

DISSERTATION

NURSE MANAGER PSYCHOLOGICAL CAPITAL AS A PREDICTOR OF PERCEIVED
NURSE MANAGER ABILITY TO FOSTER A HEALTHY WORK ENVIRONMENT

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ABSTRACT

NURSE MANAGER PSYCHOLOGICAL CAPITAL AS A PREDICTOR OF PERCEIVED NURSE MANAGER ABILITY TO FOSTER A HEALTHY WORK ENVIRONMENT

The purpose of this study was to examine the relationship between a nurse manager's level of Positive Psychological Capital (PsyCap) and his or her ability to foster a healthy work environment as perceived by nursing staff. Studies have shown PsyCap to be positively correlated to improved work-related outcomes including job satisfaction, organizational commitment, and employee performance, as well as, negatively related to employee stress and anxiety (Avey et al., 2011).). The literature has cited the central role a nurse manager plays in fostering a healthy work environment, which in turn allows nurses to function at their best and deliver quality care to patients (Leiter & Laschinger, 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011).

This research intended to discover whether a nurse manager with higher levels of PsyCap would be perceived by their staff as a more effective manager and able to foster a healthier work environment. The researcher wanted to validate this relationship to provide scholars and practitioners with new insights into how PsyCap could enable nurse manager effectiveness, as well as, the health of their teams.

To examine this relationship, the Psychological Capital Questionnaire (PCQ), a survey instrument measuring individual PsyCap, was administered to 102 nurse managers who supervise departments within a multi-hospital healthcare system. The PCQ data were compared to previously collected organizational survey data measuring the health of the work environment

and nurse manager effectiveness as perceived by nursing staff. Three research hypothesis were tested to understand the relationship among nurse manager PsyCap, the health of the work environment and nurse manager ability, leadership, and support of nurses as perceived by nursing staff.

Findings from the study indicated there was no statistically significant relationship between a nurse manager's level of PsyCap and the health of the work environment as perceived by nursing staff. Moreover, there was no statistically significant relationship between a nurse manager's level of PsyCap and their ability, leadership and support of nurses as perceived by nursing staff. There was, however, a statistically significant relationship between a nurse manager's level of efficacy and their ability, leadership and support of nurses as perceived by nursing staff.

The study offered some alternatives to better understand the relationship between these factors, as well as, develop nurse manager self-efficacy. These included; using other ways to measure nurse manager PsyCap and nurse manager effectiveness, structuring the data collection to account for the time it takes for the cognitive state of PsyCap to manifest into desired performance and enabling a deeper exploration of the role self-efficacy plays in predicting nurse manager effectiveness. Recommendations for developing nurse manager self-efficacy included structuring activities that enable practice and mastery of the job-related tasks for creating a healthy work environment.

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CHAPTER ONE: INTRODUCTION

A Nurse Manager has front-line management responsibility for the nursing staff and coordinating care within a clinical department (Duffield, Roche, Blay, & Stasa, 2011). The role is central to fostering a healthy work environment allowing nurses to function at their best and deliver quality care to patients (Leiter & Laschinger; 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011). While the subject of nurse manager ability and its importance to a healthy work environment is well documented (Leiter & Laschinger; 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011), the concept of Positive Psychological Capital as a resource for nurse managers to draw upon and leverage in the pursuit of fostering a healthy work environment has been ignored within the literature (Luthans, Youssef-Morgan, & Avolio, 2015; Newman, Ucbasaran, Zhu, & Hirst, 2014). Positive Psychological Capital has a rich theoretical background and the potential to improve desirable employee attitudes, behaviors, and performance while acting as a buffer to workplace stress and job dissatisfaction (Avey, Reichard, Luthans, & Mhatre, 2011; Newman, Ucbasaran, Zhu, & Hirst, 2014). The goal of this study is to explore if there are relationships between a nurse manager's level of Psychological Capital and his or her ability to foster a healthy work environment as perceived by the nurses they manage and lead.

The Problem

Studies have shown the relationship between a healthy work environment and nurse-patient outcomes (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Lake, 2010; Warshawsky & Havens, 2011). Studies have also confirmed the importance of the nurse manager role relating to nursing staffs' perception of a healthy work environment (Leiter & Laschinger; 2006;

Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011). These studies show the attitudes and actions of a nurse manager have a significant impact on nurses' satisfaction and wellbeing and the quality of care delivered.

Findings from a national survey of nurses showed some disturbing trends in nurses' perception of the health of their practice environment (Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2005). Nearly half of all nurses surveyed felt stressed and burned out in their jobs. This shows one of the most basic personal needs a nurse has in a healthy work environment is not being adequately met. Of the nurses surveyed, "40% rated their relationship with their nurse manager as very good or excellent" (p. 392). Nurses in the survey were not optimistic about improvement. They expect things to get worse or stay the same. These findings are significant given the importance of a healthy work environment and manager-staff relationship for overall nurse job satisfaction and retention (Ulrich et al., 2005).

The role of nurse manager has become increasingly complex and stressful. The stress is caused by unrealistic job expectations, role complexity, a perceived lack of power, negative emotions, and value conflicts (Shirley, Ebright, & McDaniel, 2008; Udod & Care, 2013). New solutions are needed to give nurse managers the ability to perform under stress and create healthier work environments since many nurse manager attributes have been empirically linked to fostering a healthy work environment (Pearson, Laschinger, Porritt, Jordan, Tucker, & Long, 2007).

One possible solution is the role a nurse manager's positive psychological capital plays in addressing this problem. Positive psychological capital or PsyCap is defined as:

an individual's positive psychological state of development and is characterized by: (a) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (b) making a positive attribution (optimism) about succeeding now and in the future; (c) persevering toward goals and, when

necessary, redirecting paths to goals (hope) in order to succeed; and (d) when beset by problems and adversity, bouncing back and even beyond (resiliency) to attain success. (Luthans, Youseff, & Avolio, 2007, p. 3)

Studies have shown PsyCap is positively correlated to improved work-related outcomes including job satisfaction, organizational commitment, and employee performance (Avey et al., 2011). There is evidence PsyCap is negatively related to employee stress and anxiety (Avey et al., 2011). This includes the positive effect of PsyCap on nurse burnout and commitment to their organization (Luthans & Jensen, 2005; Wang, Chang, Fu & Wang, 2012). No empirical evidence could be found linking a nurse manager's PsyCap with the ability to foster a healthy work environment as perceived by nursing staff members.

Significance of the Problem

There are three reasons why this study is important. Nurse Managers play a pivotal role in fostering healthy work environments which produce quality outcomes for nursing staff and patients. The nurse manager role has become increasingly complex and difficult leading to higher levels of job-related stress and burnout. While studies have identified the attributes needed to be an effective nurse manager, there are no studies within the literature showing PsyCap's relationship to nurse manager effectiveness. This study would provide new insights into this relationship.

The role of nurse manager is a pivotal one within a healthcare institution and is critical to fostering a healthy work environment (Duffield et al., 2011; Leiter & Laschinger, 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011). It is the first line of nursing management and the closest to the nurses and patients. The nurse manager assumes responsibility for managing one or more clinical units, supervising a large

population of hospital staff, and ensuring the organization's primary goal of efficient quality patient care is being met.

Several instruments have been developed and used to assess the health of the work environment as perceived by the nursing staff. Among the most widely used are the Nursing Work Index Revised (NWI-R) and Practice Environment Scale of the Nursing Work Index (PES-NWI). Both tools have been used in different settings to assess the effect of the practice environment on nurse satisfaction and burnout, as well as on patient quality and safety (Aiken et al., 2008; Lake, 2010; Twigg & McCullough, 2014; Warshawsky & Haven, 2011). Both instruments contain items related to the organizational trait of nurse manager ability, leadership, and support of nurses. Items such as “a nurse manager is a good manager and leader” and “praise and recognition for a job well done” have been positively correlated to nurses' perception of a healthy work environment (Lake, 2010; Leiter & Laschinger, 2006; Twigg & McCullough, 2014; Warshawsky & Haven, 2011).

Pearson et al. (2007) conducted a comprehensive review of research to determine the relationship between various nursing leadership styles that foster a healthy work environment. Their analysis of 29 studies showed a combination of leadership styles including transformational, social, participative, consultative and transactional, were positively associated with multiple nursing and patient outcomes. Studies examining the relationship between empowerment and staff satisfaction revealed that, if staff felt empowered by their manager, they were more satisfied with their job (Pearson et al., 2007). A review of studies examining specific leadership behaviors showed the leadership characteristic of “challenging the process, inspiring shared vision and enabling others to act modeling the way” (p. 215) to be positively correlated

with increased job satisfaction, higher levels of productivity, and a higher level of organizational commitment (Pearson et al., 2007).

The nurse manager role has become increasingly complex and stressful. The position involves countless duties, which support delivering safe, effective patient care, cost containment, and nursing staff satisfaction being impacted by stringent regulatory requirements, nursing shortages, and increasing reliance on technology. In addition to the vast scope of responsibilities, the perceived lack of adequate resources and proper authority with unrealistic performance expectations are major contributors to the stress nurse managers feel (Paliadelis, Cruickshank, & Sheridan, 2007). Studies have found nurse managers feel unprepared and unsupported for the challenges they face (Udod & Care, 2013). As one nurse executive described, “it is the hardest job in health care right now, being an advocate up to management for nurses and other staff, but also interpreting and managing organizational decisions that come down to the unit...influencing everything from doctor satisfaction and patient length of stay to staff nurse turnover” (Chase, 2010, p. 1).

Given the importance of the clinical nurse manager in creating and maintaining a healthy work environment, as well as the challenges and stressors associated with the role, it is feasible PsyCap could be leveraged to achieve higher levels of performance. A nurse manager could tap into their PsyCap to buffer the stress they feel and find the motivation to achieve their goal of creating a healthy work environment for the nursing staff they lead.

Although the majority of research on PsyCap has occurred outside of nursing and healthcare management, a meta-analysis of 51 independent studies showed findings which are relevant to the clinical nurse manager role (Avey et al., 2011). There is a significant relationship between a supervisor’s level of PsyCap and performance. Data indicate that PsyCap can provide

an additional 28% impact on positive outcomes and up to a 24% decrease on negative outcomes as measured by self-rated performance, supervisor performance ratings, and various objective performance measures (Avey et al., 2011). Developing a reservoir of PsyCap could allow nurse managers to achieve high performance expectations associated with the role.

There is empirical data suggesting PsyCap is positively associated with job satisfaction, organizational commitment, and negatively related to stress and anxiety (Avey et al., 2011). These findings are consistent with research showing the importance of optimism and resiliency in reducing nurse manager burnout and increasing engagement (Shirley, Ebright & McDaniel, 2008). It is possible PsyCap could remove or minimize the high stress nurse managers feel.

Evidence suggested the relationship between PsyCap and performance is strongest in the service industry. “PsyCap seems to have a stronger impact on service work, which relies on social interactions that require emotional norms favoring the expression of positive affect” (Avey et al., 2011, p. 146). This is significant given the service-based work of patient care delivery and the human relationship skills needed of nurse managers in leading staff, partnering with physicians, and interacting with patients and their families.

Purpose of the Study

The purpose of this research study is to examine the relationship between a nurse manager’s PsyCap and his or her ability to foster a healthy work environment as perceived by nursing staff. The non-experimental associational research design used a convenience sample of nurse managers within a multi-hospital health care system in the United States.

The theoretical foundation for PsyCap is positive organizational behavior (POB) defined as “the study and application of positively orientated human resource strengths and psychological capacities that can be measured, developed, and effectively managed for

performance improvement in today's workplace" (Luthans, Avolio, & Youseff, 2007, p. 11). The scientific criteria for POB includes evidence of theory and research through the use of reliable and valid measures; being a state-like psychological capability (rather than trait-like) and thus open to development; and related to work performance outcomes. Based on these criteria, the following psychological states that best meet the POB criteria are hope, self-efficacy, resiliency, and optimism (Luthans et al., 2007).

Research Questions

1. What is the relationship between a nurse manager's PsyCap and the health of the work environment as perceived by nursing staff?
2. Does nurse manager's PsyCap predict nurse manager's ability, leadership and support of nurses as perceived by nursing staff?
3. Which of the PsyCap factors (efficacy, hope, optimism, resilience) are the strongest predictors of nurse manager ability, leadership, and support of nurses as perceived by nursing staff?

Definitions of Key Terms

The following definitions are taken from the scholarly works of the relevant publications framing this study.

Healthy work environment describes the nursing practice environment and is rooted in Kramer and Schmalenberg (2008) definition as "productive, able to give quality care, satisfying, and able to meet personal needs" (p. 57). This definition aligns with the American Association of Critical Care Nurses' Standards for Establishing and Sustaining Healthy Work Environments, as a well

as the construction of widely-published and useful measures of the professional practice environment including the Practice Environment Scale (PES).

Nurse Manager's ability, leadership and support of nurses is one factor measured on the Practice Environment Scale (PES). Specific items associated with this factor include:

- A nurse manager who is a good manager and leader
- A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician
- Supervisors use mistakes as learning opportunities, not criticism
- A supervisory staff which is supportive of the nurses
- Supervisors who use praise and recognition for a job well done

Practice Environment Scale (PES) is a measure of the health of the work environment as perceived by hospital nursing staff. The PES uses 32 items to measure five factors including: nurse participation in hospital affairs; nursing foundations for quality care; nurse manager ability, leadership and support of nurses; staffing and resource adequacy; and collegial nurse-physician relations.

Psychological Capital (PsyCap) is defined as “an individual’s positive psychological state of development and is characterized by (1) having confidence (self-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) to succeed; and (4) when beset by problems and adversity, bouncing back and even beyond (resiliency) to attain success” (Luthans et al., 2007, p. 3).

PsyCap efficacy is rooted in Albert Bandura’s (1997) Social Cognitive Theory and his five cognitive processes suitable for developing efficacy: symbolizing (creating a mental image);

forethought (targeting a performance level and consequences expected); observation (modeling and learning from relevant others); self-regulation (setting specific goals or standards to assess performance); and self-reflection (reflecting back on past actions, successes and failures).

PsyCap hope is rooted in Snyder's (2000) theory building and is defined as "a positive motivational state based on an interactively derived sense of successful (1) agency (goal directed energy) and (2) pathways (planning to meet goals)" (p. 287). PsyCap hope has two components; the 'will' and the 'way' to successfully achieve one's goals.

PsyCap optimism is rooted in Schrier and Carver's (1985) outcome expectancy theory suggesting optimistic people have a general expectation good things will happen, as well as Martin Seligman's (1998) framework of optimism, suggesting optimistic people take credit for the good things, which happen in their life past, present, and future (factors within their control) and do not blame themselves for the negative events (factors outside their control). As a result, they remain positive about the future despite setbacks.

PsyCap resiliency is rooted in Masten and Reed's (2002) Clinical Theory of Resiliency defined as "a class of phenomena characterized by patterns of positive adaptation in the context of significant adversity or risk" (p. 75). Luthans et al. (2007) broadened the definition of PsyCap resiliency to include bouncing back from both negative events (adversity), as well as positive events (e.g., a job promotion).

The PsyCap Questionnaire (PCQ) is a 24-item measure of PsyCap derived from published scales of hope (Snyder et al., 1996), efficacy (Parker, 1998), resiliency (Wagnild & Young, 1993), and optimism (Schrier & Carver, 1985).

CHAPTER TWO: LITERATURE REVIEW

The literature review presents the major research in positive psychological capital, the nurse practice environment, and nurse manager effectiveness. Given the breadth of literature available on these topics and the need to provide situational context, the review was bounded by the study's measurement instruments: the Psychological Capital Questionnaire (PCQ), which measured positive psychological capital and the Practice Environment Scale (PES), which measured the nurse practice environment and nurse manager effectiveness. This chapter includes three sections. Section One describes the theory of Psychological Capital. Section Two presents the key findings in Psychological Capital research including the role Psychological Capital plays in leadership effectiveness. Section Three summarizes the importance of the nurse practice environment and the influence of the nurse manager role.

The key words used to conduct the literature review were “positive psychological capital, Psychological Capital Questionnaire, nurse practice environment, Practice Environment Scale, nurse manager.” The terms were entered into various databases including Google Scholar, PsycINFO, EBSCO and CINAHL to create as many results as possible. The initial search results were confined to peer-reviewed articles and dissertations published in English within the past fifteen years. Articles were reviewed from the abstracts and then selected for further review based on the purpose of each study. Review of the selected articles generated leads for additional primary source articles.

Section One: Theory of Psychological Capital

This section describes the theory of psychological capital or PsyCap. Positive organizational behavior is introduced as the theoretical foundation of PsyCap. The four positive

psychological states that make up PsyCap (self-efficacy, hope, optimism, and resiliency) are described. PsyCap is defined as a psychological resource and higher-order motivational construct.

Positive organizational behavior. The concept of psychological capital first appeared in the literature when Luthans and Youssef (2007) argued organizations can set up a competitive advantage, win the war for talent, and realize the full potential of its human resources through the identification, development, and effective management of PsyCap (Luthans & Youssef, 2007). The theoretical foundation for PsyCap is positive organizational behavior. Positive organizational behavior has its roots in positive psychology (Seligman & Csikszentimihalyi, 2000) and is part of an integrated theoretical framework, which includes positive organizational scholarship (Luthans, 2002a; 2002b).

Positive organizational behavior or POB is defined by Luthans (2002a) as “the study and application of positively orientated human resource strengths, and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today’s workplace” (p. 59). This definition reflects a positive, strength-based orientation in an individual or micro-level analysis of organizational behavior. POB is not a replacement for negatively oriented or deficit-based organizational theory; rather it is best viewed as a complimentary theory. According to Luthans and Youssef (2007), because of increased competition, organizations can no longer achieve and sustain high performance alone by fixing human weaknesses. To gain a competitive advantage, organizations must also build on people’s strengths and leverage untapped potentials of positive capabilities existing in an organization.

POB has a set of unique and distinguishing characteristics. For positive capabilities to qualify for inclusion in POB, they must meet certain scientific criteria. They should be based on

theory, research, and valid measurement; be a state-like psychological capability, as opposed to fixed or trait-like, and thus open to development; and have a performance impact (Luthans, 2002b). Based on these ‘must have’ criteria, the four positive psychological capacities best meeting the POB criteria are self-efficacy, hope, optimism and resiliency (Luthans & Yousef, 2007).

The most challenging, yet important, criterion to define and understand is the state-like nature of these positive psychological capabilities (Luthans & Avolio, 2009). It is important to note the relationship these state-like capabilities have to positively-orientated personality traits, which have been traditionally studied in organizational behavior. Unlike personality traits which are relatively fixed, psychological states are somewhat changeable. The two are not exclusive of one another, but rather co-exist on a continuum as depicted below in Figure 1. This figure illustrates the relationship between positive states and positively-orientated personality traits.



Figure 1. The continuum of positive moods, states, traits and talents.

On one extreme of the continuum are positive moods or momentary feelings of pleasure or happiness. These are transient, momentary, and changeable. On the opposite extreme are positive talents such as intelligence and inherited characteristics, which are fixed, hard-wired, and difficult to change. In between are positive states and traits (Luthans & Youssef, 2007).

Unlike positive traits that are relatively stable and fixed over time (difficult to change), positive state-like capabilities are more malleable and open to change and development. This is the most important differentiator from trait-like personality constructs and other positively orientated concepts, pertaining to leadership effectiveness and employee performance (Luthans,

2002a; Luthans & Youssef, 2007). Positive traits and states are not entirely separate constructs. Both have been linked to employee performance and attitudes. Positive traits can form the foundation for positive states. One of the research streams for positive traits is Character Strengths (Peterson & Seligman, 2004), which includes hope. While hope has been shown to be state-like and open to development, it is also has a more stable, trait-like baseline, which can increase or constrain the range of one's state-like hope (Youssef & Luthans, 2007). A more comprehensive review of the four positive psychological states follows.

The Positive Psychological States of PsyCap

As previously mentioned, the four positive psychological states or capabilities best meeting the POB inclusion criteria are Efficacy, Hope, Optimism, and Resiliency. Not only do these individual states represent the theoretical foundation for PsyCap, they form a second-order construct in combination with one another (Luthans et al., 2007). This phenomenon suggests PsyCap is greater than the sum of its parts and has a stronger relationship with work performance outcomes than any one of the individual states have on its own. Each of the four POB states will be discussed to include a scientific definition of the capability, as well as how this capability fits with the higher-order PsyCap construct and the POB inclusion criteria.

PsyCap efficacy. PsyCap efficacy is defined as “one’s conviction (or confidence) about his or her abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context” (Stajkovic & Luthans, 1998b, p. 66). It is rooted in Albert Bandura’s (1986, 1997) social cognitive theory and his five cognitive processes suitable for developing self-efficacy. These include visualizing success, planning ahead to achieve a certain performance level and overcome obstacles, observing and learning from relevant role models, setting guidelines to assess performance against, and reflecting back

on past actions to identify success and failure. According to Bandura (1997), the most effective way to develop one's self-efficacy or confidence is to experience success.

Luthans et al. (2007, 2015) use this theory to highlight several key points about the nature of PsyCap efficacy or confidence. Success does not equal self-efficacy. Although success is the most important input into one's efficacy, it is a person's previous success and their cognitive processing which determines one's level of confidence or efficacy. Efficacy is domain specific. In other words, one's level of self-efficacy or confidence in one area may not translate to other pursuits. Despite being confident in certain domains, there will be tasks one is not as comfortable with and, thus represent opportunities for improvement. One's level of confidence is based on practice and mastery. The tasks individuals are most confident in are the ones they have repeatedly practiced and mastered. Learning from others is a powerful form of developing self-efficacy. When people similar to ourselves are observed achieving success in a certain domain, confidence is gained. One's self-efficacy is variable and depends on factors both within our control (e.g., skills and knowledge), as well as those present within the context needed to achieve our goals (e.g., financial resources).

In terms of the inclusion criteria for POB, self-efficacy or confidence is the overall 'best fit' of the four positive psychological which make up PsyCap (Luthans, 2002b). The relationship between self-efficacy and work-related performance is well researched as evidenced by a meta-analysis of 114 studies showing a strong positive correlation between self-efficacy and performance where self-efficacy accounted for a 28% increase in work-related performance (Stajkovic & Luthans, 1998a). Bandura (2012) provided further evidence of the strong relationship between individual self-efficacy and performance. In terms of being state-like and open to development, Bandura (2002) showed how people's confidence can be developed in the

workplace. A valid measure for the state-like nature of efficacy has been developed (Parker, 1998).

PsyCap hope. Luthans et al. (2007; 2015) borrowed from Snyder and colleagues to define PsyCap hope. Snyder, Irving, and Anderson (1991) defined hope as “a positive motivational state based on an interactively derived sense of successful agency (goal directed energy) and pathways (planning to meet goals)” (p. 287). PsyCap hope has two main components: the ‘will’ and the ‘way’ to successfully achieve one’s goals. Willpower is having the internal sense of control that creates motivation (aka willpower) to achieve one’s goals. Way-power is the process of creating alternative pathways or contingency plans to overcome obstacles and achieve one’s goals. PsyCap hope involves the mechanisms of selecting, approaching and re-defining challenging goals, if necessary, based on new information or situational realities (Snyder, 2000).

In terms of meeting the POB inclusion criteria, there is sufficient evidence of hope’s state-like, developmental nature, as well as promising research, supporting the relationship between hope and work performance. Snyder (2000) has shown hope can be developed by solidifying goal targets and improving the agency and pathway components to achieving these goals. Hope can be solidified through goal-setting interventions including ‘stretch goal-setting’, the process of establishing challenging goals slightly beyond one’s reach; ‘stepping’, the process of achieving mastery by setting and achieving smaller, sub-goals; and ‘re-goaling,’ the process of revising goals to be more realistic based on the reality of the situation and thus, avoiding false hope. The agency component of hope can be enhanced through delegation and empowerment, while the pathway component can be enriched through preparation activities (e.g., scenario or contingency planning and mental rehearsal).

With respect to meeting the POB criteria for measurement, a valid measure of hope has been established (Snyder et al., 1996) and while the majority of evidence showing the relationship between hope and performance exists within academic and athletic domains, as well as overall coping and wellbeing (Snyder, 2000), there is an evolving body of research showing hope in the workplace and its impact on performance (Avey et al., 2011). Youssef and Luthans (2007) showed an employee's level of hope was positively associated to job satisfaction and organizational commitment. Peterson and Byron (2008) demonstrated a positive relationship between high levels of hope and the performance of service workers, mortgage brokers, and executives. A positive relationship between the Chinese factory workers' hope and supervisor-rated performance has been shown to exist (Luthans et al., 2005).

PsyCap optimism. Luthans et al. (2007) define PsyCap optimism as “the reason and attributions one uses to explain why certain events occur, whether positive or negative, past, present or future” (p. 87). The theoretical foundation for their definition comes from Schreier and Carver's (1985, 1987) Outcomes Expectancy Theory, Seligman's (1998) explanatory style framework for optimism, as well as Peterson's (2000) point of view on flexible optimism.

According to Schreier and Carver (1985, 1987), outcome expectancy theory implies people differ in how they see the world and approach life's circumstances. Some people are optimistic and expect good things will happen. Others are pessimistic and expect bad things will happen. The theoretical framework is rooted in the assumption a person's expectations of good or bad outcomes are the best predictors of behavior. This suggests a person's behavior toward achieving a goal is dependent on an assessment of outcome expectancy. When someone perceives difficulty or experiences a setback toward achieving the goal, they will engage in an assessment process of outcome expectancy. If the outcome expectancy is positive, the individual

will renew his or her efforts toward achieving the goal. If the outcome expectancy is negative, the individual will reduce their effort or completely disengage.

Seligman's (1998) framework for optimism suggests an optimistic outlook 'explains' the causes of positive things happening by permanent or internal factors within one's control and attributes the causes of negative events to situational or external factors outside a person's control. In comparison, a pessimistic outlook 'explains' the causes of negative things, which happen by externalizing the positive events, attributing them to situational factors outside their control and internalizing the negative events, attributing them to permanent factors within their control. As a result, optimists remain positive about the future and motivated to achieve their goals despite setbacks while pessimists are encumbered by self-doubt.

To counter the adverse effects of unbridled or unrealistic optimism, Peterson (2000) offered a perspective on 'flexible optimism'. Peterson argued one's strength of optimism can be flexible as indicated by how one explains the positive and negative events occurring in one's life. In circumstances where pragmatism and contingency planning are needed, it can be helpful to adopt an optimism and pessimistic explanatory style. In these cases, a flexible optimistic style tends to overcome the potential pitfalls of unbridled optimism by acknowledging the positive aspects of the situation while accepting responsibility for the challenges.

In terms of meeting the POB inclusion criteria, optimism is a construct which is misunderstood as a psychological strength, specifically as it relates to the state-like, open to development criterion (Luthans & Youssef, 2007). Research implies optimism is a dispositional trait opposite of pessimism (Schreier & Carver, 1985). As a result, people are labeled optimistic or pessimistic, rather than the possibility of a person being both depending on the nature of the event. While optimism may have a trait-like baseline (Schreier & Carver, 1987), Seligman

(1998) demonstrated an optimistic outlook can be developed. Schneider (2001) offered three perspectives for developing realistic optimism: ‘leniency for the past’, which enables a person to re-frame failure through acceptance of the situation, giving the benefit of the doubt and forgiveness for mistakes that cannot be undone; ‘appreciation for the present’ and the positive aspects of any situation; and ‘seeking opportunities for the future’ with an understanding of personal capabilities and situational risks.

As far as research demonstrating the relationship of optimism to performance outcomes, Seligman’s (1998) landmark study of Metropolitan Life insurance agents showed agents with high levels of optimism performed significantly better than their more pessimistic counterparts. Further research established optimism as essential to authentic leadership and positively related to leadership effectiveness (Avey, Avolio, & Luthans, 2011; Avolio & Luthans, 2006). From a measurement perspective, Schrier and Carver (1985) established the validity of a measure for state-like optimism.

PsyCap resiliency. PsyCap resiliency is defined as, “the capacity to rebound or bounce back from adversity, conflict, failure, or even positive events, progress and increased responsibility” (Luthans, 2002b, p. 702). Luthans et al. (2007; 2015) expanded on this definition to include more than a reactive capacity and returning to normal levels of performance but to include a proactive dimension expanding one’s positive potential to achieve higher levels of performance. The view, suggesting resiliency plays a role in response to positive, as well as adverse events enables one to thrive (not just survive), distinguishes the meaning of PsyCap resiliency from previous characterizations having emerged from clinical and developmental psychology (Luthans & Youssef, 2007).

While the majority of resiliency research has occurred within clinical and developmental psychology, it serves as a strong foundation for developing PsyCap resiliency within the workplace (Luthans & Youssef, 2007). Masten and Reed (2002) have identified various factors that contribute or hinder resiliency, as well as strategies to build greater resiliency in the workplace. These include asset-focused and risk-focused strategies. Assets refer to the importance of personal strengths (e.g., knowledge, skills, abilities), as well as social relationships and support that lead to higher levels of performance. Asset-focused strategies leverage these assets to overcome adversity and increase resiliency. Alternatively, risk factors are those reducing the probability of success. These can include stress, unproductive group dynamics, workplace conflicts, and job insecurity. Risk focused strategies mitigate or eliminate these vulnerabilities and thus reduce the possibility of failure. The stress caused by a new promotion and additional job responsibilities can be mitigated by using a coach or mentor. The risk factors paradoxically can be viewed as challenging opportunities for growth and future success, if properly managed. Personal values are critical for resiliency. Values are strongly held that motivate people, provide meaning to their work, and enhance their overall resiliency. If one is guided by strong beliefs and ethical values, viewing setbacks as challenging opportunities for learning and growth, he or she is more likely to proactively engage in strategies to effectively adapt and achieve personal goals (Luthans & Youssef, 2007).

In terms of meeting the inclusion criteria for positive organizational behavior, there is supporting evidence for the state-like, developmental nature of resiliency. As previously stated, Masten and Reed (2002) showed resiliency is a learned response which can be developed in people. Coutu (2002) showed resiliency is not the realm of a few remarkable individuals who

faced extreme adversity. Rather resiliency exists in individuals with deep values, who have developed the capacity to accept reality and adapt to unexpected situations.

Beyond clinical psychology research supporting the positive impact of resiliency to post-traumatic coping and human functioning, research showing the impact of resiliency in the workplace continues. As part of PsyCap, resiliency has been shown to be positively related to work-related outcomes including job satisfaction, organizational commitment, and performance (Avey, Avolio & Luthans, 2011; Luthans et al., 2007). In terms of meeting the POB criteria for measurement, a scale for state-like resiliency has been developed and tested empirically (Wagnild & Young, 1993).

Conceptual Differences between the POB States

Since the words used to describe the four states of self-efficacy (confidence, hope, optimism, and resiliency) are commonly used and appear to be quite similar, a brief discussion of the conceptual differences is warranted. Luthans (2002b) noted the primary difference between self-efficacy and resiliency is the latter is more reactive than proactive. Bandura (1997) argued the key difference between efficacy and hope is the efficacy outcome expectations, which are similar to hope's pathway component, are all important, while Snyder (2000) regarded agency (willpower) and pathways (waypower) as equally important. In terms of the difference between hope and optimism, Snyder (2000) contended hope is initiated and determined through self while Seligman's Explanatory Theory (1998) claimed optimism is formed through others as well as forces outside of self. Lastly, the main difference between resiliency and hope is resiliency does not include the agency component of hope (Luthans, 2002b). In support of these conceptual differences, there is empirical evidence demonstrating the discriminant validity between the four states (Luthans et al., 2007).

PsyCap as a Psychological Resource and Higher-Order Construct

PsyCap is considered to be a psychological resource (Hobfoll, 2002) that can be managed and developed for competitive advantage. Luthans et al. (2007) highlighted, “PsyCap goes beyond human capital (what you know) and social capital (who you know) and is concerned with who you are and who you are becoming” (p. 20). The authors believe “synergistically integrating human, social, and psychological capital is central to actualizing human potential in today’s workplace” (p. 21). To support this claim, Larson and Luthans (2006) found PsyCap to have a stronger relationship with desirable employee attitudes beyond those of human and social capital. From this perspective, PsyCap can be thought of as a form of competitive advantage that leverages untapped human potential and goes beyond, yet does not negate, other forms of competitive advantage (e.g. financial, technical, structural). In summary, by effectively managing and developing PsyCap, organizations can channel people’s talents, strengths, and psychological capacities toward worthwhile and meaningful outcomes which result in sustained competitive advantage (Luthans et al., 2007; 2015).

PsyCap was initially conceptualized and tested as a distinct, higher-order construct consisting of hope, optimism, and resiliency (Luthans, Avolio, Walumbwa, & Li, 2005) and then expanded by adding efficacy (Luthans et al., 2007). In these seminal studies, Luthans and colleagues sought to understand the empirical relationship between these positive states to workplace outcomes and, if combined, what the relationship would be. The research showed while each of the four states were related to approximately the same level of performance outcomes, the combination of the states showed a statistically significant stronger relationship to both job performance and satisfaction. This evidence confirmed the notion of PsyCap as a distinct and composite higher-order construct. In other words, while each of the four states has

been shown to have “conceptual independence”, a shared underlying mechanism exists among them.

This discovery is consistent with Hobfoll’s (2002) psychological resource theory claiming while an individual psychological resource such as self-efficacy or optimism has discriminant and predictive impact on goal directed behavior, it can also be an indicator of a core underlying mechanism that causes an even bigger impact. According to Luthans et al. (2007), it is the “motivational propensity to accomplish tasks and goals” (p. 548), which enables PsyCap to have a broader and more impactful impact on performance than any four individual states comprising it. An optimistic employee may have a positive outlook, but, when combined with efficacy, hope, and resiliency, he or she possesses the requisite self-confidence and persistence to pursue alternative pathways and ability to recover from setbacks in pursuit of their goals (Luthans et al., 2007). Simply stated, PsyCap is greater than the sum of its parts.

To empirically test the concept of PsyCap as a higher-order construct and its impact on performance and satisfaction, Luthans et al. (2007) developed the Psychological Capital Questionnaire (PCQ) using existing published scales for efficacy (Parker, 1998), hope (Snyder et al., 1996), optimism (Schreier & Carver, 1985) and resiliency (Wagnild & Young, 1993). Their study provided preliminary empirical support for the reliability of the PCQ measure, as well as the validity of PsyCap as a second-order factor comprised of the shared variance among the four positive states. Subsequent studies using the PCQ provided additional evidence for the instrument’s reliability as well as defining PsyCap as a second-order core construct (Avey, Luthans, & Jensen, 2009; Avey, Luthans, & Youssef, 2010; Luthans, Avey, Smith, & Li, 2008; Gooty et al., 2009;). A more comprehensive review of the PCQ is provided in Chapter Three.

Section Two: Psychological Capital Research

This section presents the major findings in psychological capital research including the role PsyCap plays in leadership effectiveness. Research demonstrating PsyCap's relationships to employee attitudes, behaviors, and performance are described. Emerging research describing the antecedents of PsyCap; PsyCap as a mediator; and the key variable that moderates the relationship between PsyCap and workplace outcomes is presented. Evidence of PsyCap's relationship to leadership effectiveness is identified. Study results specific to the nursing profession are discussed throughout.

PsyCap's relationship to employee attitudes, behaviors and performance. Numerous research studies have used the PCQ to demonstrate PsyCap's relationship to employee attitudes, behaviors, and performance within the workplace (Avey et al., 2011; Newman, Ucbasaran, Zhu, & Hirst, 2014). Results from a meta-analysis of 51 independent studies totaling over 12,000 participants showed PsyCap was positively associated with desirable workplace outcomes and negatively associated with undesirable workplace outcomes (Avey et al., 2011). Subsequent studies have further validated how PsyCap's utility as a desirable psychological resource within the workplace (Newman et al., 2014).

Psychap has been associated with desirable employee attitudes. These include job satisfaction and organizational commitment (Luthans et al., 2007), psychological empowerment (Avey, Hughes, Norman, & Luthans, 2008) and employee well-being (Avey, Luthans, & Jensen, 2009). Specific to the nursing profession, Luthans and Jensen (2005) discovered a positive relationship between nurse PsyCap and intentions to remain as well as commitment to achieving the hospital's mission and goals. This finding suggests PsyCap offers a positive approach to turnover caused by the heavy demands placed on the nursing profession. Boamah and Laschinger

(2015) found a direct, positive relationship between new graduate nurses' PsyCap and their level of work engagement. In their meta-analysis, Avey et al. (2011) explained the effect PsyCap has on employees' attitudes by stating "those higher in PsyCap expect good things to happen at work (optimism), believe they create their own success (efficacy and hope), and are more impervious to setbacks (resilience) when compared to those lower in PsyCap" (p. 132).

Avey et al. (2011) also found PsyCap to be negatively associated with undesirable attitudes. These include desire to quit and cynicism toward organizational change (Avey et al., 2008; Avey, Wernsing, & Luthans, 2008). Studies have shown PsyCap to be negatively associated with stress (Avey, Luthans, & Jensen 2009; Baron, Franklin, & Hmieleski, 2016; Roberts, Scherer, & Bowyer, 2011). Specific to the nursing profession, Wang, Chang, Fu and Wang (2012) discovered a negative relationship between nurse PsyCap and emotional exhaustion caused by work-family conflict. This finding suggests PsyCap may be a positive anecdote to burnout nurses are susceptible to feeling. However, the nature of this relationship needs further exploration. As cited by Newman et al. (2014), while some studies suggest PsyCap acts as a defense against the negative effects of workplace stress, other studies imply that stress at work causes lower levels of PsyCap within employees. Given PsyCap is conceptualized as an internalized psychological resource; it would seem to be more of the former than the latter. Some stress (e.g., sense of urgency) can have a positive relationship to productivity while other types of stress (e.g., work overload) can have negative impact (Avey, Luthans, & Jensen, 2009). Treating stress as one dimensional limits understanding of the efficacy of PsyCap in relationship to stress.

PsyCap has been shown to have a significantly positive relationship to desirable employee behaviors, specifically organizational citizenship behaviors (Avey, Wernsing &

Luthans, 2008; Gooty et al., 2008; Norman et al., 2010). Gooty et al. (2008) cited organizational citizenship behaviors as “an employee’s discretionary behavior that is not part of an employee’s task requirements but which benefits the organization” (p. 357). Examples include helping a co-worker or being compliant with organizational policies. According to Gooty et al. (2008), employees high in PsyCap have the psychological resources to overcome challenges at work and maintain a favorable view of the future. These employees are more likely to engage in self-directed discretionary behaviors to influence that future. Avey, Wernsing, and Luthans (2008) discovered the significant role PsyCap can play to enhance positive organizational change. Their study showed a positive correlation between employee PsyCap and positive emotions, which in turn impacted organizational citizenship behaviors. This finding suggests employees who are higher in PsyCap are more likely to have positive emotions and subsequently behave in ways that support effective organizational change.

PsyCap has been negatively associated with undesirable employee behaviors (Avey et al., 2011). These include deviance such as spreading negative rumors and purposely withholding information which enables others to achieve their goals or sabotaging work projects, as well as reported job search behaviors (Avey, Wernsing, & Luthans, 2008; Avey, Luthans, & Jensen, 2009; Norman et al., 2010). Throughout these studies, it appears PsyCap helps to overcome the stressors causing these undesirable behaviors.

The most extensive body of research examines the relationship between PsyCap and employee performance. In their meta-analysis, Avey et al. (2011) evaluated the results from 24 studies across multiple cultures and industries and found a significant relationship between employees’ PsyCap and indicators of their performance. Their analysis indicated that “the range of effects of PsyCap provided up to an additional 28 percent to achieving positive outcomes and

up to a 24 percent decrease in negative outcomes beyond chance alone” (p. 146). There was no meaningful difference in the sources of employee performance data collected whether it was self-rated performance, supervisor evaluations of performance, or objective performance indicators. Citing Campbell et al. (1993) model of performance where “demonstrating effort” is an important predictor of performance, the authors insisted PsyCap relates to employee performance through the demonstration of “motivated effort.” “When employees try harder to succeed, they generally perform better” (p. 135).

While most of the research examining the relationship between employee PsyCap and performance has been limited to cross-sectional designs, Peterson et al. (2011) performed a longitudinal study to see if PsyCap changes over time and if change impacts performance. Their finding confirmed PsyCap does change over time and this change is positively related to changes in subjective and objective measures of employee performance. Moreover, there was preliminary evidence suggesting the changes in employee PsyCap influenced changes in their performance.

Another significant contribution to the literature was to see if PsyCap can be developed through a training intervention for positive impact on participants’ on-the-job performance (Luthans et al., 2010). Employing a pre-test, post-test randomized experimental design using a treatment and control group, researchers discovered that participants’ level of PsyCap significantly increased after the training as did their performance. This study provided initial empirical evidence PsyCap can be developed for performance impact.

Specific to the nursing and healthcare profession, a couple of studies were conducted to demonstrate the relationship between nurses’ PsyCap and performance. Sun et al. (2011) conducted a study in China and found nurse PsyCap to be related to job embeddedness, which improves performance. In this study, job embeddedness is characterized as the level of

connection employees have to their organization and is a significant predictor of retention. Brunetto et al. (2016) conducted a study in Australia and found a nurse's level of PsyCap, along with perceived managerial support and safety training, to be a strong predictor of their safety performance.

Antecedents of PsyCap -- Mediators and moderators. Research explaining the antecedents of PsyCap as mediators and the moderators of PsyCap is not as extensive as studies examining the direct relationship between PsyCap and workplace outcomes, yet it does show promise. Recognizing there was limited understanding of the originators of PsyCap, Avey (2014) conducted two studies to better understand the antecedents or what causes an individual's level of PsyCap to be developed and maintained. Avey categorized these antecedents into four categories: trait-like differences, leadership styles, job design, and demographic variables (gender, age, tenure). An individual's trait-like differences were the strongest predictors of PsyCap with self-esteem (study 1) and core self-evaluations (study 2) being the highest predictors in this category. Leadership style was the second strongest predictor with authentic leadership (study 1) and empowering leadership behaviors (study 2) being the strongest predictors in this category. Job design and demographics had little or no importance to PsyCap in either study. With PsyCap having more than one antecedent, Avey (2014) suggested PsyCap is not only "a multidimensional construct, but also it is a multi-established construct (i.e., established first in multiple other domains)" (p. 146).

Other studies have supported this assertion. In a review of the literature, Newman et al. (2014) cited many antecedents of PsyCap including: workplace support, job stressors, and ethnic identity/gender orientation. Additional studies have shown followers' perception of transactional and transformational leadership styles positively impacted their PsyCap levels (Gooty et al.,

2008; McMurray, Pirola-Merlo, & Sarros, 2010). Avey, Avolio, and Luthans (2011) found the more complex a problem or job situation was the lower an employee's PsyCap will be in facing the problem. Specific to the healthcare profession, it was found female medical practitioners who felt stressed at work had lower levels of PsyCap than their counterparts, which led to feelings of depression and burnout (Liu, Chang, Fu, Wang, & Wang, 2012).

With regards to PsyCap as a mediator, research shows the important role PsyCap can play mediating between a supportive organizational climate and employee performance (Luthans et al., 2008). PsyCap may buffer the effects of stress on employee attitudes and behaviors as illustrated by Roberts, Scherer and Bower's (2011) investigation of PsyCap's role regarding the relationship between job stress and incivility. They concluded employees with high levels of PsyCap were less likely to display uncivil behaviors when faced with similar job stressors.

PsyCap has been shown to act as a mediator of the relationship between leadership behavior and performance outcomes. Gooty et al. (2008) found employees' PsyCap mediated the relationship between their perception of transformational leadership behavior and their work behavior. Gupta and Singh (2014) discovered an employee's level of PsyCap mediates the relationship between their perceptions of leadership behavior and their creative performance. Specific to the nursing profession, Wang and colleagues (2012) explored the relationship between work-family conflict and burnout among Chinese female nurses and discovered the nurses' level of PsyCap played a mediating role in this relationship.

In terms of the variables that moderate the relationship between PsyCap and workplace outcomes, Newman et al. (2014) cite industry type, stress, and organizational identity. PsyCap's relationship to employee performance appears to be higher in service industries (Avey et al., 2011; Walumbwa, Peterson, Avolio & Hartnell, 2010). This finding suggests PsyCap may have

greater utility depending on the type of work conducted. According to Avey and colleagues (2011), “PsychCap may have a stronger impact in service work which relies on more social interactions that require emotional norms favoring the expression of positive affect” (p. 146).

Additional studies have explored the mediating role of mindfulness, stress, and organizational identity in the relationship between individual PsyCap and workplace outcomes. Avey, Wernsing, and Luthans (2008) uncovered when an employee’s PsyCap is low, mindfulness will help to moderate the relationship between PsyCap and positive emotions, which impact employee attitudes and behaviors. Avey, Luthans, and Jensen (2009) found employee stress symptoms partially mediated the relationship between PsyCap and intentions to quit and job search behaviors. Norman et al. (2010) discovered organizational identity moderates the relationship between PsyCap and employee behavior. Employees with high levels of PsyCap and a stronger identity to the organization were more likely to engage in organizational citizenship behaviors and less likely to engage in deviance behaviors.

PsyCap’s relationship to leadership effectiveness. As previously stated, there is a multi-faceted relationship between PsyCap and leadership effectiveness. Research has begun to establish a positive link between a leaders’ PsyCap, the PsyCap of their followers, and performance outcomes (Walumbwa et al., 2010). Drawing from emotional contagion (see Bono & Ilies, 2006) and social exchange theory (see Blau, 1964), Walumbwa and colleagues explained that positivity displayed by leaders rubs off on followers and, when leaders and followers show more PsyCap, they have more positive resources to draw from to increase performance. Avey, Avolio and Luthans (2011) showed a positive relationship between a leaders’ level of PsyCap and the PsyCap of their followers, which led to more effective problem solving.

Norman, Avolio, and Luthans (2010) examined the relationship between leadership PsyCap and perceived leadership effectiveness during a downsizing event. In the study, researchers created four leadership scenarios regarding a realistic, yet fictitious organizational downsizing event. These scenarios depicted a (a) high PsyCap, high transparent leader, (b) high PsyCap, low transparent leader, (c) low PsyCap, high transparent leader and (d) low PsyCap, low transparent leader. Participants were randomly selected and exposed to one of these four leadership scenarios. Subsequently, they were asked to rate the leader in terms of perceived level of PsyCap, communication transparency, trustworthiness and effectiveness. Findings showed the leader's perceived level of PsyCap was positively related to the participants' trust in the leader and their overall leadership effectiveness. In addition, the leaders' perceived level of effectiveness was highest when the leader demonstrated both high levels of PsyCap and communication transparency.

Within the literature, PsyCap has been closely associated with the concept of authentic leadership, both as an important input and outcome of authentic leadership behavior, as well as a moderator between authentic leadership behavior and performance (Luthans, Yusef-Morgan, & Avolio, 2015). Initially conceived by Luthans and Avolio (2003) and subsequently expanded on by Walumbwa and colleagues (2008), authentic leadership has been defined as “a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development” (p. 94).

Authentic leadership has been depicted as distinct from other positive leadership styles (i.e., transformational leadership) from the perspective that a leader's authenticity exists on a

continuum of owning one's experience and acting in accordance with one's true self. A transformational leader can behave more or less authentically based on how much he or she knows, accepts, and remains true to themselves (Luthans, Norman, & Hughes, 2006). PsyCap is seen as one of the underlying mechanisms allowing leaders to exert their influence on follower's attitudes, behaviors, and performance. This is primarily accomplished through 'personal identification' where authentic leaders can influence their followers by positively identifying with them and modeling desired positive states, which improves the positive states of followers and leads to higher levels of performance (Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Walumbwa et al., 2008).

While authentic leadership has been empirically linked to subordinate job satisfaction and performance (Walumbwa et al., 2008), PsyCap's role in connecting authentic leadership to workplace outcomes is emerging. Wang and colleagues (2014) tested the moderating role PsyCap might play in the relationship between authentic leadership and follower performance. Their findings showed the relationship between authentic leadership and follower performance is stronger among followers with low compared to high levels of PsyCap. This suggests authentic leadership has a greater influence on follower performance when the PsyCap of their followers is low and there exists a stronger need for these psychological resources. Within the nursing profession, there are no published studies connecting nurse manager PsyCap with leadership effectiveness, however, authentic leadership is seen to be an important lever to improve the health of the work environment and associated nurse and patient outcomes (Fallatah & Laschinger, 2016; Nelson, Boudrias, Brunet, Morin, De Civita, Savoie, & Alderson, 2014; Wong & Cummings, 2009; Wong & Laschinger, 2013).

Limitations within the PsyCap research. With the exception of a few longitudinal and experimental studies, the majority of PsyCap research has been cross-sectional, associational studies with correlations. While this has been useful in demonstrating the relationship between PsyCap and workplace outcomes, the findings need to be viewed with caution. There is a high probability of reverse causality making it difficult to understand the direction of the relationship. So causation cannot be assumed. The research clearly shows PsyCap is a multi-faceted construct and there can be multiple predictors of employee performance. This makes it challenging to isolate cause and effect of relationships that may exist.

The second major limitation is most studies collected self-report data from a single source. This increases the likelihood of common method variance and the concern of artificially inflated relationships among variables. To address this, the majority of studies collected the independent and dependent variable data at separate points in time. While this limitation can minimize common method variance, it does not completely eliminate it (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Despite attempts to distinguish PsyCap as a higher-order construct, there are concerns of artificially inflated relationships among the four measures comprising the PsyCap instrument (Newman et al., 2014).

Section Three – The Nurse Practice Environment and Influential Role of Nurse Manager

This section summarizes research examining the importance of a healthy nurse practice environment and the influence of the nurse manager role. Research linking the nurse practice environment to various nurse and patient outcomes is provided. The influential role of nurse manager is demonstrated.

Research linking the nurse practice environment to outcomes. The nursing practice environment includes organizational characteristics of a work setting enabling or constraining

professional nursing practice (Lake, 2002). Focusing on the health of the practice environment is paramount to enhancing nurse satisfaction, quality of care, and patient safety (Lake, 2010). It is essential to use valid and reliable measures to understand the quality of the practice environment and use this knowledge to make changes that will improve nurse and patient outcomes.

There are many published measures of the nursing practice environment. In a comparative study of these instruments, the Practice Environment Scale of the Nursing Work Index (PES-NWI) was found to be the most useful based on its theoretical relevance, ease of use, and supporting body of empirical evidence (Lake, 2010). Not only is it the most widely reported measure used, it is the measure recommended by several United States organizations endorsing quality healthcare including the National Quality Forum, the Joint Commission and the National Database of Nursing Quality Indicators (Warshawsky & Havens, 2011). The PES measures nursing staff's perception of the quality of the practice environment from multiple perspectives including nurse manager's ability, leadership and support of nurses. A more comprehensive review and description of the PES is provided in Chapter Three.

The body of research supporting the efficacy of the nursing practice environment has been primarily focused on the relationships between the practice environment and measures of nurse and patient outcomes (Aiken, Sermeus, Van den Heede, Sloane, Busse, McKee, & Tishelman, 2012; Lake, 2010; Warshawsky & Havens, 2011). Indicators of nurse outcomes include the attributes of nurse satisfaction, empowerment, and organizational commitment, as well as the attributes of nurse burnout, job dissatisfaction, and turnover intentions. Patient outcomes have been measured primarily by nurse-reported quality of care and to some extent, patient safety. Each is discussed in more detail.

Relationship between the practice environment and nurse outcomes. As previously stated, studies have focused on the relationship between the practice environment and desirable, and undesirable nursing outcomes. The primary motivation behind these studies is to identify ways to enhance the practice environment and improve nurse retention. The ability to attract and retain competent nurses is critical for any healthcare organization given the well documented shortage of nurses that exist (Buerhaus, 2008).

In their review of studies used the PES in a variety of practice settings and countries, Warshawsky and Havens (2011) found 23 studies used the PES to test the relationship between the practice environment and nursing outcomes. The research has clearly shown the link between the health of the practice environment and desirable nursing outcomes including nurse satisfaction, empowerment, and organizational commitment. The findings from these studies indicated a significantly positive correlation between a favorable practice environment and these variables. Laschinger and Spence (2008) found a favorable practice environment predicted job satisfaction. Lake (2010) reviewed 22 studies and ascertained “the evidence is compelling that the practice environment is integral to nurse job outcomes, principally satisfaction” (p. 116).

The evidence is as compelling when looking at the relationship between the nurse practice environment and undesirable nursing outcomes including dissatisfaction, burnout, and intent to leave. Significant negative associations have been reported between the practice environment and these undesirable variables (Warshawsky & Havens, 2011).

Relationship between the practice environment and patient outcomes. In addition to studies exploring the relationship between the health of the practice environment and nurse outcomes, many studies have been conducted to determine the relationship of the practice environment to patient outcomes specifically nurse-reported quality of care (Aiken et al., 2012;

Warshawsky & Havens, 2011). Researchers deem nurse-reported quality of care is an acceptable indicator of patient outcomes given the significant influence nursing practice has on the quality of care delivered (Lake, 2010). In their review of published studies, Warshawsky and Havens (2011) found associations between the nurse practice environment and patient outcomes varied suggesting the practice environment may be indirectly associated to patient outcomes. Yet there are many other variables to consider when determining the quality of patient care. Aiken et al. (2012) discovered staffing levels impacted nurse-reported quality of care so much that nurses working in healthier environments were less likely to report poor quality care yet the likelihood of this increased with each additional patient per nurse. The researchers concluded the same to be true for patient satisfaction. Patients who were cared for in hospitals with better working environments were more likely to rate their hospital high and recommend it to others, but this was less likely when there were higher ratios of patients to nurses (Aiken et al., 2012). With regards to patient safety, studies have showed the influence of a positive practice environment on 30-day mortality rates and death within 30 days of hospital admission for patients who experience a postoperative complication in various practice settings including oncology (Aiken, Cimiotti, Sloane, Smith, Flynn, & Neff, 2011; Friese, Lake, Aiken, Silber, & Sochalski, 2008; McHugh et al., 2013).

The Influential Role of Nurse Manager

Studies have confirmed the importance of the nurse manager role as it relates to nursing staffs' perception of a healthy work environment ((Leiter & Laschinger; 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011). A nurse manager sets the tone for how the nursing unit functions. The attitudes and behaviors of a nurse manager have considerable influence on the practice environment and on nurses' job satisfaction

and the quality of care delivered ((Leiter & Laschinger; 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011).

The PES contains items related to the organizational traits of nurse manager ability, leadership, and support of nurses. Items such as “a nurse manager is a good manager and leader,” and “praise and recognition for a job well done” have been positively correlated to a favorable practice environment, as well as nurse satisfaction and nurse-rated quality of care. These findings confirm the link between manager ability and a healthy work environment (Leiter & Laschinger; 2006; Manojlovich and Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011).

Perhaps the most robust evidence of the linkage between manager ability and a healthy work environment comes from the work of Laschinger and colleagues. In using the PES to test causal relationships between the organizational elements of the nursing practice environment and their capacity to predict nurse burnout, Leiter and Laschinger (2006) concluded nurse manager ability, leadership, and support of nurses explained the most variance of any predictor. Their model known as Nursing Worklife Model of Burnout showed the direct effect nurse managers had on staff nurses participation in hospital affairs, staffing, and resource adequacy, and collegial nurse/physician relationships. Their analysis showed the negative path this relationship had to nurses’ emotional exhaustion as well as the positive path this relationship had to nurses’ feelings of personal accomplishment. Manojlovich and Laschinger (2007) extended this research and demonstrated the efficacy of the Nursing Worklife Model and leadership in predicting nurse job satisfaction. These studies helped to confirm the importance of nurse manager leadership, ability and support of nurses to the health of the practice environment.

Other studies have substantiated the influential role of a nurse manager. As cited by Warshawsky and Havens (2011), the PES sub-scales most closely associated with nurse satisfaction and nurse-rated quality of care were nurse manager ability, staffing adequacy, and collegial nurse-physician relations. Twigg and McCullough (2014) examined 39 publications reporting strategies for creating a positive practice environment and concluded nurse leaders play a “significant role” in developing a positive practice environment that enhances retention and facilitates quality patient care.

Conclusion

The purpose of the literature review was to present the major research in positive psychological capital, the nurse practice environment, and nurse manager effectiveness. Given the breadth of literature available and the need to provide situational context, the review was bounded by the study’s measurement instruments; Psychological Capital Questionnaire (PCQ) as a measure of positive psychological capital and the Practice Environment Scale (PES) as a measure of the nurse practice environment and nurse manager effectiveness. Section One described the theory of psychological capital to include positive organizational behavior and the four positive states of self-efficacy, hope, optimism and resiliency. Section Two presented the major findings in psychological capital research including the significant relationship between PsyCap and employee attitudes, behavior, and performance, as well as the multi-faceted role PsyCap plays in leadership effectiveness. In Section Three, a summary of the research examining the importance of the practice environment and the influence of the nurse manager role was presented. Findings support the nurse manager’s ability, leadership, and support of nurses has significant influence in fostering a healthy work environment.

CHAPTER THREE: METHODOLOGY

This chapter describes the research methods used in this study including research questions and design; population and sample; instruments and measurement; data collection; and data analysis.

Research Questions and Design

The research design was a non-experimental, quantitative associational study using convenience sample of nurse managers supervising nursing staff within a multi-hospital health care system. The following research questions were used in this study:

1. What is the relationship between nurse manager's PsyCap and the health of the work environment as perceived by nursing staff?
2. Does nurse manager's PsyCap predict nurse manager's ability, leadership and support of nurses as perceived by nursing staff?
3. Which of the PsyCap factors (efficacy, hope, optimism and resilience), are the strongest predictors of nurse manager ability, leadership and support of nurses as perceived by nursing staff?

Figures 2, 3 and 4 show the research questions and the relationships examined among variables.

This figure shows research question 1, what is the relationship between nurse manager's PsyCap and the health of the work environment as perceived by nursing staff?

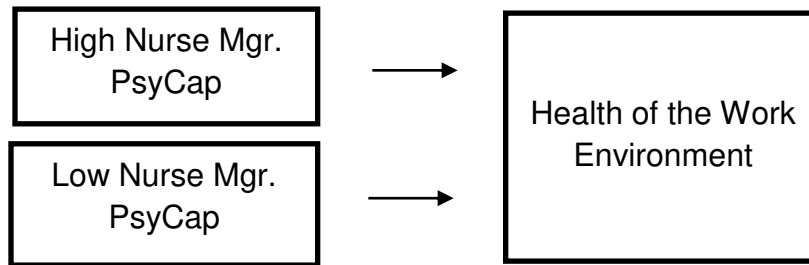


Figure 2. Nurse manager's PsyCap and the health of the work environment.

This figure shows research question 2, does nurse manager's PsyCap predict nurse manager's ability, leadership and support of nurses as perceived by nursing staff?

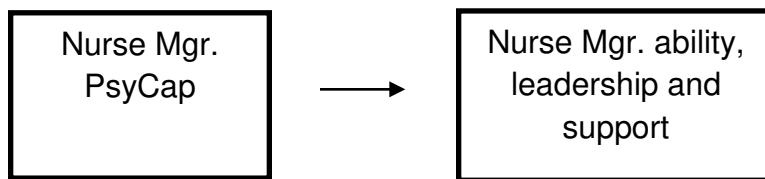


Figure 3. Nurse manager's PsyCap as a predictor of nurse manager leadership effectiveness.

This figure shows research question 3, which of the PsyCap factors are the strongest predictors of nurse manager ability, leadership and support of nurses as perceived by nursing staff?

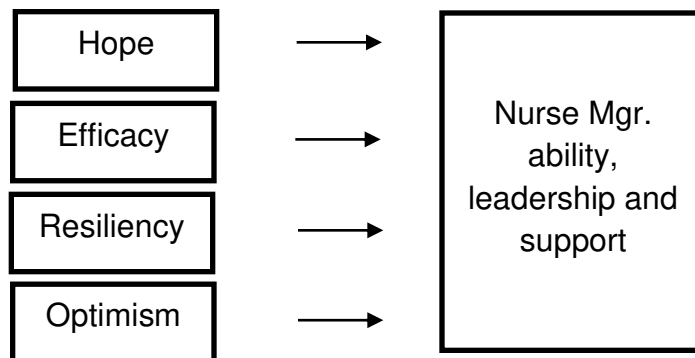


Figure 4. Individual PsyCap factors as predictors of nurse manager leadership effectiveness.

The independent variable, nurse manager PsyCap, was measured with a published online survey instrument used to collect data about an individual's level of psychological capital and relevant demographic information. The dependent variables, health of the work environment and nurse manager ability, leadership and support of nurses, were measured using existing and available organizational data compiled from a nurse practice environment survey administered annually to nursing staff which was driven by the research design. According to Creswell (2009), the quantitative approach is best suited to understanding the factors that influence or predict an outcome. In this study, the approach enabled examination of the theory that PsyCap is an available psychological resource that impacts one's performance, specifically a leader's performance in a high stress environment. The survey design allowed empirical data to be collected and used to investigate tendencies in the survey participant population (Creswell, 2009). As a result, inferences could be made about the nurse manager's PsyCap and the health of the work environment as perceived by the nursing staff.

The use of surveys was preferred because of efficiency and convenience. Surveys produce a large amount of data in a short period of time and are less costly than other data collection methods (Creswell, 2009). It was convenient to use existing and published instruments to measure the study variables. Nurse Manager PsyCap was measured using a self-administered questionnaire, the Psychological Capital Questionnaire (PCQ). The PCQ was developed using published scales of hope, optimism, resiliency, and self-efficacy and has produced reliable and valid findings in studies as a measure of an individual's overall level of PsyCap. The health of the work environment, as well as, nurse manager ability, leadership, and support of nurses was measured using existing and available organizational data gathered from a self-administered questionnaire called the Practice Environment Survey (PES). The survey was administered to

nursing staff within the workgroup who reported to the nurse manager as part of the organization's annual survey process and ongoing commitment to quality improvement. The PES is widely used within healthcare settings to measure the health of the work environment as well as the manager's ability, leadership, and support as perceived by the nursing staff. Previous studies using this instrument produced reliable and valid findings.

Population and Sample

The population studied was nurse managers in a multi-hospital setting and the nursing staff reporting directly to them. This population of nurse managers was selected for several reasons. The role of the nurse manager is vital to delivering effective, quality patient care because it serves as the critical link between the organization's vision and strategy, management goals, and the employees responsible for the delivery of care at the department level. Nurse managers have responsibility for supervising the largest number of nursing staff and are the management level closest to patients. The nurse manager role has the biggest influence on the health of the work environment and its relationship to nurse and patient outcomes (Duffield et al., 2011; Lake, 2010; Leiter & Laschinger, 2006; Manojlovich & Laschinger, 2007; Warshawsky & Havens, 2011).

The population of nursing staff was selected because they are in the best position to evaluate their work environment and the ability of their managers. Collecting data on a manager's perceived level of effectiveness from multiple direct reports as opposed to the manager's self-perception helps reduce the bias of common source self-report design (Podsakoff et al., 2003). Most studies exploring the relationship between PsyCap and performance relied solely on supervisor ratings of employee performance. While these studies are important in

establishing the link of the relationship, they are limited in supervisor ratings, which may not be the most reliable measure of employee performance (Peterson et al., 2011).

To measure nurse manager PsyCap, a convenience sample of nurse managers was selected from four hospitals located in a major metropolitan area of the U.S. and operates as part of a larger healthcare system. A single-stage sampling procedure was used to access the sample as the names, job titles, and email information of the nurse managers were made available by an organizational representative. There were 102 nurse managers in the sample. The managers selected had existing and available PES data measuring staff's perception of the health of their department's work environment and their ability, leadership and support of nurses. Demographic characteristics (e.g., gender, tenure, age, and education) were not included as criteria for this sample.

Unit of Analysis

The unit of analysis in this study was the individual since positive organizational behavior represents a micro-level of analysis (Luthans & Youssef, 2007). While this may seem obvious when considering a nurse manager's PsyCap, it may not be as clear when considering the health of the work environment. Since this study collected individual perceptions of the health of the work environment, it is suitable to use the individual as the unit of analysis (Lake, 2010).

Instruments and Measurement

This section provides details on the instruments used in this study. Historical reports of reliability and validity are provided as reported in uses of the instruments selected.

Psychological Capital Questionnaire. The Psychological Capital Questionnaire (PCQ) was used to measure the nurse manager's level of PsyCap. As previously stated, the PCQ was

developed by Luthans et al. (2007) using published scales of hope, optimism, resiliency, and self-efficacy, the four positive states which make up the higher order construct of PsyCap. The PCQ is a 24-item measure consisting of six items per state. Using a continuous five-point Likert scale, respondents are asked to rate their level of agreement (from strongly agree to strongly disagree) with their current thinking in response to each item on the questionnaire. While the states of hope, optimism, resiliency and self-efficacy are common in everyday language, a brief description of these states and how they are measured using the PCQ is warranted. The PCQ survey instrument can be found in Appendix A.

Self-efficacy. PsyCap self-efficacy is rooted in Bandura's (1997) Social Cognitive Theory and methods for developing self-efficacy that include repeated practice, observing effective role models, and encouragement of performance from others. It is important to note self-efficacy does not refer to people's ability to carry out new tasks rather it refers to how confident they feel (Bandura, 1986). The PCQ scale for self-efficacy was adapted from the seminal work of Parker (1998). Parker developed and validated a scale for role breadth self-efficacy, which refers to a person's self-confidence about their capability to perform particular tasks and take on expanded roles. As cited in Parker (1998), research shows individuals who possess a higher level of role breadth self-efficacy are able to perform better, cope more effectively with change, and persist in the face of adversity. Sample PCQ items measuring self-efficacy include 'I feel confident in representing my work area in meetings with management', and 'I feel confident helping to set targets or goals in my work area'.

Hope. PsyCap hope is rooted in Rick Snyder's (2000) theory building and is defined as a positive motivational state based on agency (goal directed energy) and pathways (planning to meet goals). PsyCap hope has two interrelated components: the will and the way to successfully

achieve one's goals. The PCQ scale for hope was adapted from the seminal work of Snyder et al. (1996) who initially developed an eight-item dispositional or trait-like scale for hope. Later in 1996, they developed and validated a six-item temporal or state-like scale suggesting the two approaches to hope of trait-like versus state-like were useful and related to one another. Someone with higher dispositional hope should respond to a challenging situation with higher state hope than someone with lower dispositional hope and vice versa. Sample PCQ items measuring hope include 'if I should myself in a jam at work, I could think of many ways to get out of it', and, 'right now, I see myself as being pretty successful at work'.

Optimism. PsyCap optimism is rooted in outcomes expectancy theory (Scheier & Carver, 1986) in which people differ in how they see the world with optimists expecting good things will happen while pessimists believing bad things will happen to them. Luthans, Youssef, and Avolio (2007) broadened the definition of PsyCap optimism to include Martin Seligman's (1998) framework for optimism, which suggests optimistic people take credit for the good things that happen in their life (factors within their control) and not blame themselves for the negative events (factors outside their control). As a result, they remain positive about the future despite setbacks. Defined this way, optimism is more than simply expecting good things will happen. It includes the cognitive explanation people attribute to events which occur. The PCQ scale for optimism was adapted from the seminal work of Scheier and Carver (1985). Their theoretical framework is rooted in the assumption a person's expectations of good or bad outcomes are the best predictors of behavior. The basis of the theory suggests a person's behavior toward achieving a goal is dependent on an assessment of outcome expectancy. When a person perceives difficulty or experiences a setback toward achieving the goal, he or she will engage in an assessment process of outcome expectancy. If the outcome expectancy is positive, the

individual will renew his or her efforts towards achieving the goal. If the outcome expectancy is negative, the individual will reduce their effort or completely disengage. The purpose of their studies was to develop and validate a scale measuring a person's dispositional optimism or generalized expectations that good things will happen. They called their scale the Life Orientation Test. Sample PCQ items measuring optimism include 'if something can go wrong for me work-wise', it will (reverse scale), and 'I always look on the bright side of things regarding my job'.

Resiliency. PsyCap resiliency is rooted in Masten and Reed's (2002) Clinical Theory of Resiliency, which suggests resiliency is a phenomenon described by patterns of positive adaptation in the context of significant adversity or risk. Luthans, Youssef, and Avoilio (2007) broadened the definition of PsyCap resiliency to include bouncing back from both negative events (adversity) as well as positive events (e.g., a job promotion). Many studies have been conducted on the topic of resiliency and there are many definitions of resiliency. Most researchers agree that a person's resiliency (a) develops over the course of time and life experiences, (b) is improved within a supportive context or relationship, and (c) allows one to 'bounce back' and adapt. The PCQ scale for resiliency was adapted from the seminal work of Wagnild and Young (1993). As a result of their studies, they developed and validated a 25-item Resiliency Scale to "identify the degree of individual resilience considered to be a positive personality characteristic that enhances individual adoption" (p. 167). Sample PCQ items measuring resiliency include 'when I have a setback at work, I have trouble recovering from it' (reverse scale), and 'I usually take stressful things at work in stride'.

As previously mentioned, the PCQ was created by adopting items from the four scales measuring the four positive states discussed. Not only are these four states measured by the PCQ,

the higher-order construct of PsyCap is calculated as an overall score. For the purposes of determining the fit and appropriateness of the PCQ in this study, the findings from seminal research using the PCQ and attempts to establish reliability and validity are provided.

Luthans et al. (2007) reported the PCQ measures using data collected from four samples across studies, Cronbach alphas calculated for each of the four 6-item measures, and the overall PsyCap measure suggested adequate internal consistency. The results are hope (.72 - .80), resiliency (.66 - .72), optimism (.69 - .79), efficacy (.75 - .85), and PsyCap (.88 - .89). Beyond this initial attempt to establish consistency of scores from using the PCQ, additional studies using the PCQ provide further evidence of internal consistency, reliability, and using the PCQ instrument in associational research studies (see Table 1).

Table 1

Reliability of PCQ scores in associational research

Reliability Measures	Gooty et al., 2009	Avey, Luthans & Youssef 2010	Avey, Nimnicht et al., 2010 ^a	Luthans, Avey et al., 2010 ^b	Peterson, Luthans et al., 2011 ^c
Coefficient alpha PCQ	n/a	.95	.91 / .89	>.90	.98
Coefficient alpha sub-scales	E .89 H .91 R .80 ^a O .83 ^a	.92 .87 .83 .78	.86 / .74 .85 / .74 .72 / .77 .73 / .73	>.70 >.70 >.69 >.70	- - - -

^aDropped the reverse-scoring items

^bTwo study samples

^cAverage score

According to Creswell (2009), validity is important for determining whether one can draw significant and useful interpretations from scores on an instrument, specifically, construct validity (do items measure the hypothesized constructs). In their original research, Luthans et al. (2007) conducted two studies using the newly developed PCQ. Their aim was to show PsyCap was a distinct, higher-order construct as measured by the PCQ and provide evidence of its relationship to work-related outcomes, namely performance and satisfaction. Validity of PCQ as a higher-order factor was established through using confirmatory factor analysis. Results showed adequate fit between the six items measuring each positive state factor and the fit of each factor to the higher-order PsyCap core factor (Study 1 – RMSEA .046, CFI .934, SRMR .051; Study 2 – RMSEA .048, CFI .924, SRMR .056). These results provide support that the four states of efficacy, hope, optimism and resilience are indicators of PsyCap. Beyond this initial attempt to set up validity of the PCQ scores, additional efforts to show the validity of the PCQ as a measure of PsyCap as a higher-order core factor model are depicted in the table below.

Table 2

Validity of PCQ scores in associational research

Validity Measures	Gooty et al., 2009	Avey, Luthans & Youssef 2010	Avey, Nimnicht et al., 2010 ^a	Luthans, Avey et al., 2010 ^b	Peterson, Luthans et al., 2011 ^c
RMSEA	n/a	.05	.05 / .07	.051 / .044	.05 - .07
CFI	.95	.96	.93 / .91	.937 / .95	1.00
SRMR	.07	.05	.06 / .06	.051 / .046	.00

^aDropped reverse-scoring items for R and O ^bTwo study samples ^cAverage score

Practice environment scale. To measure nursing staff's perception of the health of the work environment and the nurse manager's ability, leadership and support of nurses, an intact instrument, the Practice Environment Scale (PES) was used. The PES was developed by Lake (2002) and is derived from the Nursing Work Index to measure the hospital nursing practice environment. The PES contains five sub-scales (and 31 items) measuring Nurse Participation in Hospital Affairs (9); Nursing Foundations for Quality of Care (10); Nurse Manager Ability, Leadership and Support of Nurses (5); Staffing and Resource Adequacy (4); and Collegial Nurse-Physician Relations (3). Using a continuous four-point scale, respondents are asked to rate their level of agreement (strongly agree, agree, disagree, strongly disagree) with how they are thinking about each item in the questionnaire. The mean score is used to calculate each of the sub-scales and the overall composite score. Values of 2.50 and above indicate agreement and a favorable practice environment rating while values below 2.50 indicate disagreement and an unfavorable practice environment rating (Lake, 2002). A copy of the PES is included in Appendix B.

The origin of the PES was prior qualitative research to identify the organizational characteristics of Magnet designated hospitals (Kramer & Hafner, 1989). Kramer and Hafner (1989) developed the Nursing Work Index (NWI) to measure the practice environment based on qualitative interviews with nursing staff in Magnet hospitals. The NWI included 65 items measuring different traits of the work environment including management style, organizational structure and clinical practice. Validity of the scales was not tested empirically but recognized by research experts on Magnet hospitals.

A Magnet designation is given by the American Nurses Credentialing Center (ANCC) to recognize hospitals for nursing excellence and quality patient care. Magnet hospitals are required

to develop, disseminate and enculturate evidence-based criteria that result in a positive work environment for nurses. Magnet hospitals are distinguished as having high levels of nurse job satisfaction, low staff turnover, and excellent patient outcomes.

Lake's objective was to develop a shorter and more contemporary psychometrically sound instrument with empirically tested subscales of the work environment. This would allow researchers to measure present-day nursing practice environment and its contribution to job satisfaction and the quality care. It would help nursing leaders determine actions to develop and maintain a more effective practice environment. According to Lake (2002), the first two dimensions, Nurse Participation in Hospital Affairs and Nursing Foundations for Quality of Care, reflect overall hospital nursing practice. The other three dimensions, Nurse Manager Ability, Leadership and Support of Nurses, Staffing and Resource Adequacy, and Collegial Nurse-Physician Relations reflect the nursing practice environment in individual departments.

Lake's attempts to establish the reliability of PES measures included reducing the number of NWI items based on a stronger definition of the nurse practice environment and using the original sample data. Kramer and Hafner (1989) collected data from nurses in Magnet hospitals to perform a series of statistical tests, including factor analysis, to identify the subscales and corresponding items, which best measured the various domains of the practice environment. The exploratory factor analysis showed 31 items loading across five subscales. Scores from these subscales and the overall composite score showed high consistency of the PES measures with Cronbach's Alpha coefficient ranging from 0.71 to 0.84 for the subscales and 0.82 for the overall composite score. Subsequent attempts by researchers to show the reliability of PES measures are shown in the table below.

Table 3

Reliability of PES measures

Reliability Measures	McCusker et al., 2004	Leiter & Laschinger, 2006	Parker et al., 2010
Co-efficient alpha			
PES	N/A	N/A	.948
Subscales (5)	.71 - .84	.72 - .84	.705 - .892

To establish the five-factor structure and construct validity of the PES measures, Lake (2002) explored the PES scores between Magnet and non-Magnet hospitals in Pennsylvania. Results showed significantly higher scores for Magnet hospitals versus non-Magnet hospitals ($p < .001$) with differences between the two groups ranging from .33 to .66 of a standard deviation for the five subscales and .75 of a standard deviation for the composite. There were significant loadings of the five separate subscales ranging from 0.52 to 0.78. These results provided evidence supporting the construct validity of the PES subscales and composite as representative of the Magnet practice environment. Subsequent attempts by researchers to establish validity of the PES measure include

- McCusker et al. (2004) showed the superiority of the five-factor model fit over a four-factor and one-factor model using scores from 243 Canadian nurses working across different hospital units. Their confirmatory factor analysis showed Adjusted Goodness of Fit Index (AGFI) = .78; Parsimonious Goodness of Fit Index (PGFI) = .71; and Comparative Fit Index (CFI) = .89.

- Leiter and Laschinger (2006) conducted factor analysis using scores from 8,597 nurses working in Canadian hospitals. Results showed adequate fit of the five-factor model (CFI = .921).
- Chiang and Lin (2008) showed construct validity using scores from 842 Chinese nurses working in five Taiwan hospitals. Their analysis revealed the five-factor structure explained 47.89% of the total variance and didn't explain 52%.
- Parker et al. (2010) showed construct validity using scores from 1192 Australian nurses working in different practice settings. Their analysis showed the five-factor structure explained 57.7% of the total variance.
- Gajewski et al. (2010) conducted a multilevel factor analysis using scores from 72, 889 U.S. nurses working across 16 differing types of care units. Their analysis provided evidence supporting the validity of the five-factor model (CFI = .90), as well as, convergent, discriminant, and criterion-related validity at the unit and individual nurse level.

Data Collection

The healthcare system from which the data was collected was chosen by contacting the four chief nursing officers at each hospital and inquiring about their willingness to sponsor this study within their organization. At the time of the study, there were four hospitals, one was a Magnet designated hospital. Permission to collect data was obtained from the chief nursing officers. Once permission was granted, the researcher worked with an appropriate representative from the nursing services department and the organization's internal IRB and research department to identify study participants and finalize the data collection plans.

The PCQ was available as a web-based survey. Permission to use the survey for research purposes was granted by the publishers of the survey tool. Participants in the study received an email from the Chief Nursing Officers at each location requesting voluntary, anonymous participation in the study with a link to the online survey. The sample of nurse managers who received the PCQ was those with existing and available PES data for their department. Study participants were given three weeks to complete PCQ. Weekly email reminders were sent on behalf of the Chief Nursing Officers who sponsored the study. At the conclusion of the survey period, responses from the nurse managers who completed the PCQ were matched with their department-level PES scores and the data were made available to the researcher for analysis.

Data Analysis

The first step in the data analysis was to report on the general descriptive statistics. This included the number and response rate of nurse managers completing the PCQ. A demographic profile of the respondents was captured including gender, age, tenure, and hospital location. A check for respondent-non respondent bias was made by comparing the demographic data of the respondents with the overall sample. Assuming the respondent data collected are similar to the population data and no significant differences exist, the responding sample can be compared to the population of nurse managers under study (Leeuw, Hox, & Dillman, 2008).

Further analysis of descriptive data was completed. This included an analysis of the means, standard deviations, and range of scores for the PCQ completed by nurse managers. A check for skewness and kurtosis was performed to see the degree to which the data were normally distributed.

Reliability and Validity

In an effort to check the reliability of the measures, Cronbach's alpha was calculated for the PCQ and each of its sub-scales. Confirmatory factor analysis was completed to check the validity structure of the PCQ scores and their measure of PsyCap as a higher-order core construct. After checking the major data characteristics, specific statistical tests were performed to answer each of the research questions. To organize this section, each research question is provided followed by the analysis strategy.

Research Question 1: What is the relationship between nurse manager's PsyCap and the health of the work environment as perceived by nursing staff?

A comparison was made between the top quartile of highest nurse manager PCQ scores ($n=17$) and the bottom quartile of lowest nurse manager PCQ scores ($n=18$). Respondent scores within each of these quartiles were compared to the department-level PES scores of their direct report nursing staff. Given this was a group comparison between one independent variable (IV) and one dependent variable (DV) with normal distribution, a *t*-test was judged to be the most suitable statistical test for understanding the relationship (Creswell, 2009).

Research Question 2: Does nurse manager's PsyCap predict nurse manager's ability, leadership and support of nurses as perceived by nursing staff?

Each of the individual nurse manager PCQ scores (IV) were related to their department's PES sub-scale score for nurse manager ability, leadership, and support of nurses (DV). To relate these two continuous variables with normal distribution, a bivariate regression was deemed to be the most appropriate statistical test (Gliner et al., 2017).

Research Question 3: Which of the PsyCap factors (hope, efficacy, resilience, optimism), are the strongest predictors of nurse manager ability, leadership and support of nurses as perceived by nursing staff?

Each of the individual nurse manager scores for the four PsyCap factors (IV) were compared to their department's sub-scale score for nurse manager ability, leadership and support of nurses (DV). Multiple regression was selected as the statistical test because there were more than one independent variable and one dependent variable with normal distribution (Creswell, 2009).

The next step was to report the statistical tests performed and interpret the results. Chapter Four provides the findings and reports their statistical significance.

CHAPTER FOUR: RESEARCH FINDINGS

The purpose of this research study is to examine the relationship between a nurse manager's PsyCap and his or her ability to foster a healthy work environment as perceived by nursing staff. The independent variables, nurse manager PsyCap and its four factors (hope, optimism, resiliency and self-efficacy) were measured using the Psychological Capital Questionnaire (PCQ). The dependent variables, the health of the work environment and nurse manager's ability, leadership and support of nurses as perceived by nursing staff were measured using existing available organizational data compiled from a Practice Environment Scale (PES) administered annually to nursing staff. The research questions that guided this study were;

1. What is the relationship between nurse manager's PsyCap and the health of the work environment as perceived by nursing staff?
2. Does nurse manager's PsyCap predict nurse manager's ability, leadership and support of nurses as perceived by nursing staff?
3. Which of the PsyCap factors (efficacy, hope, optimism and resilience), are the strongest predictors of nurse manager ability, leadership and support of nurses as perceived by nursing staff?

This chapter presents the findings of the study and consists of three sections. The first section contains descriptive statistics for the sample and for the measures. Section two presents the reliability and validity of the PsyCap scales in the form of Cronbach's alpha and confirmatory factor analysis, respectively. Finally, section three includes findings from the various statistical tests used to answer the research questions and understand the possible relationships among the study's variables.

Descriptive Statistics

The sample was 102 nurse managers working within a multi-hospital system who supervised nursing staff and had existing and available PES results for their department. Of the 102 managers who received an invitation to participate in the study and complete the PCQ, 61 responded resulting in a 60 percent response rate. These 61 managers supervised 53 departments for which PES results were available. The reason for the discrepancy in the number of nurse managers who completed the PCQ and number of departments with available PES data is that multiple nurse managers may supervise a single department. For these departments, an average nurse manager PsyCap score was computed and used as a single data point.

The demographic profile of respondents ($n=61$) included the respondents' gender, age, and tenure. Most respondents were female (87%). Age of the respondents ranged from 30 to 64 years with an average age of 45 years (SD 9.43). Tenure within the role varied between less than one year to 36 years with many respondents having been in the role for three years or less (64%). Average tenure in current role was 4.76 years (SD 6.66).

A check for respondent – non-respondent bias was made by comparing the demographic data of the respondents with that of the overall population. While demographic data for nurse managers was unavailable, according to the American Nursing Association (2014), the percentage of female nurses is 91percent with an average age of 50 years. This data indicates the study's sample is similar with the general population of nurses.

According to Gliner et al. (2017), power is the probability of rejecting a false null hypothesis indicating there is a difference between the independent variable and the dependent variable. The study's sample size of 53 departments provided a power value of .85 which exceeded the ideal value of .80 to allow for a fair test of the null hypotheses (Keppel, 2004).

However, it was less than minimum sample size of 74 required to provide enough power to reduce the likelihood of a type 1 error to less than 5%. In addition, the effect size measuring the strength of the relationship between the variables was .15 indicating a small effect size (Gliner et al., 2017). Table four below shows by department in the study, the number of nurses who responded to the PES survey ($n = 749$) and the mean scores for overall PES and nurse manager ability, leadership and support of nurses.

Table 4

Descriptive Statistics by Department PES

Department	<i>n</i>	Overall PES	Nurse Manager Ability, Leadership and Support of Nurses
1	12	3.13	3.33
2	15	2.55	2.48
3	20	3.07	3.13
4	9	2.83	3.00
5	7	2.87	3.00
6	3	2.35	2.20
7	27	3.32	3.4
8	5	2.89	2.95
9	15	3.11	3.12
10	30	2.90	2.93
11	20	2.84	3.00
12	3	2.97	3.00
13	24	3.47	3.45
14	4	2.60	2.52
15	14	3.07	3.29
16	12	2.87	2.89
17	22	2.78	2.84
18	20	2.81	2.60
19	8	2.47	2.26
20	13	3.04	2.94
21	3	2.94	2.95

Department	<i>n</i>	Overall PES	Nurse Manager Ability, Leadership and Support of Nurses
22	20	3.18	3.22
23	22	3.11	3.10
24	11	2.95	3.07
25	3	2.69	2.6
26	3	2.98	3.2
27	23	2.71	2.63
28	27	2.79	2.73
29	4	2.19	2.67
30	37	2.85	2.54
31	13	2.77	2.82
32	32	2.94	3.08
33	22	2.79	2.83
34	23	3.04	3.16
35	16	2.83	2.86
36	17	2.82	3.01
37	4	3.21	3.37
38	4	3.46	3.60
39	8	2.91	3.03
40	20	3.04	3.14
41	7	2.86	2.83
42	11	3.17	3.43
43	3	3.28	3.40
44	13	3.06	2.97
45	23	3.41	3.43
46	12	2.86	2.86
47	16	2.88	2.96
48	7	3.14	3.31
49	12	2.98	3.07
50	25	2.98	3.02
51	15	2.89	3.17
52	4	2.97	3.2
53	4	2.65	2.75

Table five below shows the range, skewness, kurtosis, means, and standard deviations for the instrument scales used.

Table 5

Descriptive Statistics by PCQ and PES Scales

Measure	No. of Items	Mean	Range	SD	Skewness	SE	Kurtosis	SE
PCQ (<i>n</i> =61)	24	5.04	3.70 – 6.00	.53	-.24	.29	-.17	.57
Efficacy Sub-Scale	6	5.11	3.00 – 6.00	.66	-.69	.29	.43	.57
Hope Sub-Scale	6	4.99	3.30 – 6.00	.60	-.44	.29	.67	.57
Resiliency Sub-Scale	6	5.08	4.00 – 6.00	.52	-.22	.29	-.95	.57
Optimism Sub-Scale	6	4.97	3.50 – 6.00	.63	-.27	.29	-.51	.57
PES (<i>n</i> =53)	31	2.95	2.19 – 3.47	.23	-.28	.29	1.38	.57
Nurse Manager Ability, Leadership and Support	5	2.99	2.20 – 3.60	.29	-.43	.29	.06	.57

Findings indicate a normal distribution of the data with skewness and kurtosis falling within the acceptable range of +1.0 and -1.0 (Gliner et al. 2017). The implication is the statistical tests outlined in Chapter Three are appropriate.

Reliability and Validity

This section provides a report on the reliability and validity of the PsyCap and PES measures used in the study.

Reliability

To check the consistency of the measures, Cronbach's coefficient alpha was calculated for the PCQ and each of its sub-scales, as well as, the PES and the nurse manager sub-scale (See Table 6). Cronbach's alpha provides a gauge of a scale's internal consistency (Gliner et al. 2017). According to Gliner et al. (2017), acceptable thresholds ought to be above .70. It should be noted that while individual manager scores were used to calculate reliability of the PCQ measures, only the average scores of each nursing department were available for use in calculating consistency of the PES measures.

Table 6

Reliability Coefficients PCQ and PES Measures

Measure	No. of Items	α (Cronbach's Alpha)
PCQ ($n = 61$)	24	.92
Efficacy Sub-Scale	6	.82
Hope Sub-Scale	6	.81
Resiliency Sub-Scale	6	.80
Optimism Sub-Scale	6	.79
PES ($n = 53$)	31	.96
Nurse manager ability, leadership and support of nurses	5	.90

The reliability coefficients ranged from .79 to .96, which are above the acceptable threshold of 0.70 and is consistent with other reports of PCQ reliability across studies (Dawkins, Martin, Scott & Sanderson, 2013).

Validity

Validity is the degree to which a survey instrument measures what it intends to measure (Gliner et al., 2017). Confirmatory factor analysis (CFA) was completed to verify the factor structure of the PsyCap variables as measured by the PCQ scores. Since the PCQ consists of established scales with sound psychometric properties, the CFA sought to confirm validity by comparing the theoretical model to the actual model. Specifically, to statistically test how well the measured variables in the PCQ represent the number of constructs it aims to measure, namely efficacy, hope, resiliency and optimism. Figure 5 depicts the CFA model with standardized estimates of regression.

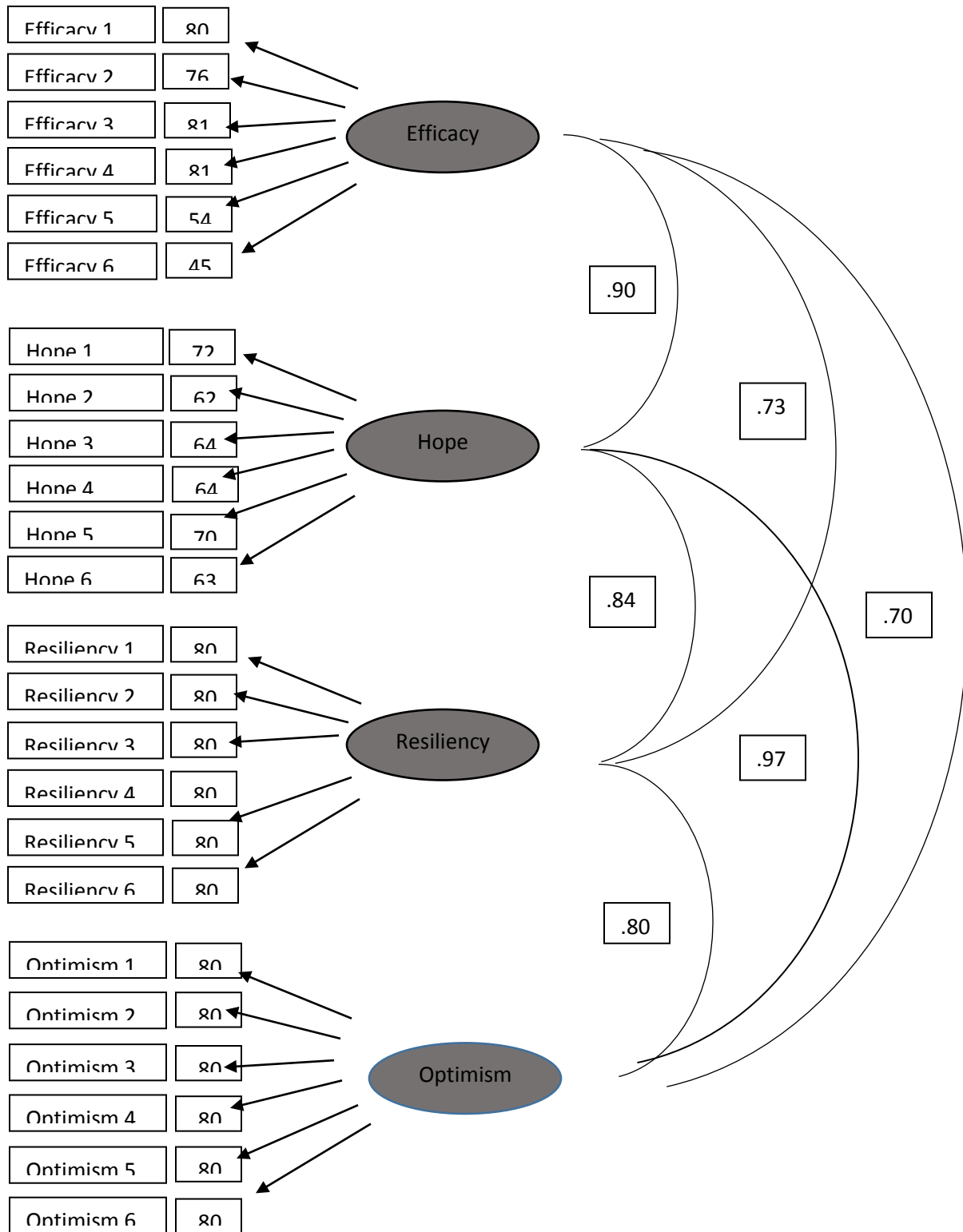


Figure 5: CFA model with standardized estimates of regression

To determine the validity of the PCQ, five indicators of fit were calculated including; root mean square error of approximation (RMSEA), Bentler-Bonett normed fit index (NFI), Tucker-Lewis index (TLI), comparative fit index (CFI), and a Chi Square statistical test (CMIN/DF) (see Table 7). RMSEA is related to residuals in the model with values ranging between 0 to 1 and a cutoff value of .06 indicating a good model fit (Hu & Bentler, 1999). Most PsyCap studies have reported RMSEA values between .05 and .08 (Dawkins et al., 2013). NFI has values ranging between 0 and 1 with a cutoff value of .90 considered a good model fit (Bentler & Bonnet, 1980).

TLI and CFI have values ranging between 0 and 1 with a cutoff value of .95 considered a good model fit for both indices (Hu & Bentler, 1999). Most PsyCap studies have reported CFI values of .95 (Dawkins et al., 2013). Given the rather small sample size, the CMIN/DF (488.41/246) was determined to be the best option for determining validity with acceptable thresholds ranging between 1 and 3 (Carmines & McIver, 1981). The CMIN/DF of 1.99 fell within the acceptable threshold, which suggests the PCQ was statistically acceptable in terms of validity which provides further evidence of PsyCap’s four-factor structure.

Table 7

Validity Fit Indices

Model	RMSEA	Lo 90	Hi 90	NFI	TLI	CFI	CMIN	DF	P	CMIN/DF
Default Model	.12	.11	.14	.59	.70	.73	488.41	246	.00	1.99

Statistical Tests

This section provides a report on the statistical tests used to answer the research questions and understand the statistically significant findings of the relationships between the study's variables.

Research Question 1: What is the relationship between nurse manager's PsyCap and the health of the work environment as perceived by nursing staff?

Table 8 shows the results of a *t*-test comparing the top quartile nurse manager PCQ scores and their department-level PES scores to the bottom quartile nurse manager PCQ scores and their department-level PES scores. As stated in Chapter 3, given this was a group comparison between one independent variable (IV) and one dependent variable (DV) with normal distribution, a *t*-test was judged to be the most appropriate statistical test (Creswell, 2009).

Assumptions. According to <https://statistics.laerd.com>, there are several assumptions that must be met for a *t*-test to qualify as robust and appropriate including: the dependent variable is continuous; the independent variable consists of two categorical, independent groups; and there are different participants in each group with no one participant being in more than one group. All these assumptions were met as a result of the study's design. In addition, a primary assumption that needed to be met was normal distribution of the dependent variable (Gliner et al., 2017). A sequence of analyses was conducted to test this assumption. First, a boxplot of the department-level PES quartile data showed relatively normal distribution of the department-level PES scores for the bottom quartile group of nurse managers (2.69 - 3.46), however, there were a few outliers with the department-level PES scores for top quartile group of nurse managers (2.19 – 3.21). Based on this observation a more formal test of data normality was conducted using a

Shapiro Wilk Test. The Shapiro Wilk Test confirmed the PES scores for the bottom quartile group of nurse managers was normally distributed ($p = .11$) and the PES scores for the top quartile group of nurse managers was not normally distributed ($p = .01$). As a result, an alternative non-parametric test, the Mann Whitney U test, was chosen along with the independent t -test to address the research question.

Key Findings. Assuming normal distribution of the department-level PES scores, the independent t -test found that managers with top quartile PCQ scores had non-significantly lower PES scores ($M = 2.88, SD = .243$) compared to managers with bottom quartile PCQ scores ($M = 2.97, SD = .184$), $t(33) = 1.14, p = .26, d = .37$. Assuming non-normal distribution of the department-level PES scores, the Mann Whitney U test showed there was no significant difference in department-level PES scores between the top quartile and bottom quartile nurse manager groups ($p = .73$). Together, these findings do not support the hypothesis that managers with higher PsyCap scores will have higher practice environment scores for the departments they lead.

Table 8

Comparison of PES Scores between Top and Bottom Quartile Manager PCQ

Mgr. PCQ Quartile	n	PES Mean	SD	T	Df	P	95% Confidence Interval for the PES
Top Q	17	2.88	.24	1.14	33	.26	-.23 - .06
Bottom Q	18	2.96	.18				-.23 - .06

Research Question 2: Does nurse manager's PsyCap predict nurse manager's ability, leadership and support of nurses as perceived by nursing staff?

Tables 9 and 10 shows the results of a bivariate regression between the individual nurse manager PCQ scores (IV) and their department's PES sub-scale score for nurse manager ability, leadership and support of nurses (DV). As stated in Chapter 3, to relate these two continuous variables with normal distribution, a bivariate or linear regression was deemed to be the most suitable statistical test (Gliner et al., 2017).

Assumptions. According to <https://statistics.laerd.com> and Gliner et al. (2017), there are numerous assumptions that must be met for any bivariate regression to qualify as robust and appropriate (Gliner et al., 2017). These are 1) independence of participant scores 2) a linear relationship exists between the two variables with no significant outliers 3) homogeneity of variance, and 4) the residuals of the regression line are normally distributed. The first assumption was met as a result of the study design. The second assumption of a linear relationship between the two variables was met with a visual assessment of a scatterplot. The remaining assumptions of equal variance and normality of residuals were met by visual inspection of residual diagnostic plots.

Key Findings. As revealed in Table 8, the bivariate regression indicates a very low correlation between nurse manager PCQ scores and PES scores for nurse manager ability, leadership and support of nurses ($R = .04$). According to Cohen (1988), the effect size is low if the value of r varies around 0.10.

Additionally there is no variation in PES nurse manager scores explained by nurse manager PCQ scores ($R^2 = .00$). The regression model (see Table 9) indicates that nurse manager PCQ scores does not significantly predict PES nurse manager scores ($p = .70$). This finding does

not support the hypothesis that a nurse manager's PsyCap predicts nurse manager ability, leadership and support of nurses as perceived by nursing staff

Table 9

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.04	.00	-.01	.29

Table 10

Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.01	1	.01	.14	.70

Research Question 3: Which of the PsyCap factors (hope, efficacy, resilience, optimism), are the strongest predictors of nurse manager ability, leadership and support of nurses as perceived by nursing staff?

Table 12 shows the results of a multiple regression between the individual nurse manager scores for each of the four PsyCap factors (IV) and their department's sub-scale score for nurse manager ability, leadership and support of nurses (DV). As stated in Chapter 3, multiple regression was selected as the proper statistical test because there were more than one independent variable and one dependent variable with normal distribution (Creswell, 2009).

Assumptions. According to <https://statistics.laerd.com> and Gliner et al. (2017), there are a number of assumptions that must be met for any application of multiple regression to qualify as

robust and appropriate. These are similar to the ones highlighted previously with bivariate regression namely 1) independence of participant scores 2) a linear relationship exists between the variables with no significant outliers 3) homogeneity of variance and 4) there is normal distribution of residuals along the regression line. The first assumption was met with the study design. The second assumption was met with a visual inspection of a scatterplot. The third assumption was met with a formal Levine test. The fourth assumption was met with a visual assessment of the scatterplot.

Key Findings. As revealed in Table 11, the multiple regression indicates a low level of prediction between the four nurse manager PCQ factor scores and PES scores for nurse manager ability, leadership and support of nurses ($R = .30$). Additionally, 9 percent of the variation in PES nurse manager scores was explained by the four nurse manager PCQ factor scores ($R^2 = .09$). Furthermore, the overall regression model (see Table 12) indicates the four nurse manager PCQ factor scores do not significantly predict PES nurse manager scores ($p = .19$). Finally, as shown in Table 12, efficacy is the only PsyCap factor to statistically significant predict nurse manager ability, leadership and support of nurses ($p = .02$). These findings suggest efficacy is the one PsyCap factor that is a significant predictor of nurse manager ability, leadership and support of nurses as perceived by nursing staff.

Table 11

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.30	.09	.03	.28

Table 12

Regression Model

Model Summary	Sum of Squares	df	Mean Square	F	Sig.
Regression	.52	4	.13	1.57	.19

Table 13

Coefficients of PsyCap factors

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	2.94	.36		8.15	.00
Hope	-.05	.11	-.11	-.46	.64
Efficacy	.17	.07	.40	2.30	.02
Resiliency	-.07	.09	-.14	-.84	.40
Optimism	-.03	.09	-.08	-.40	.68

Conclusion

The purpose of this chapter was report on the data analysis used to examine the relationships between a nurse manager's PsyCap and his or her ability to foster a healthy work environment as perceived by nursing staff. Results from the statistical tests indicate there is no statistically significant relationship between a nurse manager's level of PsyCap and the health of the work environment as perceived by nursing staff. Additionally, there is no statistically

significant relationship between a nurse manager's level of PsyCap and their ability, leadership and support of nurses as perceived by nursing staff. Finally, there is a statistically significant relationship between a nurse manager's level of efficacy and their ability, leadership and support of nurses as perceived by nursing staff.

CHAPTER FIVE: DISCUSSION OF FINDINGS

The purpose of this study was to examine the relationship between a nurse manager's level of Psychological Capital (PsyCap) and their ability to foster a healthy work environment for the nursing staff they lead. Numerous studies have shown that PsyCap is positively related to desirable workplace attitudes, behaviors and performance while acting as a buffer to workplace stress and job dissatisfaction (Avey, Reichard, Luthans, & Mhatre, 2011; Newman, Ucbasaran, Zhu, & Hirst, 2014).

The literature has depicted the nurse manager role as central to creating a healthy work environment for nursing staff (Leiter & Laschinger, 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011). At the same time, the role has become increasingly complex and stressful (Shirley, Ebright, & McDaniel, 2008; Udod & Care, 2013). The argument is that a nurse manager's level of PsyCap would differentiate their level of effectiveness and ability to create a healthier work environment as perceived by the nursing staff they lead. While PsyCap has the potential to offer a new solution for developing more effective nurse managers, the research findings in this study suggested that efficacy was the one significant predictor of nurse manager effectiveness in creating a healthy work environment as perceived by those they lead.

There was clear evidence of the importance of this study in the literature. Major findings in PsyCap research found a significant relationship between PsyCap and performance including the multi-faceted role PsyCap plays in leadership effectiveness (Avey, Reichard, Luthans, & Mhatre, 2011; Newman, Ucbasaran, Zhu, & Hirst, 2014). Additionally, research examining the importance of the nurse practice environment and the influence of the nurse manager role

confirmed that nurse manager ability, leadership and support of nurses has a significant influence in creating a healthy work environment (Leiter & Laschinger; 2006; Manojlovich & Laschinger, 2007; Twigg & McCullough, 2014; Warshawsky & Havens, 2011).

Conclusions

This chapter presents the results of the study that was collected within a population of nurse managers working in a multi-hospital system. The data on nurse manager PsyCap was collected by administering the PCQ, a survey instrument used to self-assess an individual's level of PsyCap. The data on nurse manager effectiveness and the health of the work environment were collected from existing department-level PES survey results. The PES is a widely-accepted measure of the nurse practice environment and had been previously administered to nursing staff within departments throughout the organization under study.

This chapter consists of three sections. Section One discusses the results from the three research questions used in the study. Section Two provides a summary of the study's findings. Section Three discusses the implications to theory, research, and practice as it relates to PsyCap.

Discussion: Research Question

The primary research question for this study was: *does a nurse manager's PsyCap predict their effectiveness and ability to foster a healthy work environment as perceived by the nursing staff they lead?* The study's findings revealed that with the exception of nurse manager efficacy of self-confidence, a nurse manager's level of PsyCap does not predict their effectiveness nor ability to foster a healthy work environment.

Three Research Hypothesis

There were three research hypothesis for this study:

1. There will be a positive relationship between a nurse manager's level of PsyCap and the health of the work environment as perceived by the nursing staff they lead
2. There will be a positive relationship between a nurse manager's level of PsyCap and their ability, leadership and support of nurses as perceived by the nursing staff they lead
3. Of the four factors that make up a nurse manager's PsyCap (efficacy, hope, optimism, resiliency), one of these factors will have a more positive relationship than the others as it pertains to their ability, leadership and support of nurses as perceived by the nursing staff they lead.

The following section explains the findings from each of the hypothesis tested, highlights the implications and proposes other factors that may have a more predictive power for the hypothesis.

Positive relationship between PsyCap and the work environment. *There will be a positive relationship between a nurse manager's level of PsyCap and the health of the work environment as perceived by the nursing staff they lead* was not supported by the data. An analysis of the data showed managers with top quartile PCQ scores had lower PES scores compared to managers with bottom quartile PCQ scores. Additionally, there was no significant difference in department-level PES scores between the top quartile and bottom quartile nurse manager groups ($p = .73$). Together these findings demonstrated nurse manager PsyCap is not a good indicator of the health of the work environment as perceived by their nursing staff. Despite the evidence that nurse managers play a significant role in developing a healthy work environment (see Twigg & McCullough, 2014), other factors may have a more influential role in fostering a healthy work environment than a nurse manager's level of PsyCap. For example,

Pearson et al. (2007) provided a comprehensive review of research demonstrating a combination of nurse manager leadership styles including transformational, social, participative, consultative and transactional, were positively associated with nursing staff satisfaction.

Beyond leadership styles, Lake (2002; 2010) cites multiple factors impacting nurse satisfaction with their practice environment including level of participation in hospital affairs, the standards for delivering quality of care, staffing levels and collegial nurse-physician relationships. In addition, multiple studies have demonstrated the impact job prestige, salary, autonomy in decision-making, interpersonal relationships, as well as, job stress have on nurse satisfaction with their work environment (Kangas, 1999). While other factors could influence nurse perception of the health of the work environment, the focus of this hypothesis was to test if there was a positive relationship between nurse manager PsyCap and the health of the work environment as perceived by nursing staff, a hypothesis that was rejected.

Positive relationship between PsyCap and nurse manager ability, leadership and support. *There will be a positive relationship between a nurse manager's level of PsyCap and their ability, leadership and support of nurses as perceived by the nursing staff they lead* was not supported by the findings. An analysis of the data showed a low correlation between nurse manager PsyCap scores and the PES scores for nurse manager ability, leadership and support of nurses ($R = .04$). Additionally, the nurse manager PsyCap scores accounted for no variation in PES scores for nurse manager ability, leadership and support of nurses. Moreover, nurse manager PsyCap scores did not significantly predict PES scores for nurse manager ability, leadership and support of nurses ($p = .70$). Together, these findings demonstrated nurse manager PsyCap is not a good predictor of nurse manager ability, leadership and support of nurses as perceived by their nursing staff. Despite the evidence demonstrating a positive link between

PsyCap and employee performance (see Avey et al., 2011), as well as, leadership effectiveness (see Norman, Avolio & Luthans, 2010), other factors may have more influence determining nurse manager ability, leadership and support of nurses as perceived by the nursing staff they lead. Principally among those factors is leadership styles, specifically transformational and relationship leadership as evidence by the impact on nurse satisfaction and retention, as well as, creating healthy work environments (Cummings et al., 2010; Pearson et al., 2007). Beyond leadership styles, Lee and Cummings (2008), found multiple factors influence nurse manager satisfaction and effectiveness including span of control, organizational support and empowerment. While other factors could positively influence the nurse manager effectiveness, the focus of this hypothesis was to determine if there was a positive relationship between nurse manager PsyCap and nurse manager ability, leadership and support of nurses as perceived by nursing staff, a hypothesis that was rejected.

Positive relationship between the PsyCap factors and nurse manager ability, leadership and support. *Of the four factors that make up a nurse manager's PsyCap (efficacy, hope, optimism, resiliency), one of these factors will have a more positive relationship than the others as it relates to their ability, leadership and support of nurses as perceived by the nursing staff they lead* was supported by the finding that efficacy has a positive relationship to perceived nurse manager ability, leadership and support of nurses. An analysis of the data showed efficacy as the one PsyCap factor to predict nurse manager ability, leadership and support of nurses ($p = .02$). This finding is consistent with prior research demonstrating a strong positive correlation between self-efficacy and performance (Stajkovic & Luthans, 1998a; Bandura, 2012).

Additional analysis indicated 9 percent of the variation in PES nurse manager scores was explained by the four nurse manager PCQ factor scores ($R^2 = .09$). The significance of this

finding is the unobserved, cognitive state of nurse managers' PsyCap may have manifested itself into desirable behaviors observed by nursing staff. Lastly, the four factor scores together had little to no predictive ability on the PES scores for nurse manager ability, leadership and support as perceived by nursing staff. As previously cited there may be other factors including leadership style, span of control and empowerment that may be more predictive of nurse manager effectiveness. The focus of this hypothesis was to determine which of the PsyCap factors would be most predictive of nurse manager ability, leadership and support of nurses as perceived by nursing staff, a hypothesis that demonstrated efficacy to be the only predictive factor.

Summary of Findings

Two of the hypothesis presented in this chapter were not accepted by the study's data. The PsyCap scores for nurse managers were not correlated to PES scores measuring the health of the work environment. Additionally, nurse manager PsyCap scores were not correlated to PES scores measuring nurse manager ability, leadership and support of nurses as perceived by the nursing staff. As it pertains to the third hypothesis, efficacy was shown to be the one predictor of nurse manager ability, leadership and support of nurses as perceived by nursing staff with all four PsyCap factors contributing to a noticeable difference in PES scores for nurse manager effectiveness.

Implications and Recommendations for Future Research

The following sections will describe the implications and recommendations for theory, research and practice.

Implications for theory. This study makes a contribution to theory by using the theoretical framework of PsyCap and adding to the research literature. Since being introduced by Luthans, Youseff and Avolio (2007), the evidence of PsyCap's relationship to employee

performance and workplace stress has grown steadily over the past decade (Avey, Reichard, Luthans, & Mharte, 2011; Avey et al., 2011). This includes the positive effect of PsyCap on nurse burnout and commitment to their organization (Wang, Chang, Fu, & Wang, 2012). This study added to the research in that empirical evidence was not found linking a nurse manager's PsyCap with the ability to foster a healthy work environment as perceived by nursing staff members. While most of the study's findings were not significant, a contribution was made to the general literature in that self-efficacy was shown to predict nurse manager effectiveness and the PsyCap factors contributed to a noticeable difference in perceived nurse manager leadership, ability and support of nurses.

Implication for future research. The implication for research is there could be other ways to measure nurse manager PsyCap and nurse manager effectiveness. In this study, data measuring nurse manager PsyCap were collected using a manager's self-report instrument while data measuring nurse manager effectiveness were collected by using aggregated staff-level feedback on the manager. Measuring nurse manager PsyCap and nurse manager effectiveness using same source measures for both variables (e.g., 360 feedback) may provide more of an 'apples to apples' comparison between the two variables measured.

A second possibility for research would be to design a study such that the timing of the data collection would better align with the theoretical relationship between PsyCap and performance, namely the time it takes for the effort that originates from the cognitive state of PsyCap to manifest itself into productive behaviors (Avey, Nimnicht & Pigeon, 2010). Measuring PsyCap at two points in time may help to explain the influence of PsyCap on performance. In this study, data measuring nurse manager PsyCap were collected after the data measuring nurse manager effectiveness and a healthy work environment, as opposed to the other

way around. Designing a study where the timing of data collection allows for the time it takes for PsyCap to translate into positive behaviors and desired results should be undertaken.

A third possibility would be to design a study that would enable a deeper exploration of the role self-efficacy and the other PsyCap factors play in explaining nurse manager effectiveness. This type of study would build on prior findings that a manager's self-efficacy may be an antecedent to staff-rated measures of management effectiveness (Luthans & Peterson (2002). In addition, a deeper exploration of the impact job tenure plays as an antecedent to efficacy and the other PsyCap factors is worth consideration since self-efficacy has been shown to improve based on repeated practice and mastery (Stajkovic & Luthans, 1998b).

Lastly, a study designed to better understand the relationship between nurse manager stress, PsyCap and manager effectiveness should be considered given that job-related stress was identified within the literature as an aspect of the nurse manager role (Shirley, Ebright & McDaniel, 2008; Udod & Care, 2011). For example, a study designed to collect self-report manager data on these three variables would enable researchers to better explain the relationship between them.

Implications for Practice. The findings from this study reveals an important implication for nurse leaders. Namely, the role that PsyCap efficacy plays in predicting nurse manager ability, leadership and support of nurses as perceived by nursing staff. According to Bandura (1986, 1997) experiencing success is the most important input to one's level of efficacy. Therefore, specific attention should be given to leadership development activities that enable nurse managers to experience success as it pertains to the job-related tasks for promoting a healthy work environment. This could include identifying the tasks that require the greatest opportunity for improvement and structuring development activities that enable repetitive

practice of skills and behaviors required for success. This recommendation is based on the knowledge that the tasks individuals are most confident in are the ones they have repeatedly practiced. In addition, understanding that confidence is gained when we observe people similar to ourselves achieving success, structuring development activities that promote mentor coaching and the sharing of demonstrated best practices should increase a nurse manager's level of self-efficacy (Bandura, 2002).

Study Limitations

The results of the study indicated limitations in the study's design, namely small sample size, differing units of measurement, and timing of the data collection. These limitations restricted the reliability and validity of the study's results.

Sample size. The small sample size provided sufficient power value to allow for a test of the null hypotheses. However, it was less than minimum sample size needed to provide enough power to reduce the likelihood of a type 1 error to less than five percent.

Unit of measure. As previously indicated, there was a difference in how data were collected to measure the variables. Data measuring nurse manager PsyCap were collected using a manager's self-report instrument while data measuring nurse manager effectiveness were collected by using aggregated staff-level feedback on the manager. Ideally, these variables would have used a similar unit of measure.

Averaged PES Data – Related to the above, the PES data collected were averaged from department-level data from individual staff-level feedback. Because the data were averaged it did not allow for a Hierarchical Linear Model (HLM) analysis. Individual level PES data were requested from the organization under study, but was denied to protect the anonymity of staff

who provided the feedback. Thus, HLM was not performed which may have shown some different results.

Timing of the data collection. As previously indicated, the timing of the data collection did not mirror that theoretical relationship between PsyCap and performance, namely the time it takes time for the cognitive state of nurse manager PsyCap to manifest itself into desired behaviors. Ideally, the timing of the data collection would have allowed for this to occur.

Conclusion

This chapter discussed the findings from the three research questions used in the study, provided a summary of the study's findings and discussed the implications to theory, research and practice as it relates to PsyCap. This study did not find a relationship between nurse manager PsyCap and a healthy work environment, as well as, nurse manager effectiveness as perceived by nursing staff. The study did find that nurse manager efficacy predicted nurse manager ability, leadership and support of nurses as perceived by the nursing staff they lead. Several alternatives for research that would enable a better understanding of the relationship between the study's variables were presented.

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APPENDIX A

PsyCap Questionnaire (PCQ)

Below are statements that describe how you may think about yourself right now. Use the following scales to indicate your level of agreement or disagreement with each statement.

(1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree)

1. I feel confident analyzing a long-term problem to find a solution.
2. I feel confident in representing my work area in meetings with management.
3. I feel confident contributing to discussions about company strategy.
4. I feel confident helping to set targets/goals in my work area.
5. I feel confident contacting people outside the company (e.g., suppliers, customers) to discuss problems.
6. I feel confident presenting information to a group of colleagues.
7. If I should find myself in a jam at work, I could think of many ways to get out of it.
8. At the present time, I am energetically pursuing my work goals.
9. There are lots of ways around any problem.
10. Right now I see myself as being pretty successful at work.
11. I can think of many ways to reach my current work goals.
12. At this time, I am meeting the work goals that I have set for myself.
13. When I have a setback at work, I have trouble recovering from it, moving on. (R)
14. I usually manage difficulties one way or another at work.
15. I can be “on my own” so to speak, at work if I have to.
16. I usually take stressful things at work in stride.

17. I can get through difficult times at work because I've experienced difficulty before.
18. I feel I can handle many things at a time at this job.
19. When things are uncertain for me at work, I usually expect the best.
20. If something can go wrong for me work-wise, it will. (R)
21. I always look on the bright side of things regarding my job.
22. I'm optimistic about what will happen to me in the future as it pertains to work.
23. In this job, things never work out the way I want them to. (R)
24. I approach this job as if "every cloud has a silver lining".

Source: Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60, (3), 541-572. Items adapted from Parker, 1998; Snyder, et al., 1996; Wagnild & Young, 1993; Scheier & Carver, 1985.

Note: R indicates reverse scoring

APPENDIX B

Practice Environment Scale of the Nursing Work Index (PES-NWI)

For each item, please indicate the extent to which you agree that the item is present in your current job. Use the following scales to indicate your degree of agreement with each item.

(1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree)

1. Adequate support services allow me to spend time with my patients.
2. Physician and nurses have good working relationships.
3. A supervisory staff that is supportive of nurses.
4. Active staff development or continuing education programs for nurses.
5. Career development/clinical ladder opportunity.
6. Opportunity for staff nurses to participate in policy decisions.
7. Supervisors use mistakes as learning opportunities, not criticism.
8. Enough time and opportunity to discuss patient care problems with other nurses.
9. Enough registered nurses to provide quality patient care.
10. A nurse manager who is a good manager and leader.
11. A chief nursing officer who is highly visible and accessible to staff.
12. Enough staff to get the work done.
13. Praise and recognition for a job well done.
14. High standards of nursing care are expected by the administration.
15. A chief nurse officer equal in power and authority to other top-level hospital executives.
16. A lot of team work between nurses and physicians.
17. Opportunities for advancement.
18. A clear philosophy of nursing that pervades the patient care environment.

19. Working with nurses who are clinically competent.
20. A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician.
21. Administration that listens and responds to employee concerns.
22. An active quality assurance program.
23. Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).
24. Collaboration (joint practice) between nurses and physicians.
25. A preceptor program for newly hired RNs.
26. Nursing care is based on a nursing, rather than a medical model.
27. Staff nurses have the opportunity to serve on hospital and nursing committees.
28. Nursing administrators consult with staff on daily problems and procedures.
29. Written, up-to-date nursing care plans for all patients.
30. Patient care assignments that foster continuity of care, i.e., the same nurse cares for the patient from one day to the next.
31. Use of nursing diagnosis

Source: Lake, E. T. (2002). Development of the practice environment scale of the nursing work index. *Research in Nursing & Health*, 25, (3), 176-188.