attain success." (Luthans et al., 2015, p. 2)

On the state-trait continuum, PsyCap is considered "state-like, defined as relatively malleable and

open to development, in contrast to personality, which is considered trait-like or relatively stable and

difficult to change" (Luthans et al., 2007, p.3). There are published strategies to bolster PsyCap and

to help build the "HERO" (hope, efficacy, resilience and optimism) within people (Luthans et al.,

2014). As a variable in this study, it is relevant to know that PsyCap is not considered static but that it

can be fostered or improved. PsyCap was operationally defined by the Psychological Capital

Questionnaire (PCQ-24), The instrument has four subscales, which were sum scored in the current

research. Each subscale has six items, for a total of 24 Likert-style items.

Theoretical Framework

Afaf Ibrahim Meleis is a prominent nurse researcher and theorist who developed the middle

range, Transitions Theory in the 1970s. The transition to practice for a nursing student begins during

their clinical rotations in nursing school and involves socializing into the role of a nurse. Transitions

Theory helps to frame this transition. The concept of transition itself is a core concept in nursing with it

first being discussed as it related to patients and their health transitions. Transition can be defined as a

"passage from one life phase, condition or status to another…" (Chick and Meleis, 1986, p. 240). Some events that can create the need for a transition include illness, recovery, birthing, death, pregnancy, retirement and maturation (Chick & Meleis, 1986). More recently, educational transitions have been explored, including the transition from nursing assistant to student nurse (Brennan & McSherry, 2010) and the transition to clinical rotations for baccalaureate nursing students (Wieland et al., 2010). These constitute situation-specific applications of the theory in the nursing student population.

Meleis and colleagues (2000) describe the Transitions Theory as it relates to four types of transitions: developmental, situational, health/illness and organizational. Each type of transition can have varied patterns and properties. The transition experienced by nursing students into clinical rotations would fall under the category of situational in nature. During didactic coursework, a nursing student may master theory but still needs to apply that theory to practice in their clinical rotations. Making these connections through the cognitive, psychomotor and affective domains while navigating an ever-changing clinical environment is a significant, and at times difficult, transition.

Meleis et al. (2000) also describe the transition conditions. These conditions can be either facilitators or inhibitors to the transition and can come from personal beliefs and attitudes and can also include preparation and knowledge. Community and society can also play a part in the transition. Although not a variable in the proposed research, the school environment may be a facilitator or inhibitor of transition and the nursing student's experience with incivility would be an example of this in clinical nursing students. Patterns of response are either process indicators (signs during the transition indicative of the process occurring) or outcome indicators, which occur later and include mastery of skills and the development of a fluid integrative identity (Chick & Meleis, 1986). PsyCap may have an effect (as an inhibitor) on their levels of burnout (pattern of response; process indicator) as they transition into clinical rotations.

This study explored the relationships between and among the components of PsyCap and burnout in nursing students enrolled in clinical rotations. A better understanding of these relationships may lead to the development of nursing education practices that may help to reduce burnout and foster improved transition to clinical rotations in nursing school. The inclusion of a demographic questionnaire will help to further describe the sample.

See Figure 1 for a visual representation, reprinted with permission, of Transitions Theory (Meleis, 2010) and Figure 2 for the application of Transitions Theory to the proposed study variables.

Figure 1

Transitions Theory
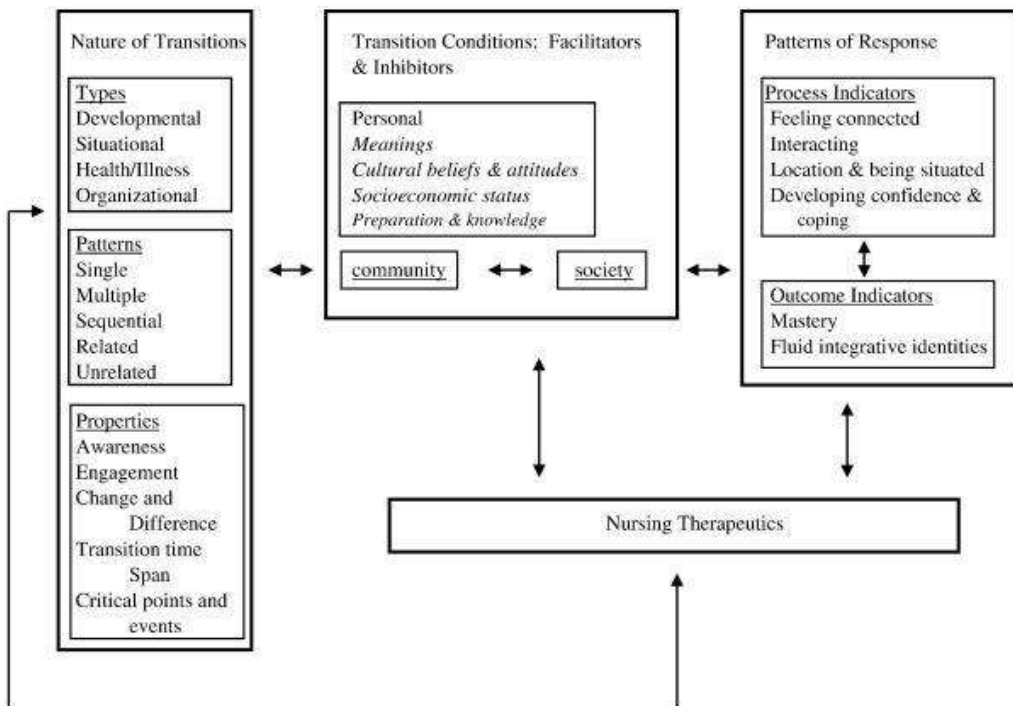
Figure 2

Current Study: PsyCap and Burnout in BSN Students Enrolled in Clinical Rotations

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┌─────────────────────────┐
│ Population: BSN students │
│ who have completed one   │
│ or more clinical         │
│ rotations.               │
│ Nature of Transition:    │
│ Type: Situational        │
│ Pattern: Single          │
│ Property: Finite         │
└─────────────────────────┘
            │
            ▼
     ┌──────────────────────────────┐
     │ Transition Conditions:        │
     │ Demographics                  │
     │ Potential Facilitator of      │
     │ Successful Transition:        │
     │ Psychological Capital (hope,  │
     │ efficacy, resilience &        │
     │ optimism)                     │
     └──────────────────────────────┘
                 │
                 ▼
          ┌──────────────────────┐
          │ Process Indicator:    │
          │ Nursing Student       │
          │ Burnout (exhaustion,  │
          │ cynicism & inefficacy)│
          └──────────────────────┘
```
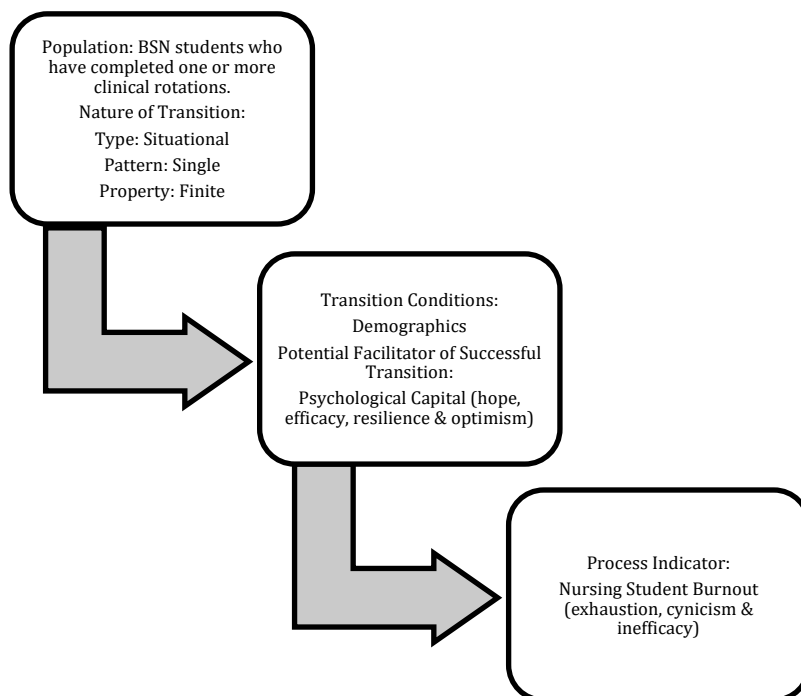
Sample/Procedures/Power

Students who had completed a minimum of one clinical rotation in a traditional BSN program were sampled. Registered nurses who returned to school for their BSN, accelerated BSN and pre-licensure MSN students were excluded. Students no longer enrolled in a nursing program and/or any nursing students currently licensed as registered nurses were excluded. A convenience sampling of baccalaureate of science in nursing (BSN) students enrolled in a private and public BSN program in New Jersey area was obtained. The aim was to represent a population of traditional pre-licensure BSN students. Permission from the nursing programs to sample the students was obtained. Recruitment occurred via a solicitation flyer circulated in person and via email with a Quick Response (QR) code taking the participant to the Qualtrics™ survey. The researcher received permission to enter classes to read solicitation flyer and explain

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the purpose of the study. Students were provided a copy of the solicitation flyer, including contact information of the researcher. Participants were instructed to answer the questions based only on their academic and clinical experience within their current nursing program. All interested participants completed the survey on their own time. Based on the complexity of the study, a power analysis was obtained to help determine the sample size needed to achieve power. Based on a medium effect size of .15, used in similar research (Kim & Yoo, 2018), power of .80, significance of .05, and four predictors, the minimal sample size was 85.

The literature supported three hypotheses and three research questions.

Hypotheses

1. Psychological capital will be inversely related to exhaustion in nursing students who have completed one or more clinical rotations.
2. Psychological capital will be inversely related to cynicism in nursing students who have completed one or more clinical rotations.
3. Psychological capital will be inversely related to inefficacy in nursing students who have completed one or more clinical rotations.

Research Questions

1. What types of burnout profiles (patterns of the dimensions of burnout) are present in nursing students who have completed one or more clinical rotations?
2. What are the relationships between and among psychological capital (PsyCap) and the dimensions of burnout (exhaustion, cynicism, inefficacy) in nursing students who have completed one or more clinical rotations?
3. Does psychological capital (PsyCap) influence the dimensions of burnout in nursing students who have completed one or more clinical rotations?

Significance

Burnout has been associated with turnover and reducing turnover is critical to the nursing profession. This is becoming increasingly important in the face of an aging workforce in the United States (NCSBN, 2018) and the predicted tsunami of nurse retirements (McMenamin, 2014). This concern is compounded by the ongoing COVID-19 pandemic, causing disturbing staffing shortages and moral distress (Schlak et al., 2022). Clinical nursing students have had to confront the crisis on some level and some new graduates have entered practice earlier than expected and potentially less prepared to meet demands (Jividen, 2020). It is crucial that we adequately prepare nursing students for the realities of clinical practice. Regardless of current events, they will always be an essential resource to understand and support. Given that the literature has demonstrated that nursing students are now developing burnout, a better understanding of the relationship between PsyCap and the components of burnout in clinical nursing students in the US was necessary. The findings may help to identify ways in which we can support nursing students during their nursing education to better prepare them for the realities of nursing practice.

Chapter II

REVIEW OF THE LITERATURE

This chapter will describe the Transitions Theory framework (Chick and Meleis, 1986) as it applies to this study that examined the relationships between and among the study variables, psychological capital (PsyCap) and the dimensions of burnout, in nursing students who have transitioned into clinical rotations. The literature search utilized the CINAHL with full text, Medline, PsycARTICLES, Academic Search Premier and ScienceDirect databases. It was limited to the English language and predominantly to empirical work completed since 2010. Seminal and theoretical work on the concepts from earlier will also be included. The search terms included nurs* burnout, nurs* student burnout, psychological capital AND nurs*, psychological capital AND nurs* students, psychological capital AND burnout AND nurs*, psychological capital AND burnout AND nurs* students. Current published research relevant to the study variables of Psy Cap and burnout in nurses and nursing students was reviewed and critically analyzed. Gaps in the literature, as well as support for proposed associations will be discussed.

Transitions Theory

Afaf Ibrahim Meleis developed Transitions Theory, a middle range nursing theory, in the 1970s. In addition to her nursing degree, Meleis holds a MA in Sociology and a PhD in medical and social psychology (Im, 2010), which has added a social science lens to her nursing research. Transitions Theory was further developed with her realization that nursing problems are often diagnosed when a person experiences role insufficiency, which is particularly evident during unhealthy transitions (Meleis, 2010). Role insufficiency is defined as "any difficulty in the cognizance and/or performance of a role or of the sentiments and goals associated with the role behavior as perceived by the self or by significant others" (Meleis, 2010, p. 16). Considering that

the underpinnings of Transitions Theory are based in role insufficiency, it is logical that this theory can guide the current study. In the study, the ultimate concern is role actualization into the professional nursing role, which begins during the experiential learning of clinical rotations in nursing school.

Transitions Theory continued to evolve relating to the management of role insufficiency with role supplementation, provided by the nurse in the form of nursing interventions. Role supplementation is defined as "any deliberate process whereby role insufficiency or potential role insufficiency is identified…to develop a preventative or therapeutic intervention to decrease ameliorate or prevent role insufficiency" (Meleis, 2010, p. 17). This investigation into role insufficiency and nursing led to transitions research that included parenting (Meleis & Swensen, 1978) and cardiovascular patients (Dracup et al., 1984). Over time, additional types of transitions were identified and other aspects of the Transitions Theory framework were developed. Chick and Meleis (1986) discussed the framework and how transitions had become a nursing concern. Schumacher and Meleis (1994) then asserted that transitions were a central concept in nursing, reviewed the literature and began to discuss situation specific applications of Transitions Theory.

Transitions in Nursing Education

Although Transitions Theory has most often been applied to patients and their healthcare and psychosocial transitions, there have been situation specific applications of the theory relating to education. According to Im (2011) the linkage of Transitions Theory to research and practice, including education, is necessary for the full refinement and elaboration of the theory. Brennan and McSherry (2010) interviewed 14 students who had worked as nursing assistants and were now in a nursing program in England. Qualitative analysis revealed themes of culture shock

relating to the university culture, need for new skills and accountability specific to the professional nursing role, as well as coming out of their comfort zone. Other themes included the use of avoidance techniques and reverting back to the nursing assistant role. The staff fostered this reverting back to their previous role by expecting them to perform as nursing assistants, affecting their growth as nursing students. Culture shock is something that may contribute to the development of burnout in nursing students as they transition to clinical rotations. This may be particularly challenging for those who have previously worked in healthcare.

Weiland et al. (2010) performed a triangulated descriptive study involving 32 senior nursing students in a baccalaureate nursing program who were enrolled in a preceptor facilitated adult acute care clinical course as their last clinical rotation. They attended clinical three days a week for three weeks with a unit-based preceptor. The researchers sought to understand how this type of rotation affected their transitional experience and to identify patterns in the experience that could help them to improve the program. Data were obtained using liaison faculty input (school of nursing faculty who served as a liaison with the unit-based preceptor), journal entries from the clinical preceptors and student feedback using a daily reflection tool. The liaison faculty felt that students were more confident and were given more responsibility by the end of the three weeks. Preceptors felt that most student nurses were motivated to learn and made good progress over the three weeks, in relation to time management and organization. The students reflected that the experience helped with their skills and knowledge as well as their comfort with hospital processes. Some students reflected that they gained an awareness of the competing demands in providing patient care and how difficult the work is. Other students also felt the extended hours took away from their study time and external work responsibilities, which was very "tiring" (Weiland et al., 2010, p. 293). The student input touches on aspects of the transition that are

possible contributors to stress and burnout in nursing students as they begin clinical rotations. Although no research was found specifically using Transitions Theory as a framework and burnout as a process indicator, there is research related to educational transitions in nursing education. Several themes discovered in these qualitative studies, including culture shock, competing demands (Brennan & McSherry, 2010) and fatigue/stress involving clinical rotations (Weiland et al., 2010) are relevant to the current experiences of clinical nursing students.

Transitions Theory Framework and Relation to Study Variables

A transition is an experience triggered by a change and characterized by an interaction between the person and the environment and, although turbulent, can be preceded and followed by periods of stability (Chick & Meleis, 1986). Transition is defined as a "passage from one life phase, condition, or status to another…embracing the elements of process, time span and perception" (Chick and Meleis, 1986, p. 239). Types of transitions include developmental, situational, health/illness and organizational. The transition of a student nurse, who needs to apply theoretical content while adjusting to the entry into clinical rotations as they begin the process of role actualization of the nurse, would be an example of a situational transition. A situational transition requires a definition and redefinition of roles and includes major shifts in personal and interpersonal conceptions (Meleis, 2010, p. 16). One of the aspects that define a transition is that it is a process with a beginning, an end and a time span unique to the transition (Chick & Meleis, 1986). Clinical rotations in nursing programs are time limited, finite and expected of all students. The student's response to the transition relates to their perception of the process and how they are experiencing it. The student's self-perception during the transition is not always predictable but can influence their reaction or response (Chick & Meleis, 1986).

The Transitions Theory framework also describes transition conditions and patterns of response, which can either be process indicators or outcome indicators. Transition conditions are personal and/or environmental conditions that can help or hinder the successful transition. Those that help the transition are considered facilitators and those that hinder the transition are considered inhibitors (Meleis et al., 2000). Process indicators are present during the transition. Some examples are changes in "self-concept, role performance, self-esteem, distress, anxiety, and depression" (Chick & Meleis, 1986, p.242). This study explored the transition condition of PsyCap as a potential facilitator to the successful transition of student nurses into clinical rotations. In this study, burnout, albeit a sign of an unhealthy transition if present, would be considered a process indicator in nursing students transitioning into clinical rotations. It was relevant to better understand the process indicator of burnout as it relates to the transition condition of PsyCap in nursing students during their situational transition into clinical rotations.

Burnout Literature Review

Burnout is a broadly discussed concept in both the lay and empiric literature of many disciplines. Its mention often conjures up an image of a person whose flame is flickering and is at risk of becoming extinguished by the stressors of their job (Maslach, 1982). Burnout was first defined as "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that occurs frequently among individuals who do 'people work' of some kind" (Maslach, 1982). Over time, burnout has been researched across many other populations and the dimensions have been renamed as exhaustion, cynicism and decreased professional efficacy or inefficacy. In an effort to better understand the dimensions of burnout, researchers have also identified five burnout profiles: *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in

only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension). Considering that exhaustion is considered the first and core component of burnout (Katsifaraki & Tucker, 2013; Leiter & Maslach, 2016), it was worth exploring whether the overextended profile was the profile most frequently seen in the nursing student population. Identification of and intervention with nursing students exhibiting signs of early burnout can have the potential to impact their successful transition to the role of professional nurse and prevent more extensive disengagement and burnout. These burnout profiles have yet to be explored in the nursing student population and doing so will help to gain a better understanding of the phenomenon. Although there is a large body of research involving burnout both in and out of healthcare, the literature review will focus first on burnout in nurses, most specifically in new graduate nurses (NGNs) and conclude with nursing students, the population studied.

Burnout in Nurses

Burnout in the nursing literature was first described soon after Maslach began to investigate the concept (Seuntjens, 1982; Shubin, 1978). Similar to early work in the psychology and social science journals, most of the publications were anecdotal or related to case studies with ideas and recommendations on how to combat burnout in nursing. This evolved to more empiric research over time, especially in high-stress nursing populations, including the emergency department, critical care, pediatrics and oncology (Keller, 1990; Rushton et al., 2015). Burnout remains a relevant area of focus as the research has demonstrated associations with work performance, patient safety, job satisfaction and turnover or intent to leave, (Aiken, 2002; Laschinger & Leiter, 2006; Miller, 2011; Rudman et al., 2014). Recent empiric research has investigated the efficacy of measures to help alleviate burnout in nursing, such as hardiness education (Henderson, 2015). Hardiness, a personality characteristic which helps one manage

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stressful situations (Jameson, 2014), is similar to resilience, a component of PsyCap, which is one of the variables in the current study.

Burnout in New Graduate Nurses

Considering that nursing students are the antecedents of NGNs, it is relevant to include a discussion of the literature on burnout in the NGN population. Institutional factors such as structural empowerment, defined as access to information, resources, support and opportunities to learn and grow (Laschinger, Wong et al., 2012, Laschinger et al., 2010) and authentic leadership, defined as "a positive relationship-focused leadership style that emphasizes self-awareness, honesty, transparency, behavioral integrity, and consistency" (Avolio, 2004, in Laschinger, Wong et al., 2012, p. 1267) mediated through workplace bullying (an interpersonal factor) have been found to be protective against burnout, defined as emotional exhaustion, by these researchers (β = -.37). "Authentic leadership had a significant negative direct effect on workplace bullying experiences (β = -.34) which in turn had a significant positive effect on emotional exhaustion (β = 0.46)" (Laschinger, Wong et al., 2012, p.7).

The remaining empirical review of burnout in NGNs will be limited to studies that explore intrapersonal (from within the person) factors. Laschinger and Fida (2014) explored authentic leadership and its relationship to psychological capital (PsyCap), a positive intrapersonal resource composed of hope, efficacy, resilience and optimism, on burnout and workplace wellbeing in new graduate nurses over time. A complex model was utilized to test three hypotheses in a time lagged format. The authors postulated that higher new graduate perceptions of authentic leadership and higher levels of PsyCap would be related to lower levels of burnout (exhaustion and cynicism) at both time points. Also, those with higher levels of burnout would experience poorer mental health and lower work satisfaction over time. New

graduates were defined as having two or fewer years of experience. The sample size was larger

at the first time period/T1 ($n = 342$) as compared to one-year later/T2 ($n = 205$). Therefore, only

the 205 participants who completed both surveys were included in the data analysis. The issue

with a decreased response rate at T2 is a threat to validity. Those who chose not to respond on

the second wave of the survey may have had higher levels of burnout and poorer mental health.

The Authentic Leadership Questionnaire (ALQ) was used to measure perceptions of authentic

leadership and had a Cronbach's alpha of .94 at T1. The exhaustion and cynicism subscales of

the Maslach Burnout Inventory-General Survey (MBI-GS) were used to measure burnout with

Cronbach's alpha of .92 and .84 at T1, respectively. The Psychological Capital Questionnaire

(PCQ) was used to measure psychological capital and had a Cronbach's alpha of .90. To measure

work satisfaction, a four-item adapted Likert scale was used. Use in past research was not

discussed but the authors list that the Cronbach's alpha was .83 at T1 in this study. For mental

health, the authors used a 5-item Mental Health Index (MHI-5) with a Cronbach's alpha of .85.

Due to the number of variables and the time-lagged study, the researchers used latent growth

modeling (LGM), a type of structural equation modeling (SEM). To best use LGM, three time

periods should be used to allow for degrees of freedom (Kline, 2005). This along with a

borderline sample size considering the complexity of this study, are threats to validity. Overall, it

was noted that both exhaustion and cynicism increased over the one-year period. They added

both Authentic Leadership and Psychological Capital as predictors of burnout, and mental health

and work satisfaction as outcomes. Results (X^2 (68) = 133.30, $p < .01$, Comparative Fit Index,

CFI = 94; Root Mean Square Error of Approximation, RMSEA = .070 (CI = .052-.087), $p = .04$;

Standardized Root Mean Square Residual, SRMR = .061) indicated that both Authentic

Leadership and Psychological Capital negatively influenced (were protective against) burnout

and that burnout affected work satisfaction but not mental health (Laschinger & Fida, 2014).

Although this research was not performed on a population of nursing students, novice nurses

have been only recently exposed to the realities of clinical practice and are also experiencing a

situational transition. The findings also support the hypotheses in the current study that higher

levels of PsyCap will be associated with lower levels of each of the dimensions of burnout in

nursing students.

Laschinger et al. (2015) explored an additional intrapersonal resource, occupational

coping self-efficacy, which describes a person's perception of their ability to cope with

workplace stressors, and its relationship to new graduate nurse burnout. In this quantitative

study, the authors tested a model examining the effects of occupational coping self-efficacy and

the institutional resource of authentic leadership on the areas of worklife match (a measure of

person's fit to their job) and subsequently on burnout and mental health in new graduate nurses.

This sample included new graduate nurses ($n = 1009$) in practice up to three years ($M = 1.20$

years). NGNs from all ten provinces in Canada were randomly sampled. This is a robust

sampling frame that allows for more generalizability. Instruments included the ALQ and the

Areas of Worklife Scale (AWS). The Occupational Coping Self-Efficacy Scale was developed

for use in nurses and had a Cronbach's alpha of .81 in the study. For mental health, the General

Health Questionnaire, (GHQ), a 12-item instrument, which also includes physical health, was

used. It had established validity and reliability and a Cronbach's alpha of .85 in the study. For

burnout, the exhaustion and cynicism subscales of the MBI were used. Laschinger et al. (2015)

concluded that the hypothesized model was an acceptable fit for the data ($X^2 (164) = 1221.38$; X^2

ratio = 7.447; Comparative Fit Index, CFI = .921; IFI = .921; Root Mean Square Error of

Approximation, RMSEA = .08), meaning that the better the person-job fit with the areas of

worklife and the higher the occupational coping self-efficacy, as well as the perceptions of authentic leadership, the lower the levels of burnout. This concept of work life balance is similar to the school- life balance that nursing students are also managing as they navigate nursing school. Competing demands and an imbalance in these areas could also be a factor in their development of burnout.

Boamah and Laschinger (2016) examined the effect of person-job fit in the areas of worklife and work-life interference on burnout and turnover intent. They hypothesized that greater person-job fit and less work-life interference would correlate with less burnout and turnover intent. The sample included new graduate nurses ($n = 215$) in acute care facilities in Ontario, in practice two years or less (M=1.00 years). The instruments used in their study and in previous studies in this population were the AWS, the turnover intention scale by Kelloway et al. (1999) and the exhaustion and cynicism subscales of the MBI-GS. To measure work-life interference, the Work Interference with Personal Life Scale (WIPL) was used. A Cronbach's alpha of 0.93 was reported for the WIPL in this study. They concluded that there was an appropriate fit for their hypothesized model ($X^2 = 247$, $df = 122$, $p = .001$, Incremental Fit Index (IFI) = 0.954, Comparative Fit Index (CFI) = 0.953, Root Mean Square Error of Approximation (RMSEA) = 0.06), meaning that the person-job fit into the areas of worklife had a direct negative effect on burnout which had a direct positive effect on turnover intent while work-life interference was directly and positively associated with burnout (Boamah & Laschinger, 2016, p. E164). These findings support that burnout remains an important concept to better understand. Considering that the findings in this study show that manageable workloads and fairness were the areas of worklife most lacking, and that 46% of the new graduate nurses showed moderate work life interference and moderate to severe burnout, institutional changes were recommended.

Some ideas suggested were flexible scheduling, paid time off and encouraging nurses' input into processes in the workplace. When considering this research as well as the findings by Laschinger et al., (2015) it appears that external factors, including work and family demands, can contribute to burnout. Therefore, demographic questions that explore competing demands were included in the current study to accurately describe the sample of nursing students.

Burnout in Nursing Students

Beck (1995) performed the first research on burnout in nursing students. It was a phenomenological study on nursing students ($n = 28$) in a BSN program in the US. After review of the responses, nine themes were discovered: "coping attempts, impeding relationships, decreased motivation, lack of concentration, emotionally overwhelming, physically debilitating, no outlet, time pressure and engulfing demands" (Beck, 1995, p. 19). Aspects of these themes are components of exhaustion, which is considered a core component of burnout, a variable in the current study.

Burnout Research: Oldenburg Burnout Inventory (OLBI). In Sweden, Rudman and Gustavsson (2011, 2012**)** published findings from longitudinal research involving the Longitudinal Analysis of Nursing Education (LANE) study. Burnout was measured using a modified version of the Oldenburg Burnout Inventory (OLBI). This study is compelling because it is the only study that looks at burnout in nurses as they bridge the gap between student and practicing nurse. In their first published research (2011) Rudman and Gustavsson explored burnout trajectories in nursing students in their final year and then after one, two, and three years in practice. The sample started with 1,153 nurses; 687 completed all four surveys, and data was imputed for those who missed one survey, leaving a final sample of 997 (Rudman & Gustavsson, 2011). Although this practice of imputation is acceptable, it can still affect the validity of the results (McCleary, 2002). The sample was 89%

female with a mean age of 30.5 years. Those with imputed results were more likely to be in the younger group (age 25-35). The researchers state that the participants were all initially students at Swedish universities, but their actual degree or educational level was not discussed. They modified the OLBI in the questions for participants while they were in nursing school to ask about burnout during school versus burnout in the workplace. The reported Cronbach's alphas for the OLBI for the study were adequate at .84-.86. Overall, mean levels of burnout stayed relatively stable over the course of the study ($M = 12.67$, 12.91, 12.69). Participants who had lower levels of burnout initially as students, and throughout the study, tended to be over 35 years of age, were parents and had former experience in healthcare. This coincides with the finding by Spooner-Lane and Patton (2007) that younger nurses may be more prone to burnout. Rudman and Gustavsson (2011) also found that about 20% of nurses will experience high levels of burnout at some time and that the highest levels across the groups did occur at two years into clinical practice. These results showing low levels of burnout in older students and those with healthcare experience could be better elucidated. Is the development of burnout in nursing school mediated by age/maturity or prior experience in healthcare or is it more related to intrapersonal factors? This supports the significance of the current study as well as the inclusion of previous experience in healthcare as part of the demographic survey.

Rudman and Gustavsson (2012) went on to examine how burnout levels in nursing students predict occupational preparedness and future clinical performance. They followed 1702 respondents from the LANE study over a four-year period. They found a significant increase in burnout over three years of nursing education, from 30% at baseline (second semester of their nursing program) to 41% at the completion of their education. Specifically, the exhaustion and disengagement subscales of the OLBI increased significantly ($p < .001$). Although this timing could correlate to student entry into clinical rotations, it remains unclear what this increase in burnout symptoms was related to. The

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LANE study also assessed in-class learner engagement, occupational preparedness and research utilization in the final year of education and in one-year post graduation. Rudman and Gustavsson (2012) concluded that baseline levels of burnout predicted lower levels of learner engagement and perceived occupational preparedness. If students are not fully engaged in and benefiting from their clinical and didactic nursing education, they may be less prepared for the realities of the workplace. Again, this highlights the importance of understanding what factors are related to the development of burnout in nursing students.

Rudman et al. (2014) went on to further analyze the longitudinal data from the LANE study, regarding burnout and intent to leave the profession in new nurses. They found that higher levels of burnout, specifically in the disengagement subscale of the OLBI, were associated with an increase in the intent to leave the profession during the first year of employment ($\beta = 0.246$). Although turnover from the first job is a concern for hospital organizations, due to the cost and time needed to orient NGNs, these new nurses may be leaving for a different position or to pursue continuing education. Increasing the numbers of nursing students enrolled in nursing programs will not be a solution if they are developing burnout and possibly even leaving the profession. This lends relevance to the current study as a better understanding of factors related to the development of burnout is imperative. This may help to guide nurse educators to better prepare a more stable nursing workforce.

Burnout Research: Professional Quality of Life Scale (ProQOL). Researchers in South Africa (Mason & Nel, 2012) and Canada and Australia (Chachula, 2021; Rees et al., 2016) investigated burnout, compassion fatigue and compassion satisfaction (subscales in the ProQOL) in nursing students. In their sample of nursing students ($n = 80$) with a mean age of 22.4, Mason and Nel (2012) found that 63.75% of the sample had a moderate to high risk of burnout and that

compassion satisfaction and burnout were negatively correlated ($r = -.63$, $p < .01$), concluding that compassion satisfaction was protective against burnout. In a multi-site study, Rees et al. (2016) investigated the intrapersonal factors of resilience, self-efficacy, mindfulness, neuroticism, coping skills and affective state on professional quality of life, including burnout in baccalaureate nursing students ($n = 415$) in Australia and Canada. Complex structural equation modeling was performed to analyze the data. The use of mindfulness, with resilience as a constant, was found to be protective against burnout (standardized $AB = -.056$, $p = .003$) while maladaptive coping had the largest direct effect on burnout (standardized $c3\ Mal = 0.435$), (Rees et al., 2016, p. 1072). This lends credence to further evaluate resilience (a component of PsyCap) in nursing students enrolled in clinical rotations.

Also using the ProQOL to measure burnout, Chachula (2021) performed a study on pre-licensure nursing students ($n = 93$) in long-term care and palliative care rotations in Canada. The aim was to assess what factors (perceived stress, life events, self-evaluation of skills and intent to leave nursing program) predicted burnout and the other factors measured by the ProQOL scale (compassion satisfaction, compassion fatigue and secondary traumatic stress). Findings related to burnout included that there was a significant positive correlation between burnout and intent to leave the nursing major ($r (91) = .522$, $p < .001$) and perceived stress levels were significantly predictive of burnout ($B = 0.418$, $p <.001$), (Chachula, 2021). These findings support the relevance of the current study.

Burnout Research: Academic Burnout Scale (ABS). Wang et al. (2019) investigated academic burnout and professional self-concept in a cohort of baccalaureate nursing students ($N=1083$) in China. Their ages ranged from 17-25 with a mean age of 20.06 years. Within the sample, 952 (87.9%) of the participants were female. The ABS was used to measure burnout. This

scale has three subscales (dejection, improper behavior and reduced personal accomplishment) that are sum scored. The Nurses Self-Concept Instrument (NSCI) was used to measure self-concept. In this study, the mean score on the ABS was 2.77 +/- 0.53, which is close to the median (3). Higher scores on the NSCI were associated with lower levels of academic burnout.

Burnout Research: Versions of the Maslach Burnout Inventory (MBI). The remaining relevant and current research involving intrapersonal factors and burnout in nursing students used various versions of the Maslach Burnout Inventory (MBI) to measure burnout.

Using the MBI-Student Survey (MBI-SS). Two studies took place in Spain and examined resilience as a factor and measured burnout using the MBI-SS (Rios-Risquez et al., 2016; Rios-Risquez et al., 2018). Rios-Risquez et al., (2016) studied nursing students (N=116) in their final year and looked at the relationships between resilience, burnout and psychological health. Resilience was measured using the Connor-Davidson Resilience Scale, burnout was measured using the MBI-SS and psychological health was measured using the General Health Questionnaire (GHQ-12). High scores for resilience and low scores for emotional exhaustion were associated with better psychological health ($F = 17.75$; $p < .001$) (Rios-Risquez et al., 2016, p.430). Expanding on these same variables and using the same instruments, Rios-Risquez et al. (2018) performed longitudinal research in nursing students at two data points 18 months apart. In the sample, 218 students completed the first survey and 113 completed the second survey. Participants were all were nursing students at the University of Murcia in Spain and there were no exclusion criteria. Type of nursing program, stage in their nursing education at the first and second data point, or if they had completed clinical rotations was not discussed. As in the earlier study, low scores for emotional exhaustion and higher scores in resilience were associated with better psychological health. Rios-Risquez et al. (2018) found that from a longitudinal standpoint,

mean levels of the components of burnout remained relatively stable over the course of the study (emotional exhaustion $M = 2.43$ at T1, 2.40 at T2; cynicism $M = 1.67$ at T1, 1.45 at T2; efficacy $M = 4.32$ at T1, 4.21 at T2). The findings from both studies support the relationships in the current study. The number of clinical rotations completed by the students was not made clear. This makes the sampling frame in the current study relevant. Specifically sampling those who have completed one or more clinical rotations provides a better understanding of how the transition to clinical rotations may relate to the development of burnout in this population.

Also, in Spain, two additional research studies involving nursing student burnout used the MBI-SS (Manzano-Garcia et al., 2017; Vallero-Chilleron et al., 2019). Manzano-Garcia et al. (2017) studied nursing students ($n = 166$) during an economic crisis. This crisis was causing a decrease in recruitment and available jobs for nursing graduates. The variables were level of personal control measured by the Battery of Generalized Expectancies of Control Scale (BEEGC-20), perception of threat of the crisis, measured by a 7-item scale developed by the researchers, engagement, measured by the Utrecht Work Engagement Scale for Students (UWES-S) and burnout, measured by the MBI-SS. Overall, concerns regarding the economic crisis were directly related to burnout scores ($\beta = 0.17$, $r^2 = 0.16$; $F (7, 157) = 4.12$; $p < 0.01$), and negatively related to engagement ($\beta = -.18$, $r^2 = 0.25$; $F (7, 158) = 7.65$; $p < .01$) (Manzano-Garcia et al, 2017, p.118). Of note, increased age was associated with lower levels of burnout ($\beta = -.021$) and higher levels of engagement ($\beta = 0.37$), (Manzano-Garcia et al, 2017, p.118). These findings are consistent with other studies that found that increasing age was negatively related to burnout (Rudman et al., 2012; Spooner-Lane & Patton, 2007). Our current economic crisis and pandemic certainly need to be considered as factors contributing to the life of clinical nursing students although the effects remain to be determined.

Valero-Chilleron et al., (2019) performed an observational survey on nursing students ($n = 126$) in their second, third and fourth years of nursing school. They excluded students who had not yet started clinical rotations. This is similar to the sampling in the current study. The researchers used the MBI-SS to measure burnout and the KEZKAK Questionnaire to evaluate clinical clerkship stressors across nine dimensions. The factors causing the most stress were helplessness and uncertainty about their clinical experiences (M=3.61, SD=0.345). The researchers defined burnout as having high (75th percentile or above) scores for emotional exhaustion and depersonalization (cynicism) and low (below 25th percentile) scores for personal accomplishment (efficacy). Although there was not a statistically significant prevalence of burnout syndrome as defined by the authors, some trends and correlations were noted. Of the three burnout dimensions, 21 (17%) participants had high levels of emotional exhaustion and the majority of these students were in their third academic year. Seeing the highest levels of emotional exhaustion in the third year, after completing two clinical rotations, also supports the sampling frame in the current study.

   Using the MBI-Human Services Survey (MBI-HSS). Using the MBI-HSS, Katsifaraki and Tucker (2013) performed a study on students ($n = 183$) three months prior to graduation from a four-year nursing program in the United Kingdom. They examined the effects of alexithymia on the three dimensions of burnout after controlling for multiple variables, including workload, depression and coping. Like Rees et al (2016), coping styles were included as part of the study design. Alexithymia is a "personality trait that is characterized by three dimensions-- difficulty identifying feelings (DIF), difficulty describing feelings (DDF), and an externally oriented thinking (EOT) style which means that the thinking process is focused on concrete details of external stimuli, rather than internal experience" (Taylor et al., in Katsifaraki &

Tucker, 2013, p. 628). The results demonstrated that only the EOT alexithymia dimension was

significantly associated with two of the components of burnout (depersonalization, $\beta = 0.25$, p

<.001; personal accomplishment, $\beta = -.37$, p <.001) after adjusting for depression, coping and

work-related factors (Katsifaraki & Tucker, 2013). It was discussed that those with EOT lack

emotional awareness and this may have been a factor in not self-reporting an association with the

emotional exhaustion burnout dimension.

McKee et al. (2019) and Michalec et al. (2013) performed burnout research on nursing

students in the US. Both studies investigated nursing student burnout in BSN students using the

MBI-HSS. McKee et al. (2019) examined relationships between the number of Adverse

Childhood Experiences (ACEs) and levels of burnout and depression in a sample of BSN

students ($N = 211$) in Texas in the first semester of their junior year. ACEs are considered

negative, chronic events during childhood and can include living with poverty, abuse and neglect

(McKee et al., 2019). Of note, the research sample included students who are early in their junior

year and have yet to complete clinical rotations. The researchers planned to repeat the survey at

the end of the program and one year into practice. This data was not yet available. Their baseline

results demonstrated that 152 (72%) respondents had experienced at least one ACE, the most

common being divorced parents, followed by substance abuse in the household, followed by

physical abuse (McKee et al., 2019, p. 115) and that the number of ACEs was associated with

higher levels of depersonalization, one component of burnout. Other findings included that 46

(22%) students demonstrated moderate to high levels of emotional exhaustion, 50 (24%) had

moderate to high levels of depersonalization, and 78 (37%) had low levels of personal

accomplishment (McKee et al., 2019). The authors noted this was concerning considering that

the students had yet to begin their clinical rotations which would likely add additional stress. The

sampling in the current study, including students who have completed at least one clinical rotation, will help us to better understand the potential impact of clinical rotations on this phenomenon.

Also in the US, BSN students ($n = 436$) in Delaware were sampled in a mixed-methods study, using surveys as well as in-depth, semi-structured interviews (Michalec et al., 2013). Of note, this nursing program compresses all clinical rotations into the fourth year of nursing education and the sample included students in their first, second, third and fourth year. The researchers measured compassion fatigue using the Professional Quality of Life (ProQOL) scale and burnout using the MBI-HSS. Students across all levels reported moderate levels of emotional exhaustion and personal accomplishment (professional efficacy), low levels of depersonalization (cynicism) and high levels of compassion satisfaction. Although scores for emotional exhaustion were highest in year two ($M = 22.73$), they did increase over time from year one ($M = 18.16$) to year four ($M = 19.46$). Three themes emerged from the interviews, including *enhanced "otherness",* meaning they were more aware of other people, and more empathetic and caring, *role actualization/fulfillment*, meaning that they were beginning to feel like a nurse and *burnout on the horizon,* meaning that they felt that the stressors of nursing make the eventual development of burnout likely. The researchers concluded that these perceptions may point to burnout beginning in these nursing students early in their training (Michalec et al., 2013).

Using the Maslach Burnout Inventory-General Survey (MBI-GS). Babenko-Mould and Laschinger (2014) studied the interpersonal factor of incivility in clinical settings and burnout in fourth-year nursing students ($n = 26$) in Canada. The exhaustion and cynicism subscales of the MBI-GS were used to measure burnout. Similar to findings in the NGN population (Laschinger et al., 2010; Laschinger & Grau, 2012; Laschinger, Wong et al., 2012), incivility from staff nurses was

significantly associated with burnout (cynicism subscale; $r = .289$, $p < .05$). Incivility from both staff

nurses and clinical instructors was significantly associated with burnout (operationally defined by the

emotional exhaustion subscale); $r = .42$, $p < .001$, $r = .24$, $p < .05$, respectively. Although the

relationship between the interpersonal factor of incivility on burnout seems well established, more

needs to be clarified regarding the relationship between student intrapersonal factors and burnout.

Although these studies help us to better understand the phenomenon of nursing student burnout, there

remains a paucity of research in the US on this topic.

Measurement of Burnout

Although in some of the literature discussed, researchers have utilized the Oldenburg

Burnout Inventory (Rudman et al., 2014), the Professional Quality of Life Scale (Rees et al.,

2016) or the Academic Burnout Scale (Wang et al., 2019) to measure burnout, the Maslach

Burnout Inventory (MBI) has been the instrument most frequently used to measure burnout and

it is considered the *gold standard* (Schaufeli et al., 2009). Therefore, the rest of the discussion on

the measurement of burnout will relate to the MBI, its development and provide rationale to

support the use of the MBI-General Survey (GS) in the proposed research.

As discussed in the MBI Manual, (Maslach et al., 2016), Maslach and Jackson first

operationalized the three components of burnout using the MBI in 1981. After first creating a

larger instrument with 47 items and and then conducting a factor analysis, the inventory was

reduced to 22 items for the three components: nine for emotional exhaustion, five for

depersonalization and eight for personal accomplishment. This initial instrument was delivered

and normed on a total of 1,025 human services workers, including nurses, in the U.S. A

Cronbach's alpha of .70 or higher is moderately reliable (Lance et al., 2006) and will be

considered an adequate benchmark. The Cronbach's alpha was assessed for the inventory overall

and the individual scales. The overall Cronbach's alpha was .83 for frequency and .84 for intensity. The original MBI was eventually labeled the MBI-Human Services Survey (MBI-HSS). Initially, Maslach felt that the phenomenon of burnout applied to workers in human services profession (Maslach, 1978) but it has since evolved to be applicable to people working across many professions and occupations.

Subsequently, the survey was updated, and the MBI-General Survey (MBI-GS) was published to be used across all populations. The scales for the MBI-GS have been revised and renamed over time. They are now exhaustion, cynicism and professional efficacy; high scores in the exhaustion and cynicism scales along with low scores in the professional efficacy subscale (or having inefficacy; the term that will be used when describing this dimension of burnout in this research) being indicative of burnout (Maslach et al., 2016). The MBI-GS was initially normed on a large sample of 12,140 people, including 1,257 nurses with Cronbach's alphas for each scale being adequate; exhaustion .83, cynicism .76 and professional efficacy .76 (Maslach et al., 2016, p. 46). Although some researchers choose to operationalize burnout by using only the exhaustion scale or the exhaustion and cynicism scales, the creators of the MBI continue to recommend that all three are utilized to best describe burnout in research (Maslach et al., 2016). Therefore, all three scales were utilized in the current study.

When reviewing the different versions of the MBI, while some researchers have chosen to use the MBI-HSS (McKee-Lopez et al. 2019; Michalec et al, 2013), or the MBI-SS (Manzano-Garcia et al., 2017; Vallero-Chilleron et al., 2019) in nursing students, the wording in these surveys limits respondents to consider only clinical work with people or classroom/university work, which may skew the results. Also, adequate psychometrics for the student version are not available (Maslach et al., 2016). Therefore, considering the MBI-GS has also been used in

nursing student and new graduate nurse populations (Babenko-Mould & Laschinger, 2014; Laschinger & Fida, 2014) and that it is currently recommended for general use across all settings, measuring burnout as "a crisis in one's relationship with work" (Maslach, et al., 2016, p. 42), it was the instrument used in this research. For nursing students, the work would relate to any aspect of their nursing school work, including both didactic and clinical coursework. Lending further rationale to its use is that a recent large-scale latent profile analysis across broad populations, including in healthcare, demonstrated ongoing reliability of the instrument and its three scales (exhaustion, cynicism and inefficacy) with Cronbach's alphas of .94, .81 and .88, respectively (Leiter & Maslach, 2016).

The creators of the MBI-GS also assert that burnout exists on a continuum with engagement. The recent latent profile analysis (Leiter & Maslach, 2016) identified five different profiles, or patterns of the burnout dimensions in individuals, across the burnout-engagement continuum related to the scales of the MBI-GS (exhaustion, cynicism, inefficacy). They included *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension). These burnout profiles were identified in research using the MBI-GS and 1,766 healthcare employees were included in the sample, with nurses (*n* = 385) being the largest represented (Leiter & Maslach, 2016). Therefore, in the current study, burnout was operationalized by evaluating scores in the individual scales of the MBI-GS and also identifying the types of burnout profiles present in the nursing student sample. This extends the body of research on burnout profiles into the nursing student population.

Psychological Capital Literature Review

Psychological Capital (PsyCap) is a positive intrapersonal resource composed of hope, efficacy, resilience and optimism that originated from the positive psychology and the positive organizational behavior (POB) literature in the early 2000s. POB is the "study and application of positive oriented human resource strengths and psychological capacities that can be measured, developed and effectively managed for performance improvement" (Luthans, in Luthans et al., 2014, p.2). A considerable amount of research involving PsyCap in and out of the healthcare setting is published; however, studies focused on the nursing student population are limited.

This literature review will begin with an overview of research involving PsyCap in experienced nurses and new graduate nurses and will conclude with nursing students, the population in this study.

Psychological Capital in Nurses and New Graduate Nurses

The first study performed examining PsyCap in nurses was in 2005 performed by Luthans, who developed the concept of PsyCap. In this descriptive correlational study of registered nurses and licensed practical nurses (*N*=71) in a Midwestern US hospital, Luthans found that the overall PsyCap score was significantly related to the nurses' intention to stay in their current job (*r* =.454, *p* = .000) and the supervisor's perception of the nurses' commitment to the mission of the organization (*r* =.376, *p* = .001). This study began to demonstrate the positive correlations of PsyCap with preferred organizational outcomes.

Of the research found relating to PsyCap in nurses, several of the studies took place in China. In these studies, aspects of the workplace and of the nurse personally were examined in relation to PsyCap. PsyCap was negatively related to emotional exhaustion in practicing nurses (*β* = -.205, *p* <.001) (Wang et al., 2012) and also had positive correlations with organizational

commitment ($\beta = 0.321$, $p < .001$) (Peng et al., 2013) and job performance ($r = .52$, $p < .01$) (Sun et al, 2011, p. 73). Although the population in these three studies was practicing nurses and the research explored workplace issues, the results may be relevant when considering student engagement and stress regarding school performance in student nurses. Zhou et al. (2017) published a study including PsyCap with a sample of practicing nurses ($n=538$). The researchers recognized that stress levels were high in the nursing population and wanted to examine the relationships between PsyCap, coping styles and psychological distress. They found that overall PsyCap levels were moderate in the sample ($M=4.23$) and that the PsyCap subscale items of hope and optimism were most highly correlated with psychological distress ($r=-.323$, $p < .01$; $r=-0.319$, $p < 0.01$). The nurses' coping styles were found to have a mediating role in both PsyCap and psychological distress. These results may be relevant to consider because coping strategies can be taught to nursing students to help them manage their stress.

Similar to findings in China (Wang et al., 2012), Boamah and Laschinger (2015) found that PsyCap was a significant predictor of work engagement ($\beta = 0.36$, $p < .05$) and that PsyCap and workplace empowerment combined, explained 38% of the variance in work engagement in a sample of NGNs ($n=205$) in Canada. Work engagement was discussed as being related to employee fulfillment and a sharp contrast to burnout (Boamah & Laschinger, 2015). Kim and Yoo (2018) also researched PsyCap and work engagement but related PsyCap to intent to remain (in current job) in a sample of NGNs ($n = 156$) in Korea. PsyCap ($\beta= 0.376$, $P < .001$) and work engagement ($\beta = 0.283$, $P < .001$) were significantly and positively correlated and accounted for 33.5% of the variance in the intent to remain of the NGNs (Kim & Yoo, 2018).

In the United Kingdom (UK), Bonner (2016) performed a study using a convenience sample of registered nurses ($n=137$) to assess the relationship between work engagement and PsyCap. Like

Wang et al., (2012), Boamah and Laschinger (2015) and Kim and Yoo (2018), Bonner found that PsyCap was significantly correlated with work engagement ($r = .633$, $p < .01$). These findings demonstrating that PsyCap has been correlated positively with work engagement and supports the hypothesized inverse relationship PsyCap has with burnout in nursing students in the current study.

Stam et al. (2015) labeled PsyCap as a personal resource and looked at the effect combined with a structural resource (workplace empowerment and staffing) on job satisfaction (which is inversely related to turnover), also in NGNs in Canada. They found that all three factors (PsyCap, workplace empowerment and perceived staffing adequacy) contributed to job satisfaction, and that PsyCap accounted for 9% of the variance ($F = 52.61$, $R^2 = 0.09$, $p < .001$). The authors noted that providing positive reinforcement, realistic goals and debriefing sessions might help to develop PsyCap in this population. These strategies could certainly apply to the nursing student population as well.

Read and Laschinger (2013) recognized that turnover was high in NGNs in Canada and were interested in what personal and organizational factors correlated to the NGNs perceptions of mistreatment (coworker and supervisor incivility and bullying). PsyCap again emerged as a positive personal resource, being significantly and inversely correlated with perceptions of coworker incivility, supervisor incivility and bullying ($r = -.19$, $r = -.17$, $r = -.21$). Read and Laschinger went on to perform a descriptive, cross-sectional comparison study (2017) examining intrapersonal resources, including PsyCap and occupational coping self-efficacy (OCSE), transition experiences and job retention of 3,655 new graduates, comparing graduates from traditional nursing and accelerated nursing programs in Canada. Although they did not find significant differences between graduates from traditional and accelerated programs, nurses in both groups, had high levels of PsyCap ($M = 4.57$ and 4.56 out of 6) and OCSE ($M = 3.6$ and 3.61 out of 5). Job turnover intentions

were moderate and career turnover intention low for both groups. Although OCSE could be measured in nursing students participating in clinical rotations, it has yet to be studied in that population and as a concept relates more to employment. PsyCap is also more appropriate than OCSE to include in the current study as it is a multilayered concept that captures several facets of the nursing students' intrapersonal resources. In addition, it has already been utilized in several studies in this population (Liao & Liu, 2015, Liu et al., 2015, Woo & Park, 2017).

Two complex Canadian studies (Laschinger & Grau, 2012; Laschinger & Fida, 2014) included PsyCap as an independent variable and burnout as one of the outcome variables. Both of these studies also sampled NGNs. Within the proposed models, both studies concluded that PsyCap was significantly and negatively related to burnout in the NGN population. It was discussed that activities to improve PsyCap, including an on-line training program (Luftans, 2008, in Laschinger and Grau, 2012) and teaching coping strategies (Laschinger & Fida, 2014) may be beneficial in this population. This corroborates the findings in Zhu et al. (2017). It is logical that such strategies could also be used to foster PsyCap in nursing students. Laschinger and Grau (2012) also reported high levels of emotional exhaustion, a component of burnout measured by the Maslach Burnout Inventory (MBI). If the burnout symptoms are this high in the first year of practice, it remains relevant to assess PsyCap and burnout in the nursing student population, to attempt to clarify where it begins and to what extent.

Generalization of the above studies involving PsyCap in NGNs in Canada to the US remains limited by the differences in the health care systems in Canada as well as the fact that a BSN is required to enter practice in Canada. Regardless of the healthcare differences, NGNs have limited clinical experience and have similar stress and uncertainly during clinical experiences as the nursing student population in the current study.

Bao and Talioferro (2015) published one of the few studies examining PsyCap in nurses in the US. Instead of looking at organizational outcomes such as work engagement, commitment or intent to stay, Bao and Talioferro (2015) were interested in the mental health of nurses and sought to investigate correlations between PsyCap and compassion fatigue, which includes burnout and secondary traumatic stress. The sample included 260 registered nurses working in a Midwestern United States urban teaching hospital. According to Bao and Talioferro (2015, p. 38) "PsyCap was moderate to strongly negatively correlated with burnout ($p < .01$, $r = -.585$)." It was also noted that the PsyCap mean total score for the nurses in the sample was comparable to a sample of working adults from other disciplines (Avey et al., 2010, in Bao & Talioferro, 2015). This supports that PsyCap may not be profession specific or based on what a person does for a living. These findings also continue to support the inverse relationship between burnout and PsyCap and that it is relevant to do further research on the intrapersonal factors in this population, versus organizational factors.

In a literature review examining factors affecting transition to practice for NGN's, Dwyer and Revell (2016) reviewed five studies examining PsyCap and concluded that it is emerging as a significant and positive intrapersonal resource that is protective against burnout. Further investigation of PsyCap in nursing students is justified, as there are significant findings in the NGN population that demonstrate it serves as a protective intrapersonal resource against burnout and a variety of other negative outcomes.

Psychological Capital in Nursing Students

Liao and Liu (2016) administered a cross-sectional survey of 300 senior nursing students in a Chinese baccalaureate program examining the relationships between structural empowerment and psychological capital on competence. Interestingly, although structural empowerment has been studied in the context of the workplace in other studies, (Stam et al.,

2015; Boamah & Laschinger, 2015) this study explored the relationship of student's empowerment in the clinical setting. Competence was assessed using the Competence Inventory of Nursing Students, a 38- item inventory, including six dimensions (ethics and accountability, general clinical skills, lifelong learning, clinical biomedical science, caring and critical thinking and reasoning). Overall, using this self-reporting instrument, the sample had moderate to high competence ($M = 5.35$, $SD = 0.75$) with the ethics and accountability scoring highest ($M = 5.78$, $SD = 0.86$) and critical thinking and reasoning scoring the lowest ($M = 4.81$, $SD = 1.09$). This is not unexpected as critical thinking/clinical reasoning is a skill that is developed over time. PsyCap was significantly and positively associated with competence ($r = .685$, $p = <.01$). The authors concluded that creating a supportive learning environment and using methods to increase PsyCap is recommended to improve competence in nursing students.

Liu et al., (2015) also studied nursing students in China but instead of baccalaureate students, their sample consisted of 643 students in three five-year high school based vocational nursing programs. Their study was also a cross sectional survey design with the purpose of examining the mediating effect of PsyCap on negative life events and adjustment to school. All of the above research studies involving PsyCap utilized the Psychological Capital Questionnaire (PCQ). This study used a version of the PCQ geared toward adolescents (PCQAS**).** The sample included 90 (14%) male students and 553 (86%) female students ranging in age from 14-22 with a mean age of 17.14. This differed from the previous sample, which had a mean age of 22.9 years and was 6.3% male and 93.7% female (Liao & Liu, 2015). In their study with a mean age of 17.14, the mean PsyCap levels were higher ($M = 5.77$, $SD = 0.70$), then in the previous study ($M = 4.33$, $SD = 0.72$) of Chinese baccalaureate students with a mean age of 22.9. This is interesting because it could mean that PsyCap levels may vary with age and/or change over time. However, from a demographic

standpoint, the samples were different with 89% of the sample in their study being born in rural areas and 45.8% in the previous study living in rural areas (Liao & Liu, 2015). From the standpoint of the study variables, negative life events (which included punishment, school stress, bereavement and interpersonal relationship strain) had a negative effect on school adjustment while PsyCap was positively associated with school adjustment ($\beta = 0.643$, $p <.001$). PsyCap was also found to have a mediating effect between negative life events and school adjustment (Liu et al., 2015). Considering the differences in the healthcare and socioeconomic systems in China, these results cannot be generalized to the US population of nursing students, but it still bolsters the evidence supporting PsyCap as a positive intrapersonal resource in nursing students. Understanding that PsyCap can be fostered, this remains something relevant to further explore in this population.

Woo and Park (2017) also investigated PsyCap in nursing students, but in South Korea. It was a descriptive correlational, survey-based study. In this study of 312 pre-clinical students in their first two years of a four-year program, prior to entering their clinical education, the aim was to explore correlations between PsyCap, professional values and specialty satisfaction (satisfaction with their chosen program of study). Of note, those who chose nursing for job stability had lower specialty satisfaction ($M = 3.70$, $SD = 0.72$) than those who chose nursing for the value/rewards ($M = 4.08$, $SD = 0.50$) of the job (Woo & Park, 2017, p. 26). Overall, PsyCap was significantly positively correlated with specialty satisfaction ($r =.63$, $p < 0.001$) as were each of its subscales; self-efficacy, hope, resilience and optimism (Woo & Park, 2017, p. 26). Of note, compared to this study where PsyCap was positively correlated to levels of satisfaction with the nursing major, Njim and colleagues (2018) found that dissatisfaction with nursing major contributed to burnout, which supports the inverse relationships between PsyCap and the

dimensions of burnout hypothesized in the current study. Additionally, it provides a rationale for including nursing major satisfaction in the demographic survey.

Like the previous sample, Terry et al. (2020) completed a cross-sectional survey including PsyCap in a sample of 1,982 BSN students in Australia, including students who had yet to begin clinical rotations. In addition to the PCQ-12, the researchers included the Nursing Self-Efficacy Scale (g-8) and a General Self Efficacy Scale (GSE-10). Nursing self-efficacy was higher in year 3 students ($M = 3.39$, $SD = 0.51$) as compared to year 1 students ($M = 3.06$, SD 0.55) and two PsyCap items (efficacy and hope) were significant independent predictors and explained 16.5% of the variance in nursing self-efficacy (Terry et al., 2020, p. 165). Although helpful, more research is needed on specific samples of students who have completed clinical rotations and have begun to be exposed to the realities of the nursing workplace, especially in the US, where PsyCap has yet to be studied in the nursing student population. This is more important when considering that the body of research continues to demonstrate that PsyCap is a positive, protective, and modifiable intrapersonal resource.

Nursing Student Burnout and PsyCap

When initially searching "psychological capital and burnout in nursing students", no articles were found examining these specific variables in the nursing student population. This validates the current study as it is a gap that requires a better understanding, especially considering that significant previous research demonstrates PsyCap is associated with less burnout in NGNs, the role immediately following the nursing student role.

Measurement of PsyCap

All measurement of PsyCap discussed in this literature review utilized the Psychological Capital Questionnaire (PCQ). There was no other instrument to measure PsyCap found in the

literature review. The PCQ is a 6-point Likert-style instrument with answers ranging from strongly disagree to strongly agree. There are four subscales corresponding to each of the four constructs (hope, efficacy, resilience and optimism) and each has equal weight and is composed of six items (Luthans et al., 2007).

There is now a 12-item short version of the PCQ in addition to the PCQ-24. Overall Cronbach's alpha for the PCQ-12 is 0.68 (Avey et al., 2011) and for the PCQ-24 it is 0.89 (Luthans et al., 2014). Therefore, the full PCQ-24 was used in the current study due to better reliability. Also, while the four subscales are reliable individually, most researchers utilize the summed score. Possible scores range from 24 to 144, with higher scores indicating higher levels of PsyCap. Overall, the researchers assert that PsyCap is larger than the sum of its parts. A common underlying link in the four components "is a mechanism shared across each of the facets that contributes to a motivational propensity to accomplish tasks and goals" (Luthans et al., 2007, p. 548).

Luthans and Jensen (2005) first used the PCQ in a study of 71 nurses in 2005 with a Cronbach's alpha of .89. Thereafter, it was utilized in samples of management students, engineers and technicians with Cronbach alphas for the overall PsyCap measure in each of the samples being .88, .89, .89, and .89 respectively (Luthans et al., 2007). These all exceeded acceptable standards for reliability. In a confirmatory factor analysis on the PCQ, no changes were necessary, and support was found for the model that PsyCap is a higher order factor (Luthans et al., 2007). As demonstrated in recent studies using the PCQ-24 in the proposed population of nursing students, the reliability remains strong with Cronbach's alphas of .93 (Woo & Park, 2017) and .92 (Liao & Liu, 2015). This provides further support for including the PCQ-24 in the current study, instead of the shorter version.

Conclusion

Burnout is a concept that has long been identified in experienced nurses, especially in high stress environments. It is unsettling that burnout is now being seen in new graduate nurses and, even in nursing students as they transition into clinical rotations. It is relevant to prevent burnout, as it has been associated with turnover from the workplace and the profession. With the aging nursing workforce, regular attrition, and the COVID-19 pandemic, a supply of capable and prepared nurses is needed now more than ever before. The phenomenon of burnout needs to be better understood, especially in the nursing student population. In this population, a better understanding can lead to educational practices that can help to prepare more capable nurse graduates.

PsyCap is a positive intrapersonal resource that has been associated with less burnout in new graduate nurses but has not been studied in nursing students in relationship to burnout. Considering that PsyCap is a positive and modifiable intrapersonal resource, there is relevance to its study in nursing students and to examine the relationships between PsyCap and the dimensions of burnout in this population. Also lending validity to the current study is that the majority of the research has previously taken place in China, Korea, Canada and Sweden, all of which have very different healthcare systems compared to the US. The current study is significant as a better understanding of the demographics, stressors and relationships between the dimensions of burnout and PsyCap in clinical BSN nursing students in the US is needed.

Chapter III

METHODS

The purpose of this research was to examine the relationships between and among psychological capital (PsyCap) which is composed of hope, efficacy, resilience and optimism and the dimensions of burnout (exhaustion, cynicism and inefficacy) in a convenience sample of baccalaureate nursing students who have completed at least one clinical rotation. Burnout, existing on a continuum with engagement, also results in patterns or profiles of burnout in individuals. These profiles of burnout include: *burnout* (high in all three burnout dimensions), *engagement* (low in all three burnout dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension). Therefore, the types of burnout profiles present in the sample were also identified.

Because it is known that burnout is a significant factor associated with turnover and intent to leave the profession in new graduate nurses, further understanding of the phenomenon in nursing students was necessary. A better understanding of these relationships as well as the demographics of this population has the potential to lead to educational practices and interventions that can be implemented in this population, prior to graduation and transition into the nursing role.

This chapter provides an overview of the hypotheses, research questions, the research design and the procedures followed. It includes a description of the population, sampling and setting. Measurement, data collection procedures and statistical analyses are discussed. The necessary ethical considerations are also included.

The literature supported 3 hypotheses and 3 research questions.

Hypotheses

1. Psychological capital will be inversely related to exhaustion in nursing students who have completed one or more clinical rotations.

2. Psychological capital will be inversely related to cynicism in nursing students who have completed one or more clinical rotations.

3. Psychological capital will be inversely related to inefficacy in nursing students who have completed one or more clinical rotations.

Research Questions

1. What types of burnout profiles (patterns of the dimensions of burnout) are present in nursing students who have completed one or more clinical rotations?

2. What are the relationships between and among psychological capital (PsyCap) and the dimensions of burnout (exhaustion, cynicism, inefficacy) in nursing students who have completed one or more clinical rotations?

3. Does psychological capital (PsyCap) influence the dimensions of burnout in nursing students who have completed one or more clinical rotations?

Study Design

A descriptive correlational design examined the relationships between and among PsyCap (composed of hope, efficacy, resilience and optimism) and the dimensions of burnout (exhaustion, cynicism and inefficacy) in baccalaureate nursing students who have completed at least one clinical rotation. In addition, identifying the types of burnout profiles present further described the sample. A descriptive correlational design is appropriate as the research aim is not

to infer causality but instead investigate relationships between variables in a specific population (Polit & Beck, 2021).

Sample and Statistical Power

The population studied was students who had completed one or more clinical rotations in a traditional pre-licensure baccalaureate nursing (BSN) program. Students who were already licensed (RN-BSN), who were enrolled in a pre-licensure MSN program or who were enrolled in an accelerated or second-degree baccalaureate in nursing program were excluded. Nursing students who had not begun clinical rotations were also excluded. An a priori power analysis was conducted. Using the F family of tests, linear multiple regression, fixed model, R^2 deviation from zero, a medium effect size of .15, used in similar research, (Kim & Yoo, 2018), power of .80, significance of .05, and four predictors, the minimal sample size was calculated to be 85. Convenience sampling of students in a private and a public baccalaureate nursing program in New Jersey was completed. Approximately 300 students were recruited, 250 consented to participate in the online survey and 129 completed the primary survey instruments. Therefore, the sample size ($n=129$) in the current study was sufficient to achieve statistical power.

Demographics

A demographic questionnaire (Appendix A) including age, self-identified gender, marital and parental status, previous health care experience, current employment, including number of hours worked/week, type of college or university (private or public), number of clinical semesters completed and number of virtual clinical rotations was included. Ancillary information regarding stressors related to nursing education, satisfaction with the major, and thoughts regarding leaving the nursing path was also requested to help describe the sample.

Recruitment and Setting

IRB approval and permissions were obtained through the nursing schools to recruit students. Participants were recruited from November 2021 through February 2022. Recruitment was done in person and via email through a solicitation flyer (Appendix B). Within the flyer there was a QR Code/link to an electronic survey administered via Qualtrics™. After identifying classes in which the students met the inclusion criteria, the researcher obtained permission and classroom location information from the specific faculty via email. The researcher visited the classes, read the solicitation flyer and explained the purpose of the study, referring students to the Qualtrics™ link accessible via the QR Code. The researcher also provided a hard copy of the solicitation flyer including the researcher's contact information and the QR code sending interested participants directly to the Qualtrics™ link. A follow up email was sent one week later by the faculty member for the classes in which the researcher visited. No email addresses were obtained by the researcher.

Research Instruments

Maslach Burnout Inventory-General Survey (MBI-GS)

Rationale for Selection. Although there are other instruments that have been used to measure burnout in nurses and nursing students, including the Oldenburg Burnout Inventory (OLBI), the Professional Quality of Life Scale (ProQOL) and the Academic Burnout Scale (ABS), the Maslach Burnout Inventory (MBI) has been the instrument most frequently used to measure burnout and is considered the *gold standard* (Schaufeli et al., 2009). There are several versions of the MBI that have been used to measure burnout in nurses and nursing students, including the MBI-Student Survey (MBI-SS), the MBI-Human Services Survey (MBI-HSS) and

the MBI-General Survey (MBI-GS). The MBI-SS lacks adequate psychometrics (Maslach et al, 2016) and wording of the items is limited to classroom or university work. The wording of the MBI-HSS is limited to the work of caring for patients. The MBI-GS is worded more generally and applicable to all types of work, is valid and reliable in research involving nursing and, therefore, will be the version of the MBI used in the proposed research.

Reliability and Validity. The MBI-GS was first normed in 1986 on a sample of 12,140 people, including 1,257 nurses. The Cronbach's alphas for each scale was reported as adequate; exhaustion .83, cynicism .76 and professional efficacy .76 (Maslach et al., 2016, p. 46). It is currently recommended for general use, across all settings, measuring burnout as "a crisis in one's relationship with work" (Maslach et al., 2016, p. 42). For nursing students, the work could relate to any aspect of their nursing schoolwork, including both didactic and clinical coursework. The MBI-GS has been used in nursing students and new graduate nurse populations to measure burnout (Babenko-Mould & Laschinger, 2014; Laschinger & Fida, 2014) and was also recently used in a large-scale study on 1766 healthcare workers with nurses ($n = 385$), being the largest profession represented (Leiter & Maslach, 2016). In that large-scale study, the MBI-GS demonstrated excellent reliability for each of the three dimensions (exhaustion, cynicism and professional efficacy) with Cronbach's alphas of .94, .81 and .88, respectively (Leiter & Maslach, 2016). Of note, the creators of the instrument instruct researchers that the MBI-GS should not be sum-scored as it meant to be an assessment of the different dimensions separately and in comparison, to define what best describes burnout in an individual (Maslach et al., 2016). The validity of the MBI-GS has also been repeatedly demonstrated. MBI-GS scores were correlated with attributes and outcomes that contribute to burnout and with responses on other measures of burnout (Maslach et al., 2016).

Description of Instrument and Scoring. As discussed in the MBI Manual (Maslach et al., 2016), the current MBI-GS is a 16-item Likert-style instrument in which respondents answer how they perceive the prompts apply to them. It takes approximately five minutes to complete. It is a proprietary instrument that the researcher obtained permission to use (Appendix C). The entire survey cannot be included in a dissertation or publication. Three sample items are allowed and include: "I feel emotionally drained from my work; In my opinion, I am good at my job; I doubt the significance of my work". The answers range from 0 (never) to 3 (a few times a month), up to 6 (every day). Participants were instructed to answer the questions reflecting on the work of nursing school (didactic and clinical) and not on any other work or job they have outside of nursing school.

Exhaustion is defined as feelings of "wearing out, loss of energy, depletion, debilitation and fatigue" (Leiter & Maslach, 2016, p. 89). Items one, two, three, four and six are the items that correlate to the exhaustion dimension and measure exhaustion related to work. Cynicism is defined as "negative or inappropriate attitudes, detached concern, irritability, loss of idealism and withdrawal" (Leiter & Maslach, 2016, p. 89). Items eight, nine, 13, 14 and 15 are the items that correlate to the cynicism dimension and overall assess feelings of indifference toward their work. Decreased professional efficacy or inefficacy is defined as "reduced productivity or capability, low morale and inability to cope" (Leiter & Maslach, 2016, p. 89). Items five, seven, 10, 11, 12 and 16 relate to professional efficacy, measuring an individual's feelings of effectiveness towards their work. The professional efficacy items are reverse scored, as low professional efficacy or inefficacy is indicative of burnout.

Items in each dimension of the MBI-GS were sum scored. The exhaustion and cynicism dimensions had a minimum score of zero and a maximum score of 30 and the inefficacy dimension had a minimum score of zero and a maximum score of 36. For exhaustion and

cynicism with five items, each had a maximum possible score of 30, total scores of zero would

be equivalent to no exhaustion or cynicism, one-10 low levels, 11-20 moderate levels and 21-30

high levels of exhaustion or cynicism. For the inefficacy dimension with six items and a

maximum possible score of 36, total scores of zero would be equivalent to no inefficacy, one-11

low levels, 12-23 moderate levels and 24-36 high levels of inefficacy.

Although the MBI-GS items should not be combined to create one overall sum score, the

dimensions/scales can be correlated with each other as well as with other co-variates/ancillary

variables.

Burnout profiles have also been identified in large-scale research (Leiter & Maslach,

2016) and were also evaluated in the current study. Engagement and full burnout are easy to

interpret as respondents would be consistent in their responses, meaning those low in all three

dimensions (exhaustion, cynicism and inefficacy) would be engaged and those high in all three

dimensions would be demonstrating burnout. Those who are overextended would be high on the

exhaustion dimension only, those disengaged would be high on the cynicism dimension only and

those considered ineffective would be high on the inefficacy dimension only (Maslach, Jackson

& Leiter, 2016, p. 8). Identifying burnout profiles in the current study extends the body of

research on these profiles into the nursing student population.

Psychological Capital Questionnaire (PCQ-24)

Reliability and Validity. The PCQ is the only instrument available to measure PsyCap.

As discussed in the PsyCap Manual (Luthans et al., 2014), the PCQ was created by Luthans and

colleagues who also coined and developed the concept of PsyCap. The PCQ-24 is a 24-item

instrument, with four separate subscales to measure hope, efficacy, resilience and optimism. A

confirmatory factor analysis was performed in 2008 and confirmed that all six items in each

subscale loaded onto the respective dimension. Although the PCQ-24 subscales are reliable individually with Cronbach's alphas of .76, .75, .72 and .79 for hope, efficacy, resilience and optimism, respectively, the authors state that the instrument is most reliable (Cronbach alpha of .89) when examined as a whole (Luthans et al., 2014). Therefore, a PsyCap sum score for each individual subscale was utilized as the independent variable in the proposed research. Demonstrating its validity, PsyCap was found to have a strong positive relationship with core self-evaluations over three time periods and was strong predictor of organizational commitment (Luthans et al., 2014).

Luthans and Jensen (2005) first used the PCQ in a study of 71 nurses in 2005 with a Cronbach's alpha for the overall instrument of .89. It was subsequently utilized in multiple samples of students, engineers and other workers with Cronbach's alphas being between .88-.89 (Luthans et al., 2007). In addition to ongoing corporate research, the PCQ-24 has been used in multiple studies involving nursing students, including research by Woo and Park (2017) and .92 Liao and Liu (2015) where the reliability remained excellent with strong Cronbach's alphas of .92 and .93 respectively. These findings support the use of the valid and reliable PCQ-24 in the current study.

Description of Instrument and Scoring. Luthans et al. (2014) describe the components measured in each scale. Efficacy is defined as an individual's confidence in his or her abilities to use their motivation and resources to accomplish their goals. Items one-six comprise the efficacy subscale. Hope is an individual's place in a positive and self- motivated state of being where they believe they have the ability and willpower to succeed. Items seven-12 comprise the hope subscale. Resilience is an individual's ability to bounce back from adversity. Items 13-18 comprise the resilience subscale, with item 13 being reverse scored. Optimism is individual's

ability to have be realistic and flexible, adapting to situations at hand. Items 19-24 comprise the optimism subscale with items 20 and 23 being reverse scored.

The PCQ-24 can be completed in under 10 minutes. This is also a proprietary instrument that the researcher obtained permission to use (Appendix D). The entire survey cannot be included in a dissertation or publication. Three sample items are allowed and include: "I feel confident presenting information to a group of colleagues; Right now, I see myself as being pretty successful at my work; I usually take stressful things at work in stride". Respondents rate how well they currently agree with the statements, with one = strongly disagree, two = disagree, three= somewhat disagree, four= somewhat agree, five = agree and six= strongly agree for each of the 24 items. Participants were instructed to answer the questions reflecting on the work of nursing school (didactic and clinical) and not on any other work or job they have outside of nursing school. The scores on each of the subscales can be totaled to create an overall PsyCap score for each individual that can range from a minimum of 24 to a maximum of 144. Sum scores on the PCQ 24 of 24-63 would be consistent with low levels of PsyCap, 64-103 with moderate levels of PsyCap, and 104-144 with high levels of PsyCap.

Data Collection Procedures

The researcher created a password protected Qualtrics™ account. The demographic survey and two instruments were loaded onto the Qualtrics™ server. Overall, electronic surveys are an appropriate method of data collection as they are economical, can reach a large number of participants and provide data that is readily available for analysis (Polit & Beck, 2012). The copyright information for the proprietary instruments was included in Qualtrics™ as directed. The solicitation flyer that was provided in person and via email, included the QR Code with a link to the survey as well as the contact information and affiliation of the researcher. The Qualtrics™ survey was accessible on any device with internet access and was mobile device

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friendly. The survey began with an informed consent (Appendix E). It then asked if the participant was in a traditional BSN program as well as if they had completed at least one clinical rotation. If they answered no, they were thanked and exited from the survey. If they answered yes, the survey opened. The survey could be completed in approximately 10-15 minutes. Within the introduction on Qualtrics™, as in Chachula (2021), participants were instructed to answer the questions with the work/job of nursing school (clinical and didactic coursework) in mind, not any work/job that they engage in or have engaged in outside of nursing school. These instructions were also noted on the solicitation flyer.

All survey data was maintained securely within the Qualtrics™ server. Once exported to SPSS, all data was stored on a secure flash drive kept locked at all times and available to the researcher only. No identifying information or email addresses were collected.

Analysis of Data

The data was collected in the Qualtrics™ server. Responses were reviewed for completion. The block for question 15 included all of the items in the MBI-GS and the block for question 16, included all of the items in the PCQ-24. Once data was reviewed, 129 responses were identified that completely answered the MBI-GS and PCQ-24, the instruments that measured the primary study variables. The 129 complete responses were exported to Statistical Package for Social Sciences (SPSS 28.0 for Windows and Mac), and this software was used for all analyses. The professional efficacy scale of the MBI-GS and items 13, 20 and 23 on the PCQ-24 were re-coded as they needed to be reverse scored.

First, descriptive statistics were utilized for the demographic characteristics, using a percentage (%) and mean (standard deviation). Mean scores for the subscales of the MBI-GS and the

total PCQ-24 score were also evaluated. The prevalence of each burnout profile was identified, after categories were created based on scores for the scales of the MBI-GS linking to low and high levels for each burnout dimension and the combinations: *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension) previously developed in the literature (Leiter & Maslach, 2016).

Correlations were then evaluated using Pearson's r, with statistical significance set at $p <$ .05. These included the correlation among the subscales of the MBI-GS, and between the PCQ-24 and the subscales of the MBI-GS. When significant relationships were found, separate bivariate regressions were performed to further understand the impact of PsyCap on the dimensions of burnout and on the significant relationships between the dimensions of burnout. Tests for normality, outliers and multicollinearity were performed as per Bannon (2013) and the data was found to meet the necessary assumptions for regression analysis.

Based on previous literature (Rudman et al., 2014; Spooner-Lane & Patton, 2007) the relationships between age as well as previous healthcare experience and the dimensions of burnout were also investigated. Age was placed into a bivariate regression with each of the dimensions of burnout. Then, those with healthcare experience and those without were compared using an independent samples T-test, comparing mean differences between the groups and each of the dimensions of burnout.

Ethical Considerations

An Institutional Research Board (IRB) application was approved through Seton Hall University in October 2021 (see Appendix F). It was then amended in January 2022 and a reliance agreement was initiated and approved by William Paterson University in January 2022,

(see Appendix G) allowing data collection at both sites. Permission was also obtained from the nursing departments to recruit students in person and via a follow up faculty email, using a solicitation flyer. Survey research carries minimal risk to participants. Completion of the survey was voluntary and the participants were able to opt out at any time during completion of the survey. Contact information of the primary investigator was included so the participants could ask questions as needed.

Chapter IV

RESULTS

Introduction

This research study sought to understand the relationships between Psychological Capital (PsyCap), composed of hope, efficacy, resilience and optimism and the dimensions of burnout (exhaustion, cynicism and inefficacy), in a convenience sample of baccalaureate nursing students, enrolled in clinical rotations. It also sought to identify the types of burnout profiles present in the sample. The profiles had been developed in previous research (Leiter & Maslach, 2016) and were *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension). Approximately 300 students were recruited, 250 students expressed interest in participation and 129 students completed the survey in entirety.

The Maslach Burnout Inventory (MBI-GS) and the Psychological Capital Questionnaire (PCQ-24) were used in the survey to measure the primary study variables and a demographic survey was also included. Statistical Package for the Social Sciences (SPSS 28.0 for Windows and Mac) was used for all data analysis.

Description of Sample

The inclusion criteria included nursing students who were enrolled in a traditional baccalaureate nursing program and had completed at least one clinical rotation. After recruitment, 129 students completed the main survey instruments in entirety and their responses were included in the data analysis for the current study. Demographic information requested included age, self-identified gender, marital and parental status, previous health care experience,

current employment, including number of hours worked/week, type of college or university (private or public), number of clinical semesters completed and number of virtual clinical rotations. Ancillary information regarding stressors related to nursing education, satisfaction with the major, and thoughts regarding leaving nursing were also included to help describe the sample.

The average age of participants was 24 ($M = 23.7$ years, $SD = 3.30$) with a range of ages from 21-45. Regarding gender, 119 (92.2%) participants in the sample were female and 10 (7.8%) were male. Of the participants, 116 (89.9%) were single, 10 (7.8%) were in a non-married partnership, one (0.8%) was divorced, two (1.6%) had children and 127 (98.4%) did not. Regarding previous experience in healthcare, 79 (61.2%) had some type of healthcare experience and 50 (38.8%) did not. See Table 1 for type of healthcare experience in the sample. Of the "other" write-in responses, type of healthcare experience disclosed included patient sitter, certified nurses' aide, home health aide, pharmacy technician, optometric technician, medical receptionist, nurse extern, certified surgical technologist and hospice volunteer.

Table 1

Previous Healthcare Experience

	N	Percent
Nursing Assistant/Patient Care Technician	35	27.1
Certified Medical Assistant	3	2.3
Emergency Medical Technician (EMT)	8	6.2
Hospital Volunteer	14	10.9
Other type of healthcare experience not listed:	19	14.7
None/Not Applicable	50	38.8
Total	129	100.0

For the sample, 82 (63.6%) were currently employed and 47 (36.4%) were not. For those currently employed, 77% worked between one-15 hours and 23% worked between 16-30 hours a week. Regarding type of college or university attended, 40 (31%) were enrolled in a private institution, 88 (68.2%) were enrolled in a public institution and 1 (0.8%) was unsure. Regarding the number of clinical semesters completed, 62 (48.1%) participants had completed 1-2 clinical semesters, and 67 (51.9%) had completed 3-4 clinical semesters. Regarding semesters that involved virtual clinical rotations, 29 (22.5%) did not experience virtual clinical rotations, 58 (45%) had experienced 1-2 semesters that involved virtual clinical rotations and 42 (32.6%) had experienced 3-4 semesters that involved virtual clinical rotations.

Ancillary Findings

To further describe the sample and understand their educational experiences, three other topics were included in the demographic survey. These included how stressful they perceived different aspects of their nursing education to be, their satisfaction with the major, and consideration of leaving nursing. While the main study variables are assessing intrapersonal factors present in the sample, these questions help to describe the sample and participant perception of interpersonal and educational factors present. See Table 2 for visual representation of the participants' perceptions regarding how stressful they rate aspects of nursing education. Aspects explored were *academic course load*, *exams and other testing*, *interactions with clinical faculty*, *interactions with hospital staff during clinical rotations, interactions with patients during clinical rotations* and *maintaining work-life-school balance.*

Table 2

Stress Factors

	Academic course load	Exams and other testing	Interactions with clinical faculty	Interaction with hospital staff	Interaction with patients	Maintaining work-life-school balance
Not stressful	0.0%	0.0%	17.7%	21.1%	30.9%	1.6%
A little stressful	2.3%	0.0%	46.0%	43.1%	47.2%	7.3%
Stressful	34.4%	21.8%	28.2%	20.3%	17.1%	35.8%
Extremely stressful	63.3%	78.2%	8.1%	15.4%	4.9%	55.3%

Regarding satisfaction with the nursing major, 21 (16.3%) were very satisfied with the major, 67 (51.9%) were satisfied, 31 (24%) were neutral and 10 (7.8%) were dissatisfied. Regarding their thoughts regarding leaving nursing, 4 (3.1%) were considering it, 108 (83.7%) were not and 17 (13.2%) were unsure. See Figures 3 and 4 for visual representations.
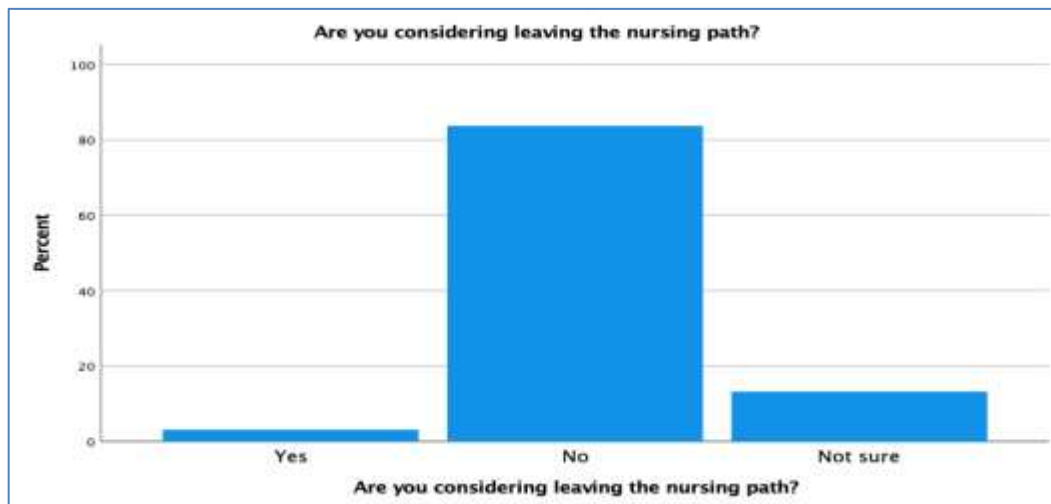
Figure 3

Satisfaction with Nursing Major

61
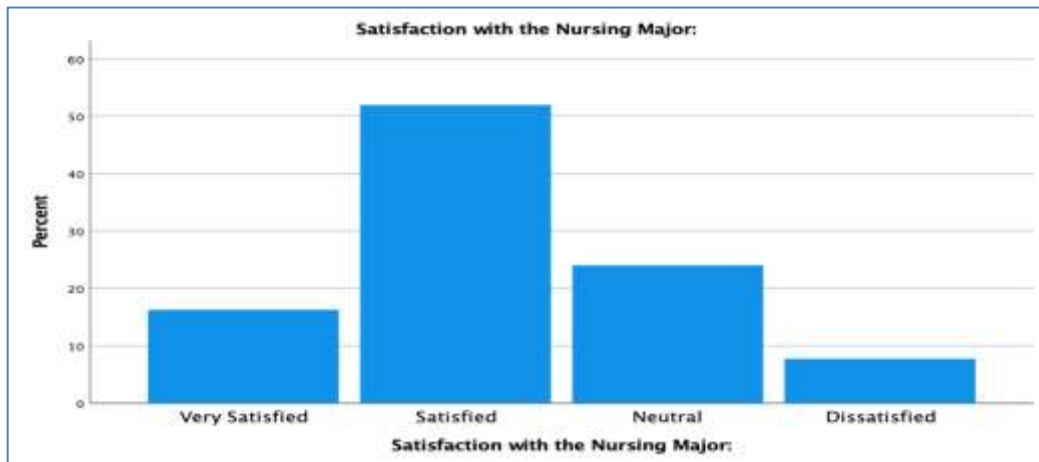
Figure 4

Considering Leaving Nursing

Descriptive Statistics of the Primary Study Variables

The MBI-GS and the PCQ-24 were used to operationalize the primary study variables and to answer the following research questions:

1. What types of burnout profiles (patterns of the dimensions of burnout) are present in nursing students who have completed one or more clinical rotations?

2. What are the relationships between and among psychological capital (PsyCap) and the dimensions of burnout (exhaustion, cynicism, inefficacy) in nursing students who have completed one or more clinical rotations?

3. Does psychological capital (PsyCap) influence the dimensions of burnout in nursing students who have completed one or more clinical rotations?

See Table 3 for descriptive statistics related to the primary study variables which will be discussed further in the following sections.

Table 3

Descriptive Statistics for Primary Study Variables (n=129)

Variable	Range	Median	Mean	Std. Deviation
Exhaustion	1-30	24	21.9535	6.77987
Cynicism	0-30	12	12.8915	7.66204
Inefficacy	0-28	9	9.2636	5.94574
PsyCap	57-134	99	98.6279	15.21465

MBI-GS Measuring the Dimensions of Burnout

The MBI-GS (Maslach et al., 2016) is a 16-item Likert-style instrument with three separate subscales (exhaustion, cynicism and inefficacy) in which respondents answer how they perceive the prompts apply to them. It takes approximately five minutes to complete. It is a proprietary instrument that the researcher obtained permission to use (Appendix C). The entire survey cannot be included in a dissertation or publication. Three sample items are allowed and include: "I feel emotionally drained from my work; In my opinion, I am good at my job; I doubt the significance of my work" (Maslach et al, 2016, p.38). For each item, the answers range from zero (never) to three (a few times a month), up to six (every day). Overall, the higher the sum score in each burnout dimension, the higher the levels of that burnout dimension in the participant. For exhaustion and cynicism with five items each and a maximum possible score of 30, total scores of zero would be equivalent to no exhaustion or cynicism, one-10 low levels, 11-20 moderate levels and 21-30 high levels of exhaustion or cynicism. For the inefficacy dimension with six items and a maximum possible score of 36, total scores of zero would be equivalent to no inefficacy, one-11 low levels, 12-23 moderate levels and 24-36 high levels of inefficacy.

Exhaustion is defined as feelings of "wearing out, loss of energy, depletion, debilitation and fatigue" (Leiter & Maslach, 2016, p. 89). Items one, two, three, four and six are the items that

correlate to the exhaustion dimension and measure exhaustion related to work. Cynicism is defined as "negative or inappropriate attitudes, detached concern, irritability, loss of idealism and withdrawal" (Leiter & Maslach, 2016, p. 89). Items eight, nine, 13, 14 and 15 are the items that correlate to the cynicism dimension and overall assess feelings of indifference towards their work. Decreased professional efficacy or inefficacy is defined as "reduced productivity or capability, low morale and inability to cope" (Leiter & Maslach, 2016, p. 89). Items five, seven, 10, 11, 12 and 16 relate to professional efficacy, measuring an individual's feelings of effectiveness towards their work. The professional efficacy items were reverse scored, as low professional efficacy or inefficacy is indicative of burnout. In the solicitation flyer and within the text of the online survey instructions, participants were instructed to answer the items with the work of nursing school in mind, both didactic and clinical, not relating to any work they engage in outside of nursing school.

Since the creators of the instrument determined that the subscales of the MBI-GS should be evaluated independently, not sum scored, in this study, they were examined individually, using descriptive statistics, and will be discussed individually. In this study, the exhaustion subscale of the MBI-GS had a Cronbach's alpha of .91, which demonstrated good internal consistency, as scores above 0.70 are acceptable (Bannon, 2013). The exhaustion subscale sum score can range from 0-30. Participant (n=129) total scores ranged from a minimum of 1.0 to a maximum of 30.0 (M=21.95, SD=6.78), demonstrating high levels of exhaustion in the sample. In this study, the cynicism subscale had a Cronbach's alpha of .83, and scores can range from 0-30. Participant (n=129) total scores ranged from a minimum of 0.0 to a maximum of 30.0 (M=12.89, SD=7.66), demonstrating moderate levels of cynicism in the sample. In this study, the inefficacy subscale had a Cronbach's alpha of .80 and scores can range from 0-36. Participant

(n=129) total scores ranges from a minimum of 0.0 to a maximum of 28.0 (M=9.26, SD=5.95), demonstrating low levels of inefficacy in the sample.

Burnout Profiles. As previously developed in the literature (Leiter & Maslach, 2016), categories were created in SPSS, based on scores for the subscales of the MBI-GS linking to low and high levels for each burnout dimension and the combinations: *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension) Descriptive analysis of the categories found that in the sample (n=129), 1 (0.8%) fit the burnout profile, 5 (3.9%) fit the engagement profile, 50 (38.8%) fit the overextended burnout profile and none fit the disengaged or ineffective profiles. Although the remaining 73 participants had varying mean scores in the burnout dimensions, they did not fit the criteria as defined above.

## PCQ-24 Measuring Psychological Capital (PsyCap)

The PCQ-24 is a 24-item Likert style instrument composed of four subscales. Luthans et al. (2014) described the components measured in each scale. Efficacy is defined as an individual's confidence in his or her abilities to use their motivation and resources to accomplish their goals. Items one through six comprise the efficacy subscale. Hope is an individual's place in a positive and self- motivated state of being where they believe they have the ability and willpower to succeed. Items seven-12 comprise the hope subscale. Resilience is an individual's ability to bounce back from adversity. Items 13-18 comprise the resilience subscale, with item 13 reverse scored. Optimism is individual's ability to be realistic and flexible, adapting to situations at hand. Items 19-24 comprise the optimism subscale with items 20 and 23 reverse scored.

The PCQ-24 is a proprietary instrument that the researcher obtained permission to use (Appendix D). The entire survey cannot be included in a dissertation or publication. Three

sample items are allowed and include: "I feel confident presenting information to a group of colleagues; Right now, I see myself as being pretty successful at my work; I usually take stressful things at work in stride". Respondents rate how well they currently agree with the statements, with one = strongly disagree, two = disagree, three= somewhat disagree, four= somewhat agree, five = agree and six= strongly agree for each of the 24 items. The scores on each of the subscales can be totaled to create an overall PsyCap score for each individual that can range from a minimum of 24 to a maximum of 144. Sum scores on the PCQ 24 of 24-63 would be consistent with low levels of PsyCap, 64-103 with moderate levels of PsyCap, and 104-144 with high levels of PsyCap. In this study, the overall Cronbach's alpha for the PCQ-24 was .92, demonstrating good internal consistency. Participant (*n*=129) total scores ranged from a minimum of 57 to a maximum of 134 (*M*=98.63, *SD*=15.21), demonstrating that overall, there were moderate levels of PsyCap in the sample. See Figure 5 for visual representation of the normally distributed PCQ-24 scores.

Figure 5

PCQ-24 Scores
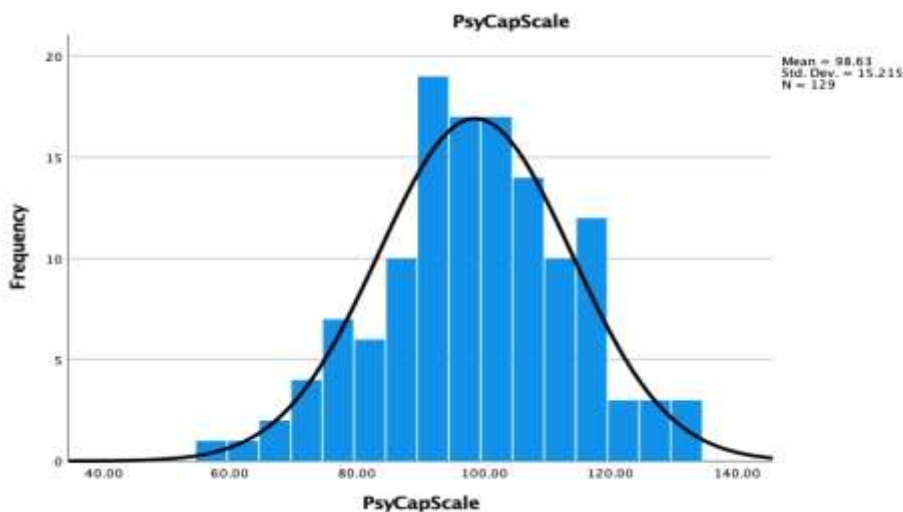
Relationships Between and Among the Primary Study Variables

Using Pearson's *r* correlations between the primary study variables, PsyCap and the

dimensions of burnout (exhaustion, cynicism and inefficacy) were examined. See Table 4 for a

table collating the findings. PsyCap was significantly and negatively correlated with all three

subscales of the MBI-GS (exhaustion, cynicism and inefficacy). The correlation between PsyCap

and inefficacy had the strongest negative correlation ($r = -.642$, $p < .001$), followed by cynicism

($r = -.450$, $p < .001$), and then exhaustion ($r = -.393$, $p < .001$). In examining the correlation

among the subscales of the MBI-GS, cynicism was positively and significantly correlated to both

exhaustion ($r = .548$, $p < .001$) and inefficacy ($r = .300$, $p < .001$).

Table 4

Correlations Between and Among Primary Study Variables

		Inefficacy Scale	Exhaustion Scale	Cynicism Scale	PsyCap Scale
Inefficacy Scale	Pearson Correlation	1	.144	.300[**]	-.642[**]
	Sig. (2-tailed)		.103	<.001	<.001
	N	129	129	129	129
Exhaustion Scale	Pearson Correlation	.144	1	.548[**]	-.393[**]
	Sig. (2-tailed)	.103		<.001	<.001
	N	129	129	129	129
Cynicism Scale	Pearson Correlation	.300[**]	.548[**]	1	-.450[**]
	Sig. (2-tailed)	<.001	<.001		<.001
	N	129	129	129	129
PsyCap Scale	Pearson Correlation	-.642[**]	-.393[**]	-.450[**]	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	129	129	129	129

[**]. Correlation is significant at the 0.01 level (2-tailed).

Three separate bivariate regressions were performed to better understand the influence of

PsyCap on the dimensions of burnout. Assumptions for performing regression analyses were

met, including normality, outliers and multicollinearity. Normality histograms and Q-Q plots

demonstrated an approximately normal distribution. Although the exhaustion scores for the

MBI-GS were skewed (-837) towards exhaustion, the skew is within the tolerance range of -1 to

+1 and can be treated statistically as normal (Bannon, 2013). See Table 5 for the model summary

regression results and Tables 6, 7, and 8 for individual coefficient results for PsyCap on

exhaustion, cynicism and inefficacy, respectively. In the regression analyses, PsyCap

significantly contributed to all three models and accounted for 41.2% ($R^2 = .412, \beta = -.251, p <$

$.001$) of the variance in inefficacy followed by 20.3% ($R^2 = .203, \beta = -.227, p < .001$) in

cynicism, and 15.4% ($R^2 = .154, \beta = -.175, p < .001$) in exhaustion.

Table 5

Model Summary Regression Analyses for PsyCap on Exhaustion, Cynicism and Inefficacy

Model	R	R Square	Adjusted R square	Std. Error of the Estimate
1 PsyCap on Exhaustion	.393ᵃ	0.154	0.148	6.2599
2 PsyCap on Cynicism	.450ᵃ	0.203	0.196	6.86918
3 PsyCap on Inefficacy	.642ᵃ	0.412	0.407	4.57675

a. Predictors: (Constant), PsyCap

Table 6

PsyCap on Exhaustion

Model	Unstandardized Coefficients ß	Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	39.21	3.629		10.805	<.001
PsyCap	-0.175	0.036	-0.393	-4.811	<.001

a. Dependent Variable: Exhaustion

Table 7

PsyCap on Cynicism

	Unstandardized Coefficients		Standardized Coefficients		
Model	ß	Std. Error	Beta	t	Sig.
2 (Constant)	35.244	3.982		8.851	<.001
PsyCapScale	-0.227	0.04	-0.45	-5.679	<.001

a. Dependent Variable: Cynicism

Table 8

PsyCap on Inefficacy

	Unstandardized Coefficients		Standardized Coefficients		
Model	ß	Std. Error	Beta	t	Sig.
3 (Constant)	34.006	2.653		12.818	<.001
PsyCap	-0.251	0.027	-0.642	-9.435	<.001

a. Dependent Variable: Inefficacy

As is noted in Table 4, significant positive relationships were also found in the Pearson's correlation between exhaustion and cynicism ($r = .548$, $p < .001$) and cynicism and inefficacy ($r = .300$, $p < .001$). The relationship between exhaustion and inefficacy was not significant ($r = -.144$, $p = .103$). Therefore, regression analyses were performed with exhaustion and cynicism, and cynicism and inefficacy. Exhaustion accounted for 30% ($R^2 = .30$, $ß = .619$, $p < .001$) of the variance in cynicism. Cynicism accounted for 9% ($R^2 = .090$, $ß = .233$, $p < .001$) of the variance in inefficacy. See Tables 9 and 10 for model summary regression results and individual coefficient results for exhaustion on cynicism. See Tables 11 and 12 for model summary regression results and individual coefficient results for cynicism on inefficacy.

Table 9

Model Summary Regression Analysis for Exhaustion on Cynicism

Model	R	R Square	Adjusted R square	Std. Error of the Estimate
1	.548ᵃ	0.3	0.295	6.43542

a. Predictors: (Constant), Exhaustion

Table 10

Exhaustion on Cynicism

Model	Unstandardized Coefficients		Standardized Coefficients		
	ß	Std. Error	Beta	t	Sig.
1 (Constant)	-0.699	1.927		-0.363	0.717
Exhaustion	0.619	0.084	0.548	7.379	<.001

a. Dependent Variable: Cynicism

Table 11

Model Summary Regression Analysis for Cynicism on Inefficacy

Model	R	R Square	Adjusted R square	Std. Error of the Estimate
1	.300ᵃ	0.09	0.083	5.69374

a. Predictors: (Constant), Cynicism

Table 12

Cynicism on Inefficacy

Model	Unstandardized Coefficients		Standardized Coefficients		
	ß	Std. Error	Beta	t	Sig.
1 (Constant)	6.26	0.984		6.362	<.001
Cynicism	0.233	0.066	0.3	3.547	<.001

a. Dependent Variable: Inefficacy

Based on the literature, (Rudman et al., 2014; Spooner-Lane & Patton, 2007), having previous healthcare experience and an increased age (greater than 35) was associated with less burnout. Therefore, both of these variables were examined in relation to the primary study variables.

In this study, age had statistically significant, but weak correlations with exhaustion ($r = -.184$, $p = .037$), cynicism ($r = -.195$, $p = .027$) and PsyCap ($r = .177$, p= .045). The correlation between age and inefficacy was not statistically significant ($r = -.135$, $p = .126$).

Regarding previous healthcare experience, in this study, 38.8% ($n=50$) of the participants did not have previous healthcare experience, and 61.2% ($n=79$) did. See Table 8 for a comparison of means for the key study variables for those who did and did not have healthcare experience. A follow up independent samples t-test showed no significant difference between the groups (those who did or did not have healthcare experience) in relation to exhaustion ($p = .103$), cynicism ($p = .582$), inefficacy ($p = .069$) and PsyCap ($p = .924$).

Table 13

Healthcare Experience, Dimensions of Burnout and PsyCap

	HC Exper.	N	Mean	Std. Deviation	Std. Error Mean
Inefficacy	No	50	8.9800	5.08094	.71855
	Yes	79	9.4430	6.45844	.72663
Exhaustion	No	50	22.5400	6.09854	.86246
	Yes	79	21.5823	7.19082	.80903
Cynicism	No	50	12.1600	7.51695	1.06306
	Yes	79	13.3544	7.76421	.87354
PsyCap	No	50	96.7200	14.82419	2.09646
	Yes	79	99.8354	15.42761	1.73574

Summary

This descriptive correlational study examined a convenience sample of 129 baccalaureate (BSN) nursing students from private and public nursing programs who have completed at least one clinical rotation. The research questions sought to identify the burnout profiles present in the sample, understand the relationships between and among PsyCap and the dimensions of burnout, as well as the impact of PsyCap on the dimensions of burnout.

The participants demonstrated high levels of exhaustion ($M = 21.95$, $SD = 6.78$), moderate levels of cynicism ($M = 12.89$, $SD = 7.66$) and low levels of inefficacy ($M = 9.26$, $SD = 5.95$). For the burnout profiles, *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension, the *overextended* burnout profile was most prevalent in the sample ($n = 50$, 38.8%), followed by engagement ($n = 5$, 3.9%) and burnout ($n = 1$, 0.8%). None of the participants fit into the disengaged or ineffective profiles.

For PsyCap, the participants demonstrated moderate levels of PsyCap ($M = 98.63$, $SD = 15.21$). When exploring the relationships between PsyCap and the dimensions of burnout, PsyCap was significantly and negatively correlated with all three subscales of the MBI-GS (exhaustion, cynicism and inefficacy). The correlation between PsyCap and inefficacy had the strongest negative correlation ($r = -.642$, $p < .001$), followed by cynicism ($r = -.450$, $p < .001$), and then exhaustion ($r = -.393$, $p < .001$). The three a priori hypotheses, that PsyCap would be inversely related to each of the dimensions of burnout, were supported by the study results. These negative correlations indicate that those with higher PsyCap will have lower scores in the dimensions of burnout. In examining correlations among the subscales of the MBI-GS, cynicism was positively and significantly correlated to both exhaustion ($r = .548$, $p < .001$) and inefficacy

($r = .300$, $p < .001$), indicating that the dimensions of burnout are related positively to each other, thus creating the specific burnout profile in each individual.

Using separate bivariate regressions, PsyCap significantly contributed to all three models and accounted for 41.2% ($R^2 = .412$, $\beta = -.251$, $p < .001$) of the variance in inefficacy, followed by 20.3% ($R^2 = .203$, $\beta = -.227$, $p<.001$) in cynicism, and 15.4% ($R^2 = .154$, $\beta = -.175$, $p < .001$) in exhaustion. Using Pearson's correlations, significant positive relationships were also found between exhaustion and cynicism ($r = .548$, $p < .001$) and cynicism and inefficacy ($r = .300$, $p < .001$). The relationship between exhaustion and inefficacy was not significant ($r = -.144$, $p = .103$). Using bivariate regression, exhaustion accounted for 30% ($R^2 = .30$, $\beta = .619$, $p<.001$) of the variance in cynicism and cynicism accounted for 9% ($R^2 = .090$, $\beta = .233$, $p < .001$) of the variance in inefficacy.

Age was significantly, but weakly correlated to exhaustion, cynicism and PsyCap, but not to inefficacy. In this study, no significant differences were found in participants with and without healthcare experience and their mean levels of PsyCap and the dimensions of burnout.

Chapter V

DISCUSSION OF FINDINGS

Introduction

The purpose of the study was to examine the relationships between and among psychological capital (PsyCap), composed of hope, efficacy, resilience and optimism, and the dimensions of burnout (exhaustion, cynicism and inefficacy) in a convenience sample of 129 traditional baccalaureate nursing (BSN) students who had completed at least one clinical rotation. The research also sought to identify the types of burnout profiles present in the sample. The burnout profiles had been developed in previous research (Leiter & Maslach, 2016) and were *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension). The Psychological Capital Questionnaire (PCQ-24) and the Maslach Burnout Inventory-General Survey (MBI-GS) were used to measure the primary study variables. This chapter will discuss the findings of the study in relation to empirical evidence as well as to the Afaf Ibrahim Meleis' Transitions Theory framework. Limitations and strengths of the study will also be discussed.

Background

Considering that burnout is a significant factor associated with turnover and intent to leave the profession in new graduate nurses, further understanding of the phenomenon in nursing students was necessary. This is becoming increasingly relevant as the COVID-19 pandemic has impacted the workforce causing rising levels of nurse burnout, turnover and alarming staffing shortages. A better understanding of the relationships between PsyCap and the dimensions of burnout, as well as the demographics and perceptions of nursing education in this population, has

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the potential to support the development and adoption of educational practices that can be implemented prior to graduation and transition into the nursing role.

Study Sample

Convenience sampling was utilized at a private and public university, with traditional BSN students. Recruitment was done in person and via email through a solicitation flyer. Within the flyer there was a QR Code/link to an electronic survey administered via Qualtrics™. The researcher visited the classes, read the solicitation flyer and explained the purpose of the study, referring students to the Qualtrics™ link accessible via the QR Code. The researcher also provided a hard copy of the solicitation flyer including the researcher's contact information and the QR code sending interested participants directly to the Qualtrics™ link. Approximately 300 students were recruited, 250 expressed interest by consenting to the survey in the Qualtrics™ link and 129 completed the survey in its entirety.

The average age of participants was 24 (M = 23.7 years, SD = 3.30) with a range of ages from 21-45. This is typical for students in traditional BSN programs, considering that these programs tend to have the highest percentage (75.8%) of students under age 25, (National League for Nursing, 2020). In the sample, 119 (92.2%) participants in the sample were female and ten (7.8%) were male. The percentage of males in the sample is slightly less than the current breakdown of males in the profession, which was found to be 9.4% in 2020 (National Council of State Boards of Nursing, 2020). Of the participants, 116 (89.9%) were single, 10 (7.8%) were in a non-married partnership, one (0.8%) was divorced, two (1.6%) had children and 127 (98.4%) did not. Considering the mean age was 24, being unmarried and without children is expected in this sample. Regarding previous experience in healthcare, 79 (61.2%) had some type of healthcare experience and 50 (38.8%) did not. The most common job in healthcare was patient

care technician (*n*=35, 27.1%) which is a common position for nursing students to work in part-time during their nursing education. In the sample for those currently employed (*n*=82, 63.6%) at the time of survey completion, 63 (77%) worked up to 15 hours per week and 19 (23%) worked between 16-30 hours per week. Of note, all students sampled were full-time students, so for those working 16-30 hours a week, it would be a potentially taxing personal schedule.

In relation to type of nursing school enrolled in, 40 (31%) were enrolled in a private institution and 88 (68.2%) were enrolled in a public institution. This is consistent with nursing school demographics in the Northeast United States, where 34.4% of nursing schools are private and 65% are public (American Association of Colleges of Nursing, 2021). Regarding number of clinical semesters completed, 62 (48.1%) participants had completed 1-2 clinical semesters and 67 (51.9%) had completed 3-4 clinical semesters, making the sample, approximately half juniors and half seniors. Although it was not a goal of the study to compare groups, it does create a more balanced sample.

Regarding the number of semesters that involved virtual clinical rotations (due to the COVID-19 pandemic), 29 (22.5%) of the participants had not experienced virtual clinical rotations, 58 (45%) of the participants had experienced one-two semesters and 42 (32.5%) of the participants had experienced three-four semesters that involved virtual clinical rotations. The majority of this sample, 77.5%, (*n* = 100) has experienced some type of virtual clinical rotation. It will remain unclear what the impact of virtual clinical rotations has had on the sample, their responses and nursing education in general. Virtual clinical rotations vary by facility, clinical professor, course and program. When considering the purpose of this research, to sample students who have begun the transition into the experiential aspects of nursing through their clinical rotations, it can be postulated that virtual clinical time is not as realistic or preparatory as

traditional clinical rotations. Likewise, experience in hospitals for clinical rotations during and after a pandemic is stressful and still not typical of rotations before 2020.

Ancillary Findings

To better describe the sample and understand perceptions of their nursing school experience, three ancillary topics were asked of the participants as part of the demographic survey. These included how stressful they perceived different aspects of their nursing education to be, their satisfaction with the nursing major, and their thoughts regarding leaving the nursing path. Participants were asked about stress levels for the following aspects of nursing education *academic course load*, *exams and other testing*, *interactions with clinical faculty*, *interactions with hospital staff during clinical rotations*, *interactions with patients during clinical rotations*, and *maintaining work-school-life balance.* Of the items, participants found academics to be the most stressful. All (100%) of the participants found *exams and other testing* and *academic course load* to be a little stressful, stressful or extremely stressful. For the rest of the items ranked a little stressful, stressful or extremely stressful, the next most stressful aspect was *maintaining work-school-life balance* (98.4%), followed by *interactions with clinical faculty* (82.3%), *interactions with hospital staff* (78.8%), and *interactions with patients* (69.2%). In this sample, academic aspects ranked as more stressful and aspects related to clinical rotations were the least stressful. It has been found that nursing students have more stress than other majors (Bartlett et al., 2016). Past research has also found that the stress is related to incivility from instructors and hospital staff (Ahn & Choi, 2019; Babenko-Mould & Laschinger, 2014) and stress of clinical experiences themselves (Ayaz-Alkaya et al., 2018; Michalec et al., 2013). Considering that academic stressors and exams continued throughout the virtual environment, this can explain the study findings of *exams and other testing* and *academic course load* ranking highest. Alternatively, virtual clinical rotations keeping

participants out of the actual clinical environment may have reduced the stress levels found in those areas. Overall, being a nursing student during the COVID-19 pandemic brought novel and significant stressors (Aslan & Pekince, 2020; Fitzgerald & Konrad, 2021) due to the pandemic itself, along with the abrupt shift to virtual learning and adjusting to clinical rotations and their restrictions and risks, even when students were allowed back to clinical sites. The effect of these stressors remains a confounding factor in the current study.

Regarding satisfaction with the nursing major, although the majority (68.2%) were satisfied or very satisfied with the nursing major, 24% were neutral regarding the major, and 7.8% were dissatisfied with the nursing major. When asked if they were considering leaving nursing, although 83.7% of the participants answered no, 3.1% answered yes and 13.2% were unsure. It has been noted that dissatisfaction has been associated with intent to leave in new graduate nurses (Kenny et al, 2016). Seeing this dissatisfaction and thoughts of leaving nursing in this sample of nursing students, after all they have worked for and before they have even graduated, is very disconcerting. Similar findings were noted by Chachula et al. (2015) as they concluded that thoughts of *letting go* of nursing begin in nursing school. These concerns are compounded by a nurse faculty shortage causing some qualified nursing school applicants to be denied entry (American Association of Colleges of Nursing, 2020) converging on the current and alarming nursing staffing shortages. These compounded concerns highlight the critical importance to support and prepare nursing students to successfully transition into the profession as capable new graduate nurses (NGNs).

Research Questions

Research Question One

The first research question asked, "What types of burnout profiles (patterns of the dimensions of burnout) are present in nursing students who have completed one or more clinical

rotations?". This was answered by using descriptive statistics to examine mean scores for each of the burnout dimensions, within the MBI-GS, a 16-item Likert-style instrument with three separate subscales (exhaustion, cynicism and inefficacy). The higher the scores in each of the subscales, the higher the levels of each of the dimensions of burnout. The creators of the instrument (Maslach et al., 2016) determined that burnout exists on a continuum with engagement and that individuals move along the continuum with varying levels in each dimension and subsequently varying levels of burnout. Therefore, they recommend that the values for each dimension should not be sum scored but should be evaluated individually. In the current study, mean scores for each of the scales demonstrated high levels of exhaustion ($M = 21.95$, $SD = 6.78$), moderate levels of cynicism ($M = 12.89$, $SD = 7.66$) and low levels of inefficacy ($M = 9.26$, $SD = 5.95$). The mean values found for each dimension, with exhaustion being the highest, followed by cynicism and inefficacy are supported by the literature, considering that exhaustion is considered the primary component of burnout and the first to develop (Katsifaraki & Tucker, 2013; Leiter & Maslach, 2016). Much of the published research involves the new graduate nurse population and some (Boamah & Laschinger, 2016; Spence Laschinger et al., 2012) have chosen to use the exhaustion and cynicism dimensions to define burnout (leaving out inefficacy). As in the current study, exhaustion levels are consistently found to be the highest of the measured dimensions. This exhaustion appears to develop due to chronic stress, leading to and followed by cynicism as a way to cope, then if persistent, leading to a feeling of complete inability to achieve goals or inefficacy, (Houkes et al., 2011). As it was seen that nursing student participants in the current study are already on this trajectory, further understanding of this phenomenon as a result of this study is important.

The next step in answering the first research question was utilizing descriptive statistics to identify patterns for the mean values for each of the burnout dimensions in the sample. When performing a latent profile analysis, Leiter and Maslach (2016) identified five different burnout patterns, or profiles, based on the three dimensions of burnout. The profiles identified were *burnout* (high in all three dimensions), *engagement* (low in all three dimensions), *overextended* (high in only the exhaustion dimension), *disengaged* (high in only the cynicism dimension) and *ineffective* (high in only the inefficacy dimension). For this current sample, ($n = 129$), one (0.8%) participant fit the *burnout* profile, five (3.9%) participants fit the *engagement* profile, 50 (38.8%) participants fit the *overextended* burnout profile and no participants fit the *disengaged* or *ineffective* profiles. Although, all participants had varying mean scores for the dimensions of burnout, they did not all fit into a profile as defined above. Having the majority that did fit a profile, fit into the *overextended* profile, is expected considering that the mean levels of exhaustion were highest in the sample. Leiter and Maslach (2016) discuss that individuals in the *overextended* profile have a problem that primarily relates to workload. This is aligned with the findings from this sample as 100% of the participants identified academic course load as stressful. Although, in most cases, the amount of work that nursing school entails cannot be adjusted, perhaps educators can better support nursing students by teaching measures to help manage it. Nurses ($n = 385$) were the largest subgroup/profession used in the latent profile analysis (Leiter & Maslach, 2016) and now this study extends the research on burnout profiles into the nursing student population, which had yet to be done.

Research Question Two

The second research question asked, "What are the relationships between and among psychological capital (PsyCap) consisting of hope, efficacy, resilience and optimism, and the

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dimensions of burnout (exhaustion, cynicism, inefficacy) in nursing students who have completed one or more clinical rotations?" PsyCap was examined using the PCQ-24, a 24-item Likert style instrument composed of four subscales, measuring hope, efficacy, resilience and optimism. The creators of the PCQ-24 assert that it is most reliable when the scales are sum scored to create one mean score (Luthans et al., 2014). Therefore, descriptive statistics were utilized and moderate levels ($M = 98.63$, $SD = 15.21$) of total PsyCap were identified in the current sample ($n = 129$). Using Pearson's r, correlations were performed between the mean values of PsyCap and the mean values of each of the dimensions of burnout discussed in the previous section. PsyCap was significantly and negatively correlated with all three subscales of the MBI-GS (exhaustion, cynicism and inefficacy). The correlation between PsyCap and inefficacy had the strongest negative correlation ($r = -.642$, $p < .001$), followed by cynicism ($r = -.450$, $p < .001$), and then exhaustion ($r = -.393$, $p < .001$). Overall, these findings support the a priori hypotheses for this study which stated that PsyCap will be inversely related to all three dimensions of burnout, (exhaustion, cynicism and inefficacy). PsyCap appears to be protective against all three dimensions of burnout. Considering that the mean levels of inefficacy were lowest, and that that relationship has the strongest negative correlation, PsyCap appears to be most protective against inefficacy as compared to the other dimensions. The negative correlation between PsyCap and the dimensions of burnout (only exhaustion and cynicism were measured) has been seen in other studies in the new graduate nurse population (Laschinger & Fida, 2014; Laschinger & Grau, 2012; Spence Laschinger et al., 2012).

In examining correlations among the subscales of the MBI-GS, exhaustion was positively and significantly correlated to cynicism ($r = .548$, $p < .001$) and cynicism to inefficacy ($r = .300$, $p < .001$). The relationship between exhaustion and inefficacy was not significant ($r = -.144$, $p =$

.103). Therefore, bivariate regressions were performed using exhaustion as an independent variable and cynicism as a dependent variable followed by cynicism as an independent variable and inefficacy as a dependent variable. Exhaustion accounted for 30% ($R^2 = .30, \beta = .619, p < .001$) of the variance in cynicism and was significant. Cynicism accounted for 9% ($R^2 = .090, \beta = .233, p < .001$) of the variance in inefficacy and was significant. This further demonstrates the degree to which the dimensions of burnout are inter-related, and that the full syndrome of burnout may be occurring in a stepwise fashion (exhaustion, followed by cynicism, then inefficacy). It could be postulated that levels of cynicism could be mediating the effect of exhaustion on inefficacy. Although it is outside of the realm of the current research questions, further evaluation into the mediating relationship of cynicism could be performed in the future with more complex statistical analysis, including structural equation modeling, which can help explore causal and mediating effects among variables (Kline, 2005).

Research Question Three

The third research question was, "Does psychological capital (PsyCap) influence the dimensions of burnout in nursing students who have completed one or more clinical rotations?". To answer this question and further explore the negative correlational relationships discussed earlier, three separate bivariate regressions were performed, using PsyCap as the independent variable and each of the burnout dimensions as dependent variables. In the regression analyses, PsyCap significantly contributed to all three models and accounted for 41.2% ($R^2 = .412, \beta = -.251, p < .001$) of the variance in inefficacy followed by 20.3% ($R^2 = .203, \beta = -.227, p < .001$) in cynicism, and 15.4% ($R^2 = .154, \beta = -.175, p < .001$) in exhaustion. These results help to understand the stepwise percentage of the variance attributed by PsyCap on the dimensions of burnout, with the most effect on inefficacy, followed by cynicism then exhaustion. Although

examined along with the variable of work-family conflict, PsyCap's protective effect most on inefficacy (β = -0.316, p < 0.001), followed by cynicism (β = -0.296, p < 0.001), then exhaustion (β = -0.216, p < 0.001), was confirmed in a study involving practicing nurses (Wang et al., 2012).

When reviewing the findings in the current study involving nursing students, PsyCap and the dimensions of burnout, no other studies were found using the PCQ-24 and the MBI-GS. Although using the Academic Burnout Scale, not the MBI-GS, Wang et al. (2021), performed a study during the COVID-19 pandemic in China. The researchers examined a group of nursing students (n = 733) and confirmed that PsyCap had an indirect negative effect on academic burnout (β = -0.47 x 0.69 = -0.32, p <0.01), mediated by academic engagement. Also in China, but using the Learning Burnout Scale, Huanze et al. (2021) examined PsyCap and the mediating effect of professional commitment on learning burnout in junior and senior nursing students (n = 442). This study also demonstrated the significant negative effects of PsyCap on burnout (r = -0.456, p < .01). Although these findings are for the nursing student population and do support the relationships found in the current study, they use different instruments to measure burnout. Also, considering that the healthcare system is much different in China, the results are not easily generalizable to the United States (US).

Overall, there do appear to be other factors contributing to the burnout dimensions in nursing students that can be explored in future research. However, the results from this current study do support that measures to improve PsyCap should be prioritized when attempting to reduce burnout in this population.

Ancillary Analyses

Although not a specific research question, to further understand the syndrome of burnout in nursing students and based on findings from robust longitudinal research in Sweden (Rudman et al., 2014), age and previous healthcare experience were examined in relation to the primary study variables. Rudman et al. (2014) found that those who had lower levels of burnout tended to be over 35 years of age and had former healthcare experience. In addition, in a group of nursing students during the COVID-19 pandemic (n = 147), Vargas and Brown (2021) noted that stress levels were significantly higher (t (145) = 2.041, p < .005) and resilience levels lower (t (145) = -3.770, p =.000) in undergraduate students with a lower age (M = 23), as compared to older graduate students (M = 38.31), using independent samples t-tests.

Therefore, a regression analysis was performed using age and each of the dimensions of burnout and PsyCap. In this study, age had statistically significant, but weak correlations with exhaustion (r = -.184, p = .037), cynicism (r = -.195, p = .027) and PsyCap (r = .177, p= .045). The correlation between age and inefficacy was not statistically significant (r = -.135, p = .126). This could be due to the homogenous sample of younger (M = 24), traditional college age students in the sample. Although the targeted population was traditional BSN students, not having broader age representation is a limitation of this study.

Regarding previous healthcare experience, 61.2% (n = 79) had previous healthcare experience and 38.8% (n = 50) did not. Means for each of the study variables were compared for those who did and did not have any previous healthcare experience. An independent samples t-test showed no significant difference between the groups in relation to exhaustion (p = .103), cynicism (p = .582), inefficacy (p = .069) and PsyCap (p = .924). The demographic survey asked what type of healthcare experience but not the amount of time or number of years working.

Considering that the mean age is 24 in the current sample, the effect of work in the healthcare environment may not be as evident as of yet.

Theoretical Framework and Findings

The current study was aptly framed with Meleis' Transition Theory, in which a transition is defined as a "passage from one life phase, condition or status to another…" (Chick and Meleis, 1986, p. 240). In this case, the transition of a nursing student into clinical rotations and the experiential aspects of nursing school is a finite, situational transition. All transitions have conditions, which can be facilitators or inhibitors, of the patterns of response or process indicators throughout the transition. The transition ends with outcome indicators which can include skill mastery and the development of a fluid identity (Chick & Meleis, 1986). Considering the current study, PsyCap was demonstrated to be an inhibitor for the unwanted pattern of response/process indicator of burnout. Ultimately, although not explored in the current study, the outcome indicator goal would be a successful transition to practice as a registered nurse. The COVID-19 pandemic and its' impact on nursing education has added another transition condition that has been extensive and difficulty to quantify. Understanding and adjusting to the impact of the pandemic will be occurring on an ongoing basis both in nursing and in nursing education.

Limitations

This study utilized convenience sampling which does limit generalizability of the findings. Although convenience sampling is the most commonly used method in many disciplines, including nursing, it is less likely to produce representative samples, (Polit & Beck, 2021). In this case, the sample was very homogeneous, with a mean age of 24. Although representative of traditional BSN students, of which the majority (75.8%) are under age 25

(National League for Nursing, 2020), it is possible the findings may be different, if the sample also included RN-BSN, accelerated BSN and/or associate degree and diploma pre-licensure students.

The survey instruments to measure the primary study variables are also self-report instruments which can carry an inherent bias. Although the majority of nursing studies involve self-report instruments and they can provide valuable data unable to be collected another way, they can lack accuracy as respondents may reply with what they think the researcher wants to hear (Polit & Beck, 2021).

Although they all had completed at least one clinical rotation, the participants had varied clinical experiences, related to the number of clinical semesters completed and the number of semesters that involved virtual clinical rotations. The difference/experience in virtual rotations is very hard to quantify, as is the overall effect of the strain and fatigue from the ongoing COVID-19 pandemic. This remains a limitation of this research which should be considered prior to generalizing the findings.

Strengths

This study provides a representative sample of traditional BSN students in New Jersey, from both private and public BSN programs. The findings for these traditional BSN students mirror the findings in similar empiric research in the new graduate nurse (NGN) population, supporting the inverse relationship between PsyCap and the dimensions of burnout. These findings also point to initiatives that can be utilized to better support students in traditional BSN programs to foster their PsyCap and help them manage the stressors of nursing school.

The MBI-GS and PCQ-24 have repeatedly proven reliability in past research and good reliability in the current study as well. In the current study, the PCQ-24 had a Cronbach's alpha

of .92. For the dimensions of burnout measured by the MBI-GS, the Cronbach's alphas were .91 for exhaustion, .83 for cynicism and .80 for inefficacy. This study also expanded the body of research begun by Leiter and Maslach (2016) on burnout profiles into the nursing student population and applied Meleis' Transitions Theory to the educational transition of nursing students into clinical rotations.

The study has the potential to open up awareness of nursing student dissatisfaction and perceived stressors in nursing education. These areas can be targeted along with measures to improve PsyCap to reduce their levels of burnout and help better prepare them for the realities of clinical practice so they can ultimately make positive contributions to the nursing workforce.

Summary

Using Transitions Theory as the theoretical framework, the relationships between and among PsyCap and the dimensions of burnout were explored in 129 traditional BSN nursing students enrolled in clinical rotations. The a priori hypotheses that PsyCap would have an inverse relationship to the dimensions of burnout (exhaustion, cynicism and inefficacy) were supported by the research findings. Participants demonstrated high levels of exhaustion, moderate levels of cynicism and low levels of inefficacy, 38.8% ($n = 50$) of the sample already fitting the *overextended* burnout profile. PsyCap was significantly correlated with all three dimensions of burnout, having the strongest correlation and explaining 41.2% of the variance in inefficacy. Although 68.2% ($n = 88$) of the participants were satisfied or very satisfied with the nursing major, 31.8% ($n = 41$) were either dissatisfied or neutral about the major, with 3.1% ($n = 4$) considering leaving and 13.2% ($n = 17$) unsure about staying in nursing. The highest ranked stressors of the participants involved *academic course load*, *exams and other testing* and maintaining *work-life-school balance*. Although aspects regarding clinical faculty and clinical

rotations were ranked as less stressful than the above stressors, 77.5% ($n = 100$) have experienced some type of virtual clinical rotation, due to the COVID-19 pandemic. The effects of these rotations and the pandemic itself, on the study results is difficult to quantify. Regardless, considering that burnout is associated with turnover and that early burnout was found in this sample of nursing students, the initiation of interventions to improve PsyCap and manage stressors will be imperative.

Chapter VI

SUMMARY, IMPLICATIONS, RECOMMENDATIONS AND CONCLUSIONS

Summary

This descriptive correlational research was the first study to use Meleis' Transitions Theory as a theoretical framework to examine the relationships between Psychological Capital (PsyCap) and the dimensions of burnout (exhaustion, cynicism and inefficacy), using the Maslach Burnout Inventory-General Survey (MBI-GS) and the Psychological Capital Questionnaire (PCQ-24), in nursing students who have completed at least one clinical rotation. The participants included 129 traditional baccalaureate nursing (BSN) students from both a public and private nursing program in New Jersey. They completed the survey instruments online and also completed a demographic survey, which included questions regarding their types of clinical experiences, satisfaction with major and thoughts regarding leaving nursing.

Although there were moderate levels of PsyCap ($M = 98.63$, $SD = 15.21$) in the sample, results showed high levels of exhaustion ($M = 21.95$, $SD = 6.78$), moderate levels of cynicism ($M = 12.89$, $SD = 7.66$) and low levels of inefficacy ($M = 9.26$, $SD = 5.95$), with 38.8% ($n = 50$), already exhibiting signs of the *overextended* burnout profile (high in exhaustion, low in cynicism and inefficacy). This is considered the first stage in the development of burnout. Participants found *academic course load*, exa*ms and other testing*, *maintaining work, school, life balanc*e more stressful than *interaction with clinical faculty, hospital staff and patients*. This may be due to the effect of the COVID-19 pandemic and virtual clinical rotations. Although the majority (68.2%) were satisfied or very satisfied with the nursing major, 24% were neutral regarding the major, and 7.8% were dissatisfied with the major. When asked if they were considering leaving nursing, 83.7% of the participants answered no, 3.1% answered yes and 13.2% were unsure.

Using Pearson's *r*, all three dimensions of burnout were significantly and negatively correlated to PsyCap. The correlation between PsyCap and inefficacy had the strongest negative correlation ($r = -.642$, $p < .001$), followed by cynicism ($r = -.450$, $p < .001$), and then exhaustion ($r = -.393$, $p < .001$). Separate bivariate regressions demonstrated that PsyCap significantly contributed to all three models and accounted for 41.2% ($R^2 = .412$, $\beta = -.251$, $p<.001$) of the variance in inefficacy followed by 20.3% ($R^2 = .203$, $B = -.227$, $p < .001$) in cynicism, and 15.4% ($R^2 = .154$, $B = -.175$, $p < .001$) in exhaustion.

Implications

Finding signs of early burnout in nursing students is a cause for concern, especially considering the alarming turnover and staffing shortages occurring in clinical practice today. This study gives us a snapshot of the intrapersonal factors present in traditional college-age BSN students as they are navigating clinical rotations and their nursing education. It appears critical that nurse educators work to address not only nursing student development of the knowledge, skills and attitudes necessary for nursing practice, but that faculty are fostering their mental health and ability to manage the stressors of nursing school and eventual nursing practice. Considering that the sample is showing early signs of burnout, interventions have the potential to prevent worsening burnout.

This transition into clinical rotations for nursing students has also not been typical since March of 2020 due to the COVID-19 pandemic. Three quarters (77.5 %) of the students in the sample had some type of virtual clinical experience. Virtual settings don't provide the multilayered experiences found in the clinical settings with actual patients. It is uncertain how this has affected the study results and remains a limitation of the study.

Recommendations

Recommendations for Future Research

Research involving nursing students is becoming increasingly important. Without a stable and capable supply of new graduate nurses, the current staffing crisis in nursing will only worsen. The current study was limited to traditional BSN students, and the sample had an average age of 24 years. More research is needed on students in other types of pre-licensure nursing programs, including associate degree, diploma, accelerated BSN and clinical nurse leader pre-licensure programs, in which the age ranges and past experiences would likely be more varied. Comparing groups based on generation/age would also be valuable. Such findings could inform the type of support needed in specific programs and to specific age groups.

Longitudinal research, although more labor intensive, has the potential to examine how the phenomenon of burnout and the levels of PsyCap change over time. Considering that burnout lies on a continuum, with engagement on one end and full burnout on the other, this would be very valuable and add to the body of research on burnout and burnout profiles in the nursing student population.

Recommendations for Nursing Education

The findings from the current study highlight the importance of implementing measures to improve PsyCap in our nursing students. Starting initiatives early in nursing education can provide tools that can be utilized throughout nursing school and into practice. These can include sessions to focus on personal strengths and positive thinking (Han et al., 2020), teaching techniques to increase resilience (Krautscheid et al., 2020; Thomas & Asselin, 2018), and practice mindfulness (Martinez-Rubio et al., 2021) and work to identify and improve coping strategies (Huang et al., 2020; Savisky et al., 2020). Reflective exercises and debriefing

regarding experiences in nursing school have also been recommended to help improve PsyCap and self-efficacy in nursing students. (Terry et al., 2020).

Both the mental and physical health of nursing students should be addressed and maximized during nursing education (Bak et al., 2020). Considering that the stressors they experience can also impact their health, providing tools, to manage the stressors can be beneficial, as in the NURSE (**N**urture nurse, **U**se resources, foster **R**esilience, **S**tress and **E**nvironment management) stress management program piloted for BSN students in Connecticut (Delaney et al., 2016). Including time management is also important (Alshutwi et al., 2019). Teaching and having students apply time management techniques to managing coursework by creating and keeping to a personal schedule that addresses time to manage academic course load, as well as personal responsibilities would be very beneficial to nursing students. The skills could be further applied in clinical rotations and eventual nursing practice.

As noted earlier, *exams and other testing* and their *academic course load* were the most prominent sources of stress for the participants in this current study. Nurse educators cannot typically reduce the amount of content taught in nursing education and can certainly not eliminate high stakes exams, as students cannot enter practice without passing the National Council Licensure Exam for Registered Nurses (NCLEX-RN). The NCLEX-RN, Next Generation is being launched in 2023, calling for an even higher level of clinical judgement (National Council of State Boards of Nursing, 2017). Although nurse educators must test students to evaluate knowledge and prepare students for the NCLEX, they can provide additional support. Teaching test taking strategies to utilize clinical judgement during testing and measures to manage test taking anxiety should be provided.

The American Association of Colleges of Nursing published updated BSN Essentials (2021) for BSN graduates and are now requiring competency-based education and assessment be threaded into nursing curricula. Learning through the attainment of competencies can provide a sense of competence and help students to better understand the course content and the expectations of them. Previous research has also demonstrated that a sense of competence is associated with higher PsyCap (Boamah & Laschinger, 2016). Considering this, innovating clinical education is one area where nurse educators can work to improve competence. The Dedication Unit Model (DEU) for clinical education has been noted to be more beneficial in the development of competencies and the attributes needed for the profession (Rusch et al., 2018), as compared to traditional clinical rotations. Therefore, expanding this model in pre-licensure programs, should be an educational priority. Although they require investment from both the academic and practice side, DEU experiences have the potential to improve PsyCap and foster a more successful transition to practice.

Conclusions

This sample in the current study is an accurate representation of traditional BSN students in New Jersey and could likely be generalized to other traditional BSN students in the Northeast. The effect of the COVID-19 pandemic and virtual clinical rotations is hard to quantify, but one could postulate that once clinicals go back to normal, the stressors related to those areas could even increase. The findings of this current study demonstrate that early burnout is already occurring, that nursing students have significant stressors, mostly related to academics and some participants are dissatisfied and even considering leaving nursing. Considering that PsyCap was confirmed to be protective against burnout in this sample, the initiation of measures to increase PsyCap, by promoting the HERO (hope, efficacy, resilience and optimism) within nursing

students, will be critically important. This can be accomplished by promoting resilience and mindfulness, as well as competence and confidence in their abilities to succeed in nursing education and manage stressors, both in and out of clinical rotations. The study has brought to light findings that can stimulate important and timely discussions about the need to revise and innovate not only nursing curricula and course delivery, but the ways in which we support nursing students. They are our future nurses and they are needed now, more than ever before.

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APPENDIX A

Demographic Survey
1. **Currently Enrolled in a traditional BSN Program: Yes or No**
2. **Number of clinical semesters completed: None, 1-2, 3-4**
3. **Number of clinical semesters that involved virtual learning: None, 1-2, 3-4**
4. **Year born:**
5. **Gender: Male   Female   Non-Binary   Other**
6. **Marital Status: Single   Married   Divorced   Widowed   Non-married partnership   Other**
7. **Do you have children? Yes or No**
8. **Previous Healthcare Experience as a:**
a. **Nursing Assistant/Patient Care Technician**
b. **Certified Medical Assistant**
c. **Emergency Medical Technician (EMT)**
d. **Respiratory Therapist**
e. **Hospital Volunteer**
f. **Other:**
9. **Are you employed currently? Yes or No**
10. **If so, how many hours do you work/week? 1-15, 15-30, greater than 30.**
11. **Satisfaction with the Nursing Major: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied**
12. **Considering leaving nursing path? Yes   No   Not sure**
13. **Please reflect and rate how stressful you feel the following aspects of your nursing education are, from not stressful at all to extremely stressful.**
a. **Academic course load:**
b. **Exams and other testing:**
c. **Interactions with clinical faculty:**
d. **Interactions with hospital staff during clinical rotations:**
e. **Interactions with patients during clinical rotations:**
f. **Maintaining work-life-school balance:**
14. **Please discuss (if at all) how COVID-19 has affected your transition into clinical rotations:**

APPENDIX B

What tools do you wish someone gave you when you started nursing school?

Answering this short, 10-minute survey can help educators equip your future nursing colleagues with what they need to succeed.

Please help a fellow student learn how to prepare our future nurses for success as they enter the workforce!

Hello~My name is Kathleen Horan and I am a registered advanced practice nurse with 28 years of nursing experience. I have been teaching pre-licensure nursing students since 2002 and am committed to their success in nursing school and their transition to practice. Your valuable insight is needed for my dissertation research involving clinical nursing students and how they navigate the transition into clinical rotations.

I am a PhD student at Seton Hall University, College of Nursing and am the researcher who has designed this study, under the guidance of Dr. Bonnie Sturm, EdD, RN, my dissertation advisor, who is an Associate Professor at Seton Hall University.

WHO CAN PARTICIPATE?
Any nursing student currently enrolled in a traditional baccalaureate nursing program, who has completed at least one clinical rotation.

HOW CAN YOU MAKE A DIFFERENCE?
- Scan QR Code for:
  - An online consent including more information about the study
  - A link to the survey
- Answer survey of 40 Likert-style questions and a brief demographic survey.
- It should take approximately 10-15 minutes to complete.

WHO WILL THIS HELP?
Your opinion matters and will impact the improvement of nursing educational processes and support provided to future nursing students.

RISKS?
I just want your opinion; there are no anticipated risks.

Note: If you choose to participate, please reflect on and answer the questions with the work of nursing school in mind, both the classroom and clinical, not any other work you may engage in outside of nursing school.

If you have any question, concerns or complaints, please reach out via the contact information below:
- Kathleen M. Horan: kathleen.horan@student.shu.edu
- Dr. Bonnie Sturm: bonnie.sturm@shu.edu
- Seton Hall University Institutional Research Board: irb@shu.edu

Thank you for your time and consideration! kathleen.horan@student.shu.edu

APPENDIX C

Maslach Burnout Inventory™

Instruments and Scoring Keys

Includes MBI Forms:
**Human Services - MBI-HSS
Medical Personnel - MBI-HSS (MP)
Educators - MBI-ES
General - MBI-GS
Students - MBI-GS (S)**

Christina Maslach
Susan E. Jackson
Michael P. Leiter
Wilmar B. Schaufeli
Richard L. Schwab

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APPENDIX D

Remote online use of the Mind Garden instrument stated below is approved for the person on the title page of this document.

Your name:

Kathleen Horan

Email address:

kathleen.horan@student.shu.edu

Company/institution:

Seton Hall University

Mind Garden Sales Order or Invoice number for your license purchase:

CPOXHZGZM

The name of the Mind Garden instrument you will be using:

PCQ-24

Please specify the name of and web address for the remote online survey website you will be using and describe how you will be putting this instrument online:

I am still pre-proposal but am planning to use Qualtrics through my student account at Seton Hall University. https://www.shu.edu/technology/getting-started-with-technology.cfm

Research Permission track

[v2]   2

Informed Consent Form

Title of Research Study: Burnout and Psychological Capital in Baccalaureate Nursing Students Enrolled in Clinical Rotations

Principal Investigator: Kathleen M. Horan, MSN, APRN, CNE, PhD Student

Department Affiliation: Seton Hall University, College of Nursing, PhD Program

Sponsor: This research is not affiliated with any monetary or non-monetary support.

Brief summary about this research study:
The following summary of this research study is to help you decide whether or not you want to participate in the study. You have the right to ask questions at any time.
The purpose of the study is to examine the relationships between and among the dimensions of burnout (exhaustion, cynicism and inefficacy) and psychological capital (hope, efficacy, resilience and optimism) in baccalaureate nursing students who have completed at least one clinical rotation. A better understanding of these relationships as well as the demographics and perceived stressors in this population has the potential to guide educators to better understand, support, and prepare nursing students prior to graduation and transition into the nursing role. You will be asked to complete a one-time survey that will take approximately 15 minutes to complete, which will conclude your involvement with the research study. There is minimal to no risk anticipated for research participants. There is no specific benefit to the participant who agrees to be in the research study.

Purpose of the research study:
You are being asked to take part in this research study because you are a nursing student currently enrolled in a traditional baccalaureate nursing program who has completed at least one clinical rotation. Your participation in this research study is expected to be for approximately 15 minutes. You will be one of approximately 100 people who are expected to participate in this research study.

What you will be asked to do:
Your participation in this research study will include: You will scan a QR code bringing you to a Qualtrics link where there will be an informed consent to complete and then a link to complete the survey. There are 13 demographic questions to answer as well as two Likert-style instruments, one with 16 items and one with 24 items. The survey can be completed on any mobile or desktop device that can access the internet. It will take approximately 15 minutes to complete.

Your rights to participate, say no or withdraw:
Participation in research is voluntary. You can decide to participate or not to participate. You can choose to participate in the research study now and then decide to exit the survey at any time. Your choice will not be held against you. The person in charge of the research study can remove you from the research study without your approval. Possible reasons for removal include incomplete survey responses.

Potential benefit:
There may be no direct benefit to you from this study. You may obtain personal satisfaction from knowing that you are participating in a project that contributes to new information.

Potential risks:
The risks associated with this study are minimal in nature.

Informed Consent Form

Confidentiality and privacy:
Efforts will be made to limit the use or disclosure of your personal information. This information may include the survey responses. We cannot promise complete secrecy. Organizations that oversee research safety may inspect and copy your information. This includes the Seton Hall University Institutional Review Board who oversees the safe and ethical conduct of research at this institution. This survey is being hosted by Qualtrics and involves a secure connection. Terms of service, addressing confidentiality, may be viewed at : https://www.qualtrics.com/support/survey-platform/getting-started/data-protection-privacy/. No identifying information is being collected. Upon receiving results of your survey, any possible identifiers will be deleted by the investigator. You will be identified only by a unique subject number. Your email address will be stored separately from your survey data. All information will be kept on a password protected computer only accessible by the researcher. Any downloaded data, will be kept on a flash drive locked by the researcher in a secure location. The results of the research study may be published, but your name will not be used.

Data sharing:
De-identified data from this study may be shared with the research community at large to advance knowledge. We will remove or code any personal information that could identify you before files are shared with other researchers to ensure that, by current scientific standards and known methods, no one will be able to identify you from the information we share. Despite these measures, we cannot guarantee complete anonymity of your personal data.

Cost and compensation:
You will not be responsible for any of the costs or expenses associated with your participation in this study. There is no payment for your time to participate in this study.

Conflict of interest disclosure:
The principal investigator, dissertation chairperson and members of the dissertation committee have no financial conflicts of interest to report.

Contact information:
If you have questions, concerns, or complaints about this research project, you can contact the principal investigator Kathleen M. Horan at kathleen.horan@student.shu.edu, or Dr. Bonnie Sturm, dissertation advisor at bonnie.sturm@shu.edu, or the Seton Hall University Institutional Review Board ("IRB") at irb@shu.edu.

If you wish to participate, please click the "I Agree" button and you will be taken to the survey.

If you do not wish to participate in this study, please select exit the browser.

OnlineConsent.v3.2021-2022

APPENDIX F

10/11/2021

Kathleen Horan
Seton Hall University

Re: 2022-248

Dear Kathleen,

The Research Ethics Committee of the Seton Hall University Institutional Review Board reviewed and approved the amendment to your research proposal entitled, "Burnout and Psychological Capital in Baccalaureate Nursing Students Enrolled in Clinical Rotations" as submitted. This memo serves as official notice of the aforementioned study's approval.

Approval of this amendment does not change the previous expiration date from your one-year approval period. You will receive a communication from the Institutional Review Board at least 1 month prior to the original expiration date requesting that you submit an Annual Progress Report to keep the study active, or a Final Review of Human Subjects Research to close the study.

Thank you for your cooperation.

Sincerely,

Mara Podvey

Mara C. Podvey, PhD, OTR
Associate Professor
Co-Chair, Institutional Review Board

Phyllis Hansell

Phyllis Hansell, EdD, RN, DNAP, FAAN
Professor
Co-Chair, Institutional Review Board

APPENDIX G

<table>
<tr><td colspan="2" align="center">THE WILLIAM PATERSON UNIVERSITY OF NEW JERSEY
INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECT RESEARCH</td></tr>
<tr><td>c/o Office of Sponsored Programs
1800 Valley Road
973-720-2852 (Phone)
973-720-3573 (Fax)
http://www.wpunj.edu/osp/</td><td>Chair: Professor Elizabeth Victor (VictorE@wpunj.edu)
College of Arts, Humanities, and Social Sciences
Contact: Kate Boschert (BoschertK1@wpunj.edu)
Office of Sponsored Programs</td></tr>
</table>

To: Kathleen Horan
                        PhD Candidate, Seton Hall University

From: Kate Boschert

Subject: IRB Authorization Agreement

Study: Protocol # 2022-325: Burnout and Psychological Capital in Baccalaureate Nursing
                        Students Enrolled in Clinical Rotations.

Date: February 2, 2022

William Paterson University has entered into an IRB Authorization Agreement for Seton Hall University to be the designated IRB for this research project. A copy of the agreement was sent to you.

Any changes, modifications, or questions regarding this project should be directed, through the Primary Investigator, to the designated IRB.

If you have any questions, please do not hesitate to contact Kate Boschert at 973-720-2852 or BoschertK1@wpunj.edu, or the IRB Committee Chairperson, Dr. Elizabeth Victor, at VictorE@wpunj.edu. Good Luck on your project!