MEASURING DIRECT CARE NURSES' AND NURSE LEADERS' PERCEPTIONS OF A HEALTHY WORK ENVIRONMENT WITHIN ACUTE CARE SETTINGS

by

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Dedication

I want to dedicate my dissertation to my parents, Hughie Eugene Keenan and Alice Marilyn Keenan. Though my parents are no longer living, they instilled in me an internal drive to strive for excellence and high achievements in my life. Through my parents' encouragement, support, guidance, words of wisdom, and prayers, I felt I could always accomplish my goals no matter how difficult the challenge. My parents' gift of determination assists me to succeed in all walks of life. My parents taught me that God is faithful when we walk with Christ. It is through this belief in God that I have the strength to follow my passions while balancing my personal and professional lives. I dedicate this dissertation to my parents for their unfailing guidance and love.

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I would like to thank my brothers, Douglas Keenan, Richard Keenan, Robert Keenan, and Todd Keenan, for their willingness to listen, encourage, and support me throughout my life. Each one of you has played a significant role in my life by teaching me never to give up but to push forward no matter how difficult the task may be. Thank you!

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Finally, I would like to thank the nurses at Baylor Scott and White Health System North Division for their participation in the research studies on a healthy work environment. It is only through your contributions, I was able to develop two tools to measure a healthy work environment in the acute care setting. It is my hope that future research will result in the development of interventions to improve and sustain healthy work environments for nurses at all levels in acute care hospital settings.

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Abstract

MEASURING DIRECT CARE NURSES' AND NURSE LEADERS' PERCEPTIONS OF A HEALTHY WORK ENVIRONMENT WITHIN ACUTE CARE SETTINGS

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Healthy work environments (HWEs) have been described as policies, procedures, and processes designed to empower nurses to meet the organizational objectives and achieve personal satisfaction in the work environment (American Association of Critical-Care Nurses, 2005; Lake, 2007; Schmalenberg & Kramer, 2008; Shirey, 2006). Unhealthy work environments (UWEs) throughout healthcare organizations have been linked to absenteeism, ineffective delivery of healthcare to patients and families, higher stress levels, poor communication, and ineffective collaboration and teamwork among healthcare professionals (Heath, Johanson, & Blake, 2004). The American Association of Critical-Care Nurses (AACN) developed a Healthy Work Environment Assessment Tool (HWEAT) for nurses to use to assess the health of the work environment. Through the adaptation and modification of the AACN HWEAT (AACN, 2005) for nurses, the researcher was able to develop two tools to measure HWEs entitled Healthy Work Environment Scale (HWES) for Direct Care Nurses and Healthy Work Environment Scale (HWES) for Nurse Leaders (who are in formal positions). The purposes of these studies were to modify the AACN HWEAT (AACN, 2005) to develop the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions (through the adaptation of the AACN HWEAT); to assess the validity and reliability of the HWES for Direct Care Nurses and the HWES for Nurse Leaders; and to describe the direct care nurses' and nurse

leaders' perceptions of a HWE using a non-experimental descriptive design.

The sample of the HWES for Direct Care Nurses consisted of 986 subjects. Principal component analysis (PCA) on the HWES Direct Care Nurses version 3 revealed a fairly simple structure with 39 items. Five components of a HWE were identified. Component one encompassed the HWE characteristics of authentic leadership and meaningful recognition. Component two encompassed the HWE characteristics of effective decision-making and skilled communication. Component three was identified as genuine teamwork. Component four was identified as appropriate staffing. Component five was identified as physical and psychological safety. The HWE standard of true collaboration loaded on all five of the components. The eigenvalues were 15.08, 2.36, 1.36, 1.26, and 1.02 respectively. The direct care nurses perceived health of the work environment mean scores ranged from 2.79 (standard deviation 0.59) to 3.51 (standard deviation 0.43). The Cronbach alpha was .957, which demonstrated strong internal consistency of HWES for Direct Care Nurses.

The sample of the HWES NL in formal positions consisted of 314 subjects. PCA of the HWES Nurse Leaders in formal positions (version 3) revealed a fairly simple structure with 40 items. Four components were identified. Component one encompassed the HWE standard of authentic leadership, effective decision-making, genuine teamwork, and true collaboration. Component two was identified as meaningful recognition. Component three was identified as appropriate staffing. Component four was identified as skilled communication. Physical and psychological safety loaded on all four of the components. The eigenvalues were 20.47, 2.02, 1.20, and 1.14 respectively. The nurse leaders perceived health of the work environment mean scores ranged from 2.96 (standard deviation 0.56) to 3.30 (standard deviation .51). The Cronbach alpha was .974, which demonstrated strong internal consistency of the HWES for Nurse Leaders. Based on the results of these studies, the HWES for Direct Care Nurses' and the HWES for Nurse Leaders' instruments demonstrate promising psychometric properties to measure a HWE for nurses at all levels in acute care hospital settings.

Table of Contents

List of Figures

List of Tables

Chapter 1

Introduction

Healthy work environments (HWEs) have been described as policies, procedures, and processes designed to empower nurses to meet the organizational objectives and achieve personal satisfaction in the work environment (American Association of Critical-Care Nurses, 2005; Lake, 2007; Schmalenberg & Kramer, 2008; Shirey, 2006; Ulrich et al., 2006; Ulrich et al., 2009). Unhealthy work environments (UWEs) are characterized by disrespect; poor communication; rigidity to change; lack of trust; lack of strong leadership with no vision; abusive behavior from physicians, nurses and physician assistants; physical and verbal assaults by patients and family members; and conflict with the mission, vision, and values of the organization in healthcare settings (Heath et al., 2004; Lewis & Malecha, 2011). UWEs throughout healthcare organizations have been linked to absenteeism, ineffective delivery of healthcare to patients and families, higher stress levels, poor communication, and ineffective collaboration and teamwork among healthcare professionals (Heath, Johanson, & Blake, 2004).

A nation-wide call occurred over the past decade for healthcare leaders to establish and maintain HWEs; however, there has been no standardized definition of a HWE and the American Association of Critical-Care Nurses Healthy Work Environment Assessment Tool (AACN HWEAT) has minimal psychometric evidence in which to measure the characteristics of a HWE (AACN, 2005). Without a tool to measure the characteristics of a HWE, nurse researchers are unable to develop and implement interventions or measure the outcomes of these interventions to determine if the work environment is healthy. In this chapter, the purposes of these studies will be established. The framework for these research studies will be described. The research questions will be identified. Finally, the assumptions of the studies will be discussed.

Purposes

The purposes of these studies were to modify the AACN HWEAT (AACN, 2005) to develop the

HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions; to assess the validity and reliability of the HWES for Direct Care Nurses and the HWES for Nurse Leaders; and to describe the direct care nurses' and nurse leaders' perceptions of a HWE using a non-experimental descriptive design.

Background

Deaths from preventable adverse events have been estimated at 210,000 to 440,000 annually (James, 2013). In 2008, the estimated annual cost for measurable medical errors that harmed patients was $17.1 billion and $37.6 billion for adverse events (Van Den Bos et al., 2011). Poor communication has played a significant role in causing adverse events in hospitalized patients and in UWEs (Ritter, 2011).

In 2001, the AACN began improving the work environment for critical care nurses by calling attention to the importance of HWEs. In 2003, the Institute of Medicine's (IOM) Work Environment for Nurses and Patient Safety Committee members recommended that healthcare organizations focus on safety, support evidence-based practice and interdisciplinary collaboration, encourage nurse leaders to have effective management practices and adequate staffing. Further, the committee members recommended healthcare organizations do the following: 1) provide continuing education and decision support for nurses, 2) provide work designs that promote safety, and 3) implement cultures that strengthen patient safety outcomes (IOM, 2003). As a result of this call to improve work environments, nurse leaders from the American Nurses Association (ANA), the American Nurses Credentialing Center (ANCC), and the American Organization of Nurse Executives (AONE) challenged nurse executives to change the work environment in healthcare settings. In 2011, the IOM and the Robert Wood Johnson Foundation published *The Future of Nursing: Leading Change, Advancing Health Report,* which focused on quality and patient-centered care that was accessible and evidence-based. Members of this committee recommended that nurses' work environments be transformed to meet the future needs of healthcare (IOM, 2011).

Despite these recommendations for HWEs, evidence of UWEs such as poor communication, abusive behavior from physicians, nurses, and physician assistants (bullying, hazing by withholding information, setting up a person to fail, cursing); physical behavior (physical assault by patients and/or

family members); disrespect; rigidity to change; lack of vision or leadership; lack of trust; and conflict with the mission, vision, and values of the organization continue to exist in healthcare settings (Heath et al., 2004; Lewis & Malecha, 2011). As a result of UWEs, problems with employee absenteeism, nurse retention (Aiken, Clarke, Sloan, Lake & Cheney, 2008; Erenstein & McCaffrey, 2007; Heath et al., 2004; Kramer & Schmalenberg, 2005), and the nurse's intent to leave a current position continue (Ulrich et al., 2009).

Significance

In December 2014, a total of 274,320 licensed registered nurses (RNs) were reported in Texas (Texas Board of Nursing, 2014). From this total, 128,920 RNs practiced in acute care settings and 15,896 RNs provided care in outpatient settings. Together, the two types of settings comprise 53% of the RNs in Texas (Texas Board of Nursing, 2014). The United States Department of Health and Human Services estimated that there were 2,711,500 RNs in the United States (U.S.) in 2012 (Bureau of Labor Statistics, 2012). The growth in jobs in the nation's hospitals has been projected to increase to 526,800 RNs by 2022 (Bureau of Labor Statistics, 2012). The projected rate of growth for RNs in the U.S. is 19% from 2012 to 2022. Employees from the Bureau of Labor Statistics (2012) also projected there will be a need of 525,000 RNs to replace those who will be retiring by 2022, which brings the total to 1.05 million nurses. The workforce will grow from 2.71 million RNs in 2012 to 3.24 million RNs in 2022 in the U.S. With an estimated population growth in Texas of 37.26% by 2030, an additional 109,779 RNs will be needed in Texas by 2030 (Juraschek et al., 2012).

Replacing nurses leaves a high financial burden on the healthcare industry. Using an average salary of $67,470 for an RN, the approximate cost to replace one medical-surgical nurse is $92,442 and to replace a specialty practice nurse is $145,000 (Bureau of Labor Statistics, 2012; Sredl & Peng, 2010). Retention of RNs is dependent upon establishing and maintaining HWEs in acute care settings to improve patient and nurse satisfaction, patient and nurse outcomes, and patient safety (Aiken et. al, 2003; Mays et. al, 2011; Ritter, 2011; Shirey, 2006; West et. al, 2007).

Healthy Work Environment

There has been a vast amount of research published on HWEs over the past decade. The greatest number of publications has stemmed from the AACN organization. Content experts worked closely with the members from the AACN organization to develop and publish the *Standards for Establishing and Sustaining a Healthy Work Environment* (AACN, 2005). Six standards of a HWE are defined as skilled communication, true collaboration, effective decision-making, appropriate staffing, meaningful recognition, and authentic leadership (AACN, 2005). In 2005, the AACN HWEAT was developed from these standards (see Appendix A). The AACN HWEAT (2005) has been used to measure HWEs in critical care settings with minimal testing of the psychometric properties. Little research has been conducted on the AACN HWEAT (2005). Without further developing and assessing the psychometric properties of an instrument to measure a HWE, researchers cannot develop, implement, and measure outcomes on a HWE in acute care hospital settings.

Definition of a Healthy Work Environment

Through the synthesis of literature, a HWE has been defined as policies, procedures, processes, and systems designed to empower nurses to ensure patient safety, enhance recruitment and retention of employees, achieve the goals and financial viability of the organization, and achieve personal satisfaction in the environment in which they work (AACN, 2005; Lake, 2007; Schmalenberg & Kramer, 2008; Shirey, 2006; Ulrich et al., 2006; Ulrich et al., 2009). A HWE encompasses a sense of authentic leadership, skilled communication, true collaboration, autonomous practice through empowerment, appropriate staffing, effective decision-making, and meaningful recognition (AACN, 2005; Alspach, 2009; Lake, 2007; Schmalenberg & Kramer, 2008; Shirey, 2006; Ulrich et al., 2006; Ulrich et al., 2009).

Definition of Nurse Roles

With the vast number of roles for registered nurses, the population of interest for these research studies needed to be defined. The sample for this population included direct care nurses who provided direct patient care at least 50% of the time. Nurse supervisors who provided direct patient care at least 50%

of the time were included in the direct care nurse sample; however, if a nurse supervisor functioned in a supervisory capacity greater than 50% of the time, he or she was included in the nurse leader role. Nurse leaders' encompassed registered nurses who were in formal leadership positions such as a frontline nurse manager (a nurse manager that oversaw nurses at the unit level) (only the definition of the frontline nurse managers was referenced from Ulrich et al., 2014), a nurse administrator (a nurse who functioned in an administrative role with a primary role of managing healthcare services) (ANA, 2009), an advanced practice registered nurse (certified nurse anesthetist, certified nurse midwife, clinical nurse specialist, or certified nurse practitioner) (ANA, 2010), and a nurse executive (a nurse who was accountable for nursing services such as a chief nursing officer role, a chief operating officer role, or a vice president role and managed from the perspective of the organization as a whole) (ANA, 2009).

Framework

A HWE framework provides the foundation for these research studies. This framework is developed using the theory construction method of theory synthesis. Theory synthesis is used because two or more theories are intertwined with clearly defined concepts through the use of empirical evidence to construct the theory (Walker & Avant, 2011). There are three steps to theory synthesis. One, the research identifies the concepts that are to be the focus of the synthesized theory. Two, the researcher completes a thorough literature review identifying factors that relate to the concepts as well as their relationships to the concepts. Finally, the researcher organizes and integrates the concepts and statements to represent accurately the phenomenon of interest (Walker & Avant, 2011). Avedis Donabedian's Quality Care Model (Donabedian, 1996) along with Heather Spence Laschinger's (Laschinger et al., 2003) work, including the combination of Kanter's theory on structural empowerment (Kanter, 1977) and Spreitzer's theory on psychological empowerment (Spreitzer, 1995), form the basis of the HWE framework for these studies (Huddleston, 2014). This framework is adapted from Huddleston's (2014) work on a HWE.

Donabedian's concepts of structure, process, and outcome are the constructs that serve as the foundation for this framework. Kanter's concept of structural empowerment relate to the construct of

structure in Donabedian's model. Sprietzer's concept of psychological empowerment relates to the construct of process in Donabedian's model. Patient outcomes, nurse outcomes, and organizational outcomes relate to the construct of outcome in Donabedian's model. Strong structures lead to strong processes while strong processes lead to strong patient outcomes (Donabedian, 1996). Donabedian describes the construct of quality through the concepts of health, providers of care, and subjects of care (Grove, Burns, & Gray, 2013; Donabedian, 1996; Donabedian, 2005; Mullan, 2001). Health, although multi-factorial, has three major dimensions: physical-physiological function, psychological function, and social function.

Donabedian (1988) describes subjects of care in two main categories: patient and person. Each concept is further sub-divided into individual or aggregate levels. The patient is defined as someone who gains access to the healthcare system. The aggregate form of the individual patient is defined as a patient case load. When evaluating the quality of the aggregate, it is important for one to consider the constraints placed on time and resources as a result of competing priorities while caring for patients. The person is defined as someone who has not yet gained access to healthcare when the availability of accessing healthcare was significant (Grove et al., 2013; Donabedian, 1996; Donabedian, 2005; Mullan, 2001).

The providers of care in Donabedian's work are conceptualized as having progressive levels ranging from the individual practitioner to various degrees of aggregation (Grove et al., 2013). The concept expands to include practitioners such as consultants and/or multi-disciplinary teams within the facilities or healthcare systems (Grove et al., 2013). In Donabedian's (1988) assessment of the provider of care, he evaluates two aspects of quality performance: technical competence and interpersonal skill. The interpersonal skill of the provider is significant because effective communication between the recipient of care and the practitioner are crucial to quality care.

Structure of Care

Donabedian introduces the concepts of structure, process, and outcome in his seminal work in 1966. Structure of care represents the characteristics of the settings where care is provided (Donabedian,

1988). These characteristics are the elements of the organization that guide how the care is provided (Grove et al., 2013). In evaluating structure, one must consider elements such as leadership and acceptance of innovative ideas or treatments and the financial status of the structure. An analysis of the aspects of structure, the process of care, and the outcome are essential for a quality assessment to occur (Donabedian, 1988). Structures of care form the foundation of patient care in acute care hospital settings.

Process of Care

Donabedian addresses the next phase as the process of care (Grove et al., 2013; Lydick & Luce, 2001; Mullan, 2001). Donabedian (1988) believes that the process of care includes the patient's activities in seeking out and complying with care as well as the provider's activities to diagnose, prescribe, and implement treatment for the patient. Donabedian focuses on three elements of processes: standards of care, practice styles, and cost of care (Grove et al., 2013; Mullan, 2001). Examples of current standards of care include algorithms, patient care pathways, and core measures such as practice guidelines, which outline the best evidence-based practices in healthcare. Donabedian views the practice style of practitioners' as having a significant role in providing quality healthcare; however, he recognizes that this concept is difficult to define (Grove et al., 2013). The cost of healthcare significantly affects the process as well. The cost of healthcare may be a barrier to the patient accessing healthcare. The success or failure of the process of care is shared by the provider and the recipient of care (Grove et al., 2013; Mullan, 2001).

Outcomes

Donabedian (1988) views outcomes as validation of the effectiveness of quality patient care. Donabedian uses outcomes with established validity to measure quality in healthcare; however, many factors that may influence the outcome exist and must be included in the outcome evaluation. These factors include adherence, predisposition to disease, age, propensity to use resources, high-risk behaviors, and lifestyle (Grove et al., 2013; Mullan, 2001).

Theories in a Healthy Work Environment Framework

Structural Empowerment

Laschinger, Finegan, and Shamian's (2001) theory of structural empowerment is combined with Kanter's (1977) theory of structural power in organizations and Spreitzer's (1995) theory of psychological empowerment. Kanter's (1977) theory states that work behaviors and attitudes are formed according to the person's position and situation within the work environment. When structures lead to the empowerment of employees having a voice, these employees become more engaged and make decisions that benefit themselves and the organization (Faulkner & Laschinger, 2008; Laschinger, Finegan, & Shamian, 2001). Leaders are responsible for providing structural empowerment as part of the work environment to achieve organizational goals, provide a sense of autonomy, increase levels of self-efficacy, and create a greater commitment to the organization by the employees (Faulkner & Laschinger, 2008; Lucas, Laschinger, & Wong, 2008; Manojlovich & Laschinger, 2002). Donabedian's model has been adapted to include the theory of structural empowerment as it relates to the organization (Huddleston, 2014).

Psychological Empowerment

Psychological empowerment is defined as an employee experiencing an affective state to have successful interventions in the workplace setting (Spreitzer, 1995). Psychological empowerment is defined as a product of the work domain as it is shaped by the environment (Spreitzer, 1995; Spreitzer, 1996). The work environment must be supported by the process of psychological empowerment and structural empowerment to result in positive outcomes for the patient, nurse, and organization (Spreitzer, 1995; Spreitzer, 1996). Donabedian's model has been adapted to include the theory of psychological empowerment as it relates to the employee (Huddleston, 2014).

Structural and psychological empowerment have a significant effect on job satisfaction and retention of nurses (Faulkner & Laschinger, 2008; Laschinger et al., 2003; Lucas et al., 2008; Manojlovich & Laschinger, 2002). If an employee has access to information, support, resources, and opportunities for

growth in the workplace setting, the employee has a stronger sense of meaning, which increases his or her confidence level, autonomy, and belief that he or she may have an impact on the work being completed (Faulkner & Laschinger, 2008; Laschinger et al., 2003; Lucas et al., 2008). Organizational leaders who promote an environment of empowerment improve patient, nurse, and organization outcomes, which may lead to job and patient satisfaction and quality patient care (Laschinger et al., 2003; Manojlovich & Laschinger, 2002). Donabedian's model has been adapted to include the characteristics of a HWE in relationship to the patient, nurse, and organizational outcomes (Huddleston, 2014).

Framework Definitions

Structures

Structures for the HWE framework include the hospitalized patient, hospital employees, the organization, organizational culture, practice environment, and structural empowerment (Huddleston, 2014). The hospitalized patient is defined as the person who accesses care from healthcare professionals (Donabedian, 1996). A hospital employee is defined as a person working within the acute care hospital setting (Huddleston, 2014). The organization is defined as an acute care hospital setting where healthcare is delivered (Huddleston, 2014). An organizational culture is defined as the values and beliefs that guide employees through caring for patients, resolving issues, managing inter-relationships, and adapting to changes within the acute care setting (Wooten & Carne, 2003). A practice environment is defined as a workplace setting where policies, procedures, and systems are established for employees to attain goals of the organization while achieving personal satisfaction in their work (Shirey, 2006). Structural empowerment is defined as employees having a voice, being heard by leaders, and being empowered to make changes within the organization (Faulkner & Laschinger, 2008; Laschinger, Finegan, & Shamian, 2001). Structures are foundational to the success of any organization with a HWE (Huddleston, 2014).

Processes

Processes include using interpersonal skills and technical skills to follow policies and procedures, operations or actions within the healthcare setting (Kramer & Schmalenberg, 2005). Processes are

identified as the care of the hospitalized patient, job characteristics of the nurse, and psychological empowerment (Huddleston, 2014). Processes are defined as how employees care for the hospitalized patient (Donabedian, 2005). Job characteristics of the nurse include technical skills, communication skills, effective decision-making skills, collaboration, and an equitable workload balance (Flynn, 2005). Technical skills are defined as the clinical competencies the nurse needs to care for the patient (Flynn, 2005). Communication skills are necessary for nurses to clearly transmit messages from one person to another (AACN, 2005). The nurse requires critically thinking skills to make effective decisions that result in the best outcomes for the patient. Collaboration is defined as working together with other team members (AACN, 2005). An equitable workload is one that is balanced and fair to all parties involved (Flynn, 2005). Psychological empowerment is a necessary process within healthcare organizations that impact patient outcomes. Psychological empowerment is defined as having four domains including the meaning of work, competence to do the work, self-determination, and the impact on outcomes (Spreitzer, 1995; Spreitzer, 1996; Spreitzer, De Janasz, & Quinn, 1999). These concepts make up the processes within a HWE (Huddleston, 2014).

Outcomes

Outcomes include patient, nurse, and organizational outcomes based on the extent to which the HWE standards are in place within an organization (Huddleston, 2014). The standards of a HWE are defined as follows: 1) skilled communication (nurses are proficient in communication skills as well as clinical skills); 2) true collaboration (nurses pursue and foster inter-professional relationships); 3) effective decision-making (nurses work with other team members to develop policy, direct and evaluate clinical care, and lead organizational operations); 4) appropriate staffing (nurses match patient needs to nurse competencies when making patient assignments); 5) meaningful recognition (nurses recognize each other for the their work within the organization); and 6) authentic leadership (nurse leaders develop, implement, and support the AACN HWE standards on their nursing unit or department) (AACN, 2005).

Patient outcomes are defined as hospital-acquired infections, falls, pressure ulcer occurrence,

restraint use, and patient satisfaction with nursing care (American Nurses Credentialing Center, 2008). Hospital-acquired infections include ventilator-associated pneumonia, central line blood stream infection, and catheter associated urinary tract infection. Nurse outcomes are defined as autonomy, self-efficacy, job satisfaction, and commitment to the organization (Faulkner & Laschinger, 2008; Kanter, 1993; Lucas et al., 2008; Manojlovich & Laschinger, 2002). Organizational outcomes are defined as productivity of the employees, attainment of organizational goals, and retention of employees (Laschinger et al., 2003).

Relationships within the Framework

Relational statements in the HWE framework include: structures influence processes; and together structures and processes influence outcomes (Huddleston, 2014). The nurse and organizational outcomes occur simultaneously. The constructs of structures, processes, and outcomes are also symmetrical in nature and affect one another (Huddleston, 2014). Constructs and concepts within the HWE framework are relational to each other (Huddleston, 2014). The construct of structures is identified in Figure 1.1 in the shape of a red rectangle to demonstrate the leaders "stopping" to verify structures are in place within the work environment. The concepts relate to one another and provide the framework for processes and outcomes within an organization. Processes are produced as a result of structures within healthcare organizations (Huddleston, 2014).

The construct of processes represented in Figure 1.1 by a yellow rectangle reflects "caution." Employees work together to implement processes that lead to the best outcomes for the patient, nurse, and organization (Huddleston, 2014). The processes include employees (from the administrator to the manager to the direct care nurse) who are linked to the organization and its culture (Force, 2005). Processes are used to care for the hospitalized patient includes equitable workloads, effective communication, collaboration, and empowerment (Flynn, 2005). Processes are linked to the healthcare team and the organizational culture (Alspach, 2007).

The outcomes are identified in a HWE as patient, nurse, and organizational outcomes within this framework (Huddleston, 2014). The constructs of patient, nurse, and organizational outcomes are placed in

green square boxes to show that the outcomes are equal to each other. The green color indicates "go," or movement to the next construct. The patient outcomes are a hospital acquired infection, a fall, a pressure ulcer occurrence, restraint usage, and patient satisfaction with nursing care (ANCC, 2008). The nurse outcomes include autonomy, self-efficacy, job satisfaction, and commitment to the organization (Huddleston, 2014). The patient and nurse outcomes are inter-related as shown by a bi-directional arrow (Huddleston, 2014). The organizational outcomes are defined as productivity of the employees, attainment of goals, and retention of the employees (Huddleston, 2014). An inter-relationship exists between nurse and organizational outcomes as shown by the bi-directional arrow (Huddleston, 2014). There is a feedback loop from outcomes to structures as noted by an arrow on the left side of Figure 1.1. The characteristics of a HWE are outlined in a blue circle, which encircles the framework of structures, processes, and outcomes. This framework was adapted from Huddleston's HWE Framework within an Acute Care Setting (2014).

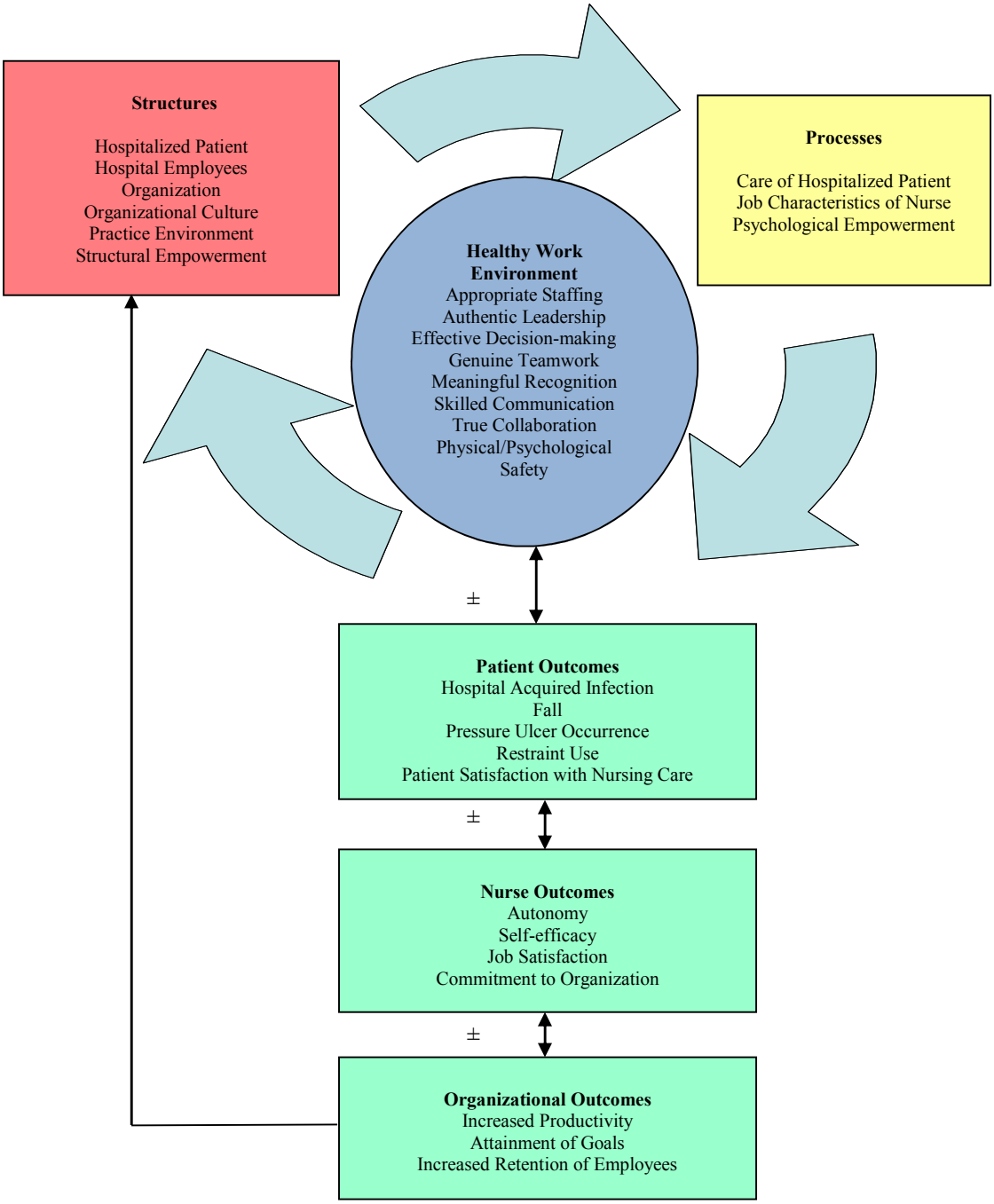

Figure 1.1 Healthy work environment framework (version 2)

Adapted from Huddleston, 2014

Research Questions

The research questions were as follows:

1. What were the psychometric properties of the HWES used to evaluate the work environment of direct care nurses' employed in acute care hospital settings?

2. What were the psychometric properties of the HWES used to evaluate the work environment of nurse leaders' in formal positions employed in acute care hospital settings?

3. What were the direct care nurses' and nurse leaders' perceptions of a HWE in acute care hospital settings?

Assumptions

The assumptions for the HWE framework were based on concepts of the work environment in acute care hospital settings. The assumptions were as follows:

1. Direct care nurses and nurse leaders in formal positions work in a HWE in an acute care hospital setting;

2. Direct care nurses and nurse leaders in formal positions accurately report their perceptions of the work environment; and

3. Direct care nurses and nurse leaders in formal positions make generalizations about the work environment from their experiences.

Conclusion

The presence of a HWE is critical to retain nurses at the bedside and to improve patient outcomes, nurse outcomes, and organizational outcomes. Donabedian's (1988) model of structure, process, and outcome combined with Kanter's (1977) theory of structural empowerment and Spreitzer's (1995) theory of psychological empowerment provide the framework to studies direct care nurses' and nurse leaders' perceptions of a HWE in acute care hospital settings. This HWE framework provides the structure necessary to develop, implement, and measure interventions that may improve the health of the work environment in acute care hospital settings.

Chapter 2

Literature Review

In this chapter, the findings from the review of literature will be discussed. The construct of a HWE will be defined. The concepts and themes on a HWE found in the literature will be identified. The gap in the literature will be explained and provide the scientific knowledge base to conduct these research studies.

Literature Search

An exhaustive literature search was conducted to collect a set of relevant articles on a HWE. Methods used to obtain the most up-to-date literature included an electronic search of databases, websites, and a hand search of references found in articles and dissertations.

Databases Used to Conduct the Literature Search

An electronic search was conducted using Academic Search Complete, American Psychological Association (PsychINFO), Business Source Complete, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medical Literature Online (Medline), and Proquest Dissertations and Theses databases. A reference search was conducted to find literature on a HWE. Literature was found on the following websites: Agency for Healthcare Research and Quality (AHRQ), American Association of Critical-Care Nurses (AACN), American Nurses Association (ANA), American Organization of Nurse Executives (AONE), and American Nurses Credentialing Center (ANCC).

Selection Criteria for Studies

The articles chosen for the literature review included those in which the constructs and concepts of a HWE in acute care hospital settings were defined and focused on nurse retention and patient outcomes. Only peer-reviewed journals were accessed to guarantee accuracy and quality in the literature. Articles were reviewed as far back as 1966 to obtain a report of a seminal study and to ensure an exhaustive search. Exclusion criteria included research studies that were conducted outside a hospital setting as those work

environments were vastly different than those in an acute care hospital setting. A majority of the articles drew the researcher's attention to the seminal work conducted by the AACN on a HWE.

Literature Findings

Prior to 2005, the literature reflected evidence of UWEs such as abusive behavior (Heath, Johanson, & Blake, 2004). Other characteristics of UWEs included poor communication; verbally abusive behavior from physicians, nurses, and physician assistants (bullying, hazing by withholding information, setting up a person to fail, cursing); physical behavior (throwing instruments, physical assault by patients and/or family members); disrespect; rigidity to change; no vision or leadership; no trust; conflicts with the mission, vision, and values of the organization; and a loss of understanding of the core business (Heath et al., 2004). Outcomes of UWEs resulted in an increase in employee absenteeism, stress among healthcare workers (Erenstein & McCaffrey, 2007; Heath et al., 2004), medical errors, and a nursing shortage due to hostile work environments (Aiken et al., 2003; IOM, 1999).

In the literature, evidence of HWEs resulted in healthcare organizations having better outcomes such as lowered adjusted-mortality rates (Knaus et al., 1986). Knaus et al. (1986) conducted research on the impact of structures, process, and patient outcomes in intensive care units. Patient outcomes were noted to be positive with a decreased acuity-adjusted mortality rate as a result of structures and processes. The structures included most hospitals having experienced charge nurses consistently in place, formal training programs for new and experienced nurses, and structures that led to improved nurse-physician collaboration (Knaus et al., 1986). Other outcomes noted from HWEs included increased patient satisfaction, increased job satisfaction, improved retention, reduced turnover, lowered degree of stress and burnout among nurses (Hall, 2005; American Hospital Association, 2002), improved communication, and improved teamwork and safe environment for patients (Fontaine & Gerardi, 2005). The outcome of safe patient care was directly linked to HWEs for nurses in acute care settings (Kramer & Schmalenberg, 2008).

Health of an Organization

The health of an organization was defined as the repetitious patterns of how people relate to one

another, collect and gather information, solve problems, make decisions, manage conflicts, and implement change while accomplishing the goals of the organization (Heath et al., 2004; Wooten & Carne, 2003). A HWE at an organizational level was defined as: 1) not sacrificing employees at the expense of profit; 2) not looking at the organization only from a cost versus benefit or profit versus loss ratio; 3) consisting of the costs of an organization being multifaceted, where profit meant progress not just making money; and 4) moving from the potential of being trapped to tapped meaning it brought strength to the organization (Heath et al., 2004). The characteristics of a HWE were identified as caring practices, collaborative relationships, respect from colleagues, teamwork with a "can-do" attitude, and strong nursing leadership with open communication, trust, and contributions being valued (Heath et al., 2004).

Call for a Healthy Work Environment

In 2005, Connie Barton (President of the AACN) with the support of members of the AACN and other content experts on a HWE around the country developed the *Standards for Establishing and Sustaining a Healthy Work Environment* (AACN, 2005). The six standards were identified as authentic leadership, appropriate staffing, effective decision-making, meaningful recognition, skilled communication, and true collaboration (AACN, 2005). From this point in time, nursing organizations including the AACN, the ANA, the ANCC, and the AONE published the greatest amount of literature on a HWE. These organizations campaigned for a change in the work environment to improve the retention of nurses, increase nurse satisfaction, and improve quality patient outcomes. Nurse researchers did not use a standardized definition of a HWE in the literature, which resulted in varying definitions of a HWE for acute care hospital settings.

Definitions of a Healthy Work Environment

The definition of a HWE in an acute care setting varied throughout the literature based on how each author chose to define the term. Lake (2002) defined a nursing practice environment in which direct care nurses participated in hospital affairs; provided nursing foundations that supported quality care to their patients; nurse manager's ability, leadership, and support for nurses was evident; staff and resources were

adequate for nurses to spend time with the patient; and collegial nurse-physician relations were collaborative and promoted team work, which influenced nursing satisfaction and patient outcomes (Lake, 2002). Lake used the Practice Environment Scale of the Nursing Work Index (PES-NWI) tool to conduct research on a HWE. She modified the tool in 2006 to clearly reflect the practice environment (Lake, 2007).

Shirey used some of these same key concepts to develop her definition of a HWE. Shirey (2006) defined a HWE as "a work setting in which policies, procedures, structures, processes, and systems assist employees to meet organizational objectives and achieve personal satisfaction in their work" (Disch, 2002, p.3 and Disch, 2001, p. 741). Shirey (2006) further described four elements of a HWE. First, people were valued and treated respectfully and fairly. Second, there was a strong sense of trust among all employees within an organization. The organization empowered employees to be effective decision-makers and risk-takers, while providing opportunities for personal and professional growth for the employees. Third, the organizational culture within a HWE supported communication and collaboration. The organization recognized individuals as assets and did not make decisions solely based on finances. The organization also took into account its mission, vision, and values when making decisions. Fourth, a healthy and effective work environment had a sense of "feeling physically and emotionally safe" (Shirey, 2006, p. 258) with a sense of family being evident in a HWE. Nursing excellence and quality patient outcomes flourished in healthcare organizations with HWEs (Shirey, 2006).

Schmalenberg and Kramer (2008) identified eight key attributes of a HWE, which incorporated some of Shirey's key concepts of a HWE. Schmalenberg and Kramer (2008) utilized the ANCC Essentials of Magnetism attributes to describe a HWE. These attributes included direct care nurses who worked with other nurses who were clinically competent; had collegial and collaborative nurse-physician and interdisciplinary relationships, had autonomous with clinical decision-making skills; had supportive nurse managers; had control over their nursing practice; had support for advanced education; had the perception that staffing was adequate; and had a workplace culture that demonstrated concern for patients as the focal point (Schmalenberg & Kramer, 2008). In 2006, 2008, and 2013, critical care nurses who worked in acute

care hospital settings participated in descriptive research studies to examine the standards of a HWE (Ulrich et al., 2006; Ulrich et al., 2009; Ulrich et al., 2014). Other characteristics identified in these studies were the importance of communication and collaboration among RNs, frontline nurse managers, and administrators; respect for RNs; and no incidents of sexual harassment, discrimination, or verbal or physical abuse at work (Ulrich et al., 2006; Ulrich et al., 2009). The outcomes of these concepts in the work setting were shown to impact the nurses' abilities to provide quality of care, to provide patient safety, and to improve job satisfaction and retention of nurses. In 2006, when the original study was reported (Ulrich et al., 2006), a national outcry for work environments in healthcare to become healthy for the good of the nurse and patient transpired. In the past nine years, the vast majority of the literature published on HWEs was based from this seminal work.

Concepts or Themes of a Healthy Work Environment

The concepts or themes found in the literature on a HWE reflecting the population of direct care nurses and nurse leaders in acute care hospital settings are outlined below.

Appropriate Staffing

Appropriate staffing involved the effective match among patient needs, nurse competencies, and an equitable workload (AACN, 2005). An equitable workload was defined as one that was balanced and fair (Flynn, 2005). Patient needs were the highest priority in arranging staffing and having the best patient outcomes in an acute care hospital setting (Aikens et al., 2002; Aikens et al., 2003; Aikens, 2010; Bylone, 2010; Meraviglia et al., 2008; Ritter, 2011; Schmalenberg & Kramer, 2007).

Autonomous Practice

When nurses had autonomy and self-efficacy in the work place to make decisions, nurses were more satisfied in their jobs and had increased commitment to the organization (Kanter, 1977; Kanter, 1993; Faulkner & Laschinger, 2008; Lucas et al., 2008; Manojlovich & Laschinger, 2002). Autonomy and self-efficacy resulted from psychological empowerment according to Spreitzer (1995). Empowerment of nursing staff resulted in a productive work environment and the retention of nursing staff (Erenstein &

McCaffrey, 2007; Meraviglia et al., 2008).

Clinical Competence

ANA (2010) defined competency as "an expected level of performance that integrates knowledge, skills, abilities, and judgment" (ANA, 2010, p.12). Knowledge included "thinking, understanding of science and humanities, professional standards of practice, and insights gained from context, practical experiences, personal capabilities, and leadership performance" (ANA, 2010, p. 12). Skills were defined as "psychomotor, communication, interpersonal, and diagnostic skills" (ANA, 2010, p. 12). Ability was defined as "the capacity to act effectively. It required listening, integrity, knowledge of one's strengths and weaknesses, positive self-regard, emotional intelligence, and openness to feedback" (ANA, 2010, p.12). Judgment was defined as "critical thinking, problem solving, ethical reasoning, and decision-making" (ANA, 2010, p.12). It was determined by an RN's experience, educational level, knowledge, and abilities. Competence was defined as "the application of knowledge, skills and behaviors needed to fulfill organizational, departmental, and work requirements under the varied circumstances of the real world" (Wright, 2005, p. 8). Spreitzer (1995) defined competence as self-efficacy, not as one's self-esteem, because efficacy was a part of one's work role. Schmalenberg and Kramer (2008) used an individual's educational degree as a proxy for competence. Clinical competence was defined as the nurse's ability to incorporate and apply his or her knowledge of nursing, skills, judgments and personal attributes necessary to safely and ethically care for a patient or function in a designated role and setting (Black, 2008).

Collaboration

Collaboration was defined as team members completing a job while making effective decisions for the good of an organization (Heath et al., 2004). A platform for building teamwork through collaboration included courage, consideration, consistency, clarity, commitment, capacity, and competence (Heath et al., 2004). Collaborative relationships were built from respect, honesty, trust, open communication, and team work to make decisions that focus on patient and family-centered care (Heath et al., 2004; Gerardi & Fontaine, 2007; Kramer et al., 2011; Reina et al., 2007; Ritter, 2011). AACN (2005) described

collaboration in which communication and decision-making between team members became the norm throughout an acute care hospital setting. Nurses were relentless in pursuing and fostering true collaboration (AACN, 2005; Falise, 2007).

Communication

A landmark study known as *Silence Kills: The Seven Crucial Conversations for Healthcare* by VitalSmarts™ (Maxfield et al., 2005) was published with the assistance of AACN. The results of this study described the conversations crucial in hospital settings (Maxfield et al., 2005). Over 1,700 nurses, physicians, clinical-care employees, and administrators from hospital settings were interviewed. The key finding was healthcare workers were afraid to speak up to address unsafe practice. Subjects discussed concerns with colleagues about professional practice including their beliefs that healthcare workers must speak up about broken rules (someone was breaking a policy or rule), mistakes, emergencies (caregiver needs assistance), competence issues among care givers, bad attitudes, micromanagement of employees, and disrespect (Pinkerton, 2005). HWEs had communication-rich cultures where communication between health care providers and consumers was clear, respectful, open and honest at all times (Grindel, 2005). Communication skills involved the ability to transmit clear and concise messages from person-to-person (AACN, 2005). Nurses were just as skilled in communication skills as they were in clinical skills (AACN, 2005). Communication played a significant role in the nurse delivering quality care to the patient and impacted patient outcomes (Aiken et. al, 2002; Alspach, 2009; Buerhaus, 2003; Buerhaus et al., 2002; Erenstein & McCaffrey, 2007; Fontaine & Gerardi, 2005; Kramer & Schmalenberg, 2005; Manojlovich, & Decicco, 2007; Pinkerton, 2005; Ritter, 2011; Schmalenberg & Kramer, 2009; Triola, 2006).

Effective Decision-making

Effective decision-making was defined in the literature as nurses making decisions based on what was best for the patient by using input from patients, families, and colleagues (Hancock & Durham, 2007). Knowledge and intuition were essential for critical reasoning to take place by nurses (Hancock & Durham, 2007). Members of AACN (2005) and content experts defined effective decision-making as "nurses being

valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations" (AACN, 2005, p. 24). Effective decision-making occurred when nurses had the opportunity to participate in areas of clinical practice in which they were held accountable, which resulted in nurses having control over their nursing practice and the hospital environment (AACN, 2005). Finally, in the literature, authors discussed that effective decision-making skills resulted from the ability to critically think and make decisions based on data that result in the best outcomes for the patient (Bylone, 2010; Ritter, 2011; Ulrich et al., 2006; Ulrich et al., 2009).

Empowerment

Work behaviors and attitudes were formed according to the person's position and situation within the work environment (Kanter, 1977; Kanter, 1993). Six structural conditions within an organization necessary for workplace empowerment to take place were identified as access to information, support, resources, opportunities, formal power, and informal power (Kanter, 1977; Kanter, 1993; Faulkner & Laschinger, 2008; Lucas et al., 2008; Manojlovich & Laschinger, 2002). Information within an organization referred to the expertise and technical knowledge required to effectively work within a position. Support was defined as the feedback and helpfulness received from managers, subordinates and other colleagues. Resources were defined as the time and materials necessary to get the job done in an efficient and effective manner. Opportunities referred to learning opportunities as well as possibilities for advancement within the organization. Formal power was defined as the position one held in the organization to achieve the goals of the organization. Lastly, informal power was defined as an evolution occurring from peer relationships and peer alliances to accomplish the goals of the organization (Kanter, 1977; Kanter, 1993). Nurse leaders were responsible for establishing work environments where structural empowerment resulted in organizational goals being accomplished, an identified sense of autonomy, increased levels of self-efficacy, and greater commitment to the organization (Erenstein & McCaffrey, 2007; Kanter, 1977; Kanter, 1993; Faulkner & Laschinger, 2008; Lucas et al., 2008; Manojlovich & Laschinger, 2002; Ritter, 2011).

Spreitzer (1995) defined psychological empowerment as the employee's experiencing an affective state to have successful interventions in the workplace setting (Manojlovich & Laschinger, 2002). Spreitzer denoted that psychological empowerment was not a personality trait but a work domain as it was fashioned by the work environment. If the work environment supported structural and psychological empowerment, employees' behaviors would result in positive outcomes and a HWE. Empowerment of employees and a HWE were identified as critical to the success of any organization (Erenstein & McCaffrey, 2007; Faulkner & Laschinger, 2008; Lucas et al., 2008; Manojlovich & Laschinger, 2002; Spence-Laschinger et al., 2009; Spence-Laschinger et al., 2010; Spreitzer, 1995; Spreiter, 1996; Ulrich et al., 2005).

Higher Educational Levels

A recent recommendation from the IOM (2011) was nurses should have opportunities for seamless transitions to achieve the higher degree programs because nurses with baccalaureate degrees have been linked to safe, quality, patient-centered care. Licensed practical nurses should have the opportunity to obtain associate degrees, nurses with Bachelor of Science degrees should have the opportunity to obtain Master of Science degrees, and nurses with Master of Science degrees should have the opportunity to obtain a Doctorate of Nursing Practice or a Doctorate of Philosophy in nursing or other doctoral degrees (IOM, 2011). As a result of nurses obtaining higher levels of education, nurses have greater abilities to critically think at a higher level, stronger competency levels to care for patients with complex disease processes, and abilities to conduct research (IOM, 2011). If a nurse had a higher level of education, he or she would be better prepared to meet the healthcare needs of the future while improving patient outcomes. The recommendation from this report was that acute care hospitals strive to reach a goal of 80% of the direct care nurses being prepared at the level of a Bachelor of Science in Nursing degree or higher by 2020 (IOM, 2011).

Leadership

Leadership was defined as nurses in leadership roles such as a manager, director, or chief nursing

officer need to provide clear expectations to other nurses, motivate the team to be effective and work together, empower nurses to make decisions, provide feedback to the nurses about their progress, and effectively communicate to employees in the healthcare setting (Alspach, 2009; Heath et al., 2004; Schmalenberg & Kramer, 2008; Lake, 2007; Shirey, 2006; Shirey & Fisher, 2008). The key principle of nursing leadership in a HWE was trust as nurses expect honesty, integrity, and high ethical standards from effective leaders (Wong et al., 2010). AACN (2005) called formal and informal nurse leaders to practice the HWE standards and engage others to commit to practicing them. Organizations were responsible to provide supportive environments and on-going role development to assist nurses to become leaders and participate in key decision-making processes to influence nursing practice (AACN, 2005).

Recognition

Recognition was defined as rewarding and praising nurses for a job well done. Recommendations were made for nurse leaders to develop effective recognition programs based on what nurses determine as meaningful or of value as recognition (AACN, 2005; Ulrich et al., 2006; Ulrich et al., 2009; Ulrich et al., 2014). Recognition programs acknowledged the contributions of nurses and the importance of the nurse role in the acute care hospital setting. Examples of meaningful recognition, either spoken or written, included words of praise, words of support, words of encouragement, and monetary gifts such as a gift card or financial bonus. Nurses were recognized as individuals within the health care organization and by each other for the value they brought to the work of the organization (AACN, 2005; Bylone, 2008; Ritter, 2011; Schmalenberg & Kramer, 2008).

Outcomes

After reviewing the literature on a HWE, healthcare outcomes were delineated under three main categories including patient, nurse, or organizational outcomes. Donabedian defined outcomes as the consequences or results of the processes in caring for a patient (Donabedian, 1966; Donabedian, 2005). Patient outcomes were based on the impact of work of the nurse resulting in patient safety and quality patient care (Aiken et. al., 2002; Donabedian, 1996; Donabedian, 2005; Laschinger et al., 2003; Spreitzer,

1995; Spreitzer, 1996). Quality patient outcomes were defined as patient outcomes that were anticipated or expected based on evidence-based practice or research. Standards for defining patient outcomes were set by regulatory agencies for hospitals such as The Joint Commission (TJC) and the Centers for Medicare and Medicaid Services (CMS). National patient safety goals were defined safety requirements for patients that all healthcare facilities must meet in order to obtain credentialing from TJC. CMS (2014) defined patient outcome measures for healthcare organizations as 30 day risk-standardized mortality measures such as acute myocardial infarction, heart failure, and pneumonia and 30 day risk-standardized readmission measures including acute myocardial infarction, heart failure, pneumonia, and hip/knee patients. Aiken et al. (2003) found in their research that mortality rates for patients decreased with a lower patient-to-nurse ratio. Aiken et al. (2003) demonstrated in their research that the work environment, nurse staffing, and nurse education played a significant role in providing safe patient outcomes. Patient safety and quality patient outcomes were the primary focuses of healthcare organizations.

Other patient outcomes found in the literature were hospital-acquired infections such as catheter associated urinary tract, central line blood stream infection, deep venous thromboembolism, surgical site infection, and ventilator-associated pneumonia (CMS, 2014). Since 2014, CMS has provided financial incentives for those healthcare organizations that do not have hospital-acquired infections. Falls, pressure ulcer occurrence, restraint use, and patient satisfaction with nursing care were also noted at patient outcomes in the literature (American Nurses Credentialing Center, 2008). CMS (2014) no longer pay for falls or hospital acquired pressure ulcers as well. Patient satisfaction with nursing care was defined as the patient's perception of care received from the nursing staff during a hospital stay using a standardized series of questions and scaled responses (ANCC, 2008). Patient satisfaction played a significant role in organizational outcomes. CMS and the Agency for Healthcare Research and Quality (AHRQ) developed an Inpatient Prospective Payment Plan annually for meeting the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey requirements for patient satisfaction (CMS, 2014). Patient outcomes were a result of nurse and physician processes in the healthcare organization (CMS,

2014).

Nurse outcomes found in the literature included autonomy, self-efficacy, psychological empowerment, structural empowerment, job satisfaction, and commitment to the organization (Faulkner & Laschinger, 2008; Kanter, 1993; Lucas et al., 2008; Manojlovich & Laschinger, 2002). Autonomy was defined in the literature as the nurse having the right to exercise clinical and organizational judgment to care within the context of a healthcare team in accordance to social and legal guidelines granted within the discipline of nursing (ANCC, 2008). Nurses used autonomy to make decisions in their nursing practice. Self-efficacy was defined in the literature as a feeling of control over one's work within the organization (Manojlovich & Laschinger, 2002). Many of Laschinger's studies demonstrated the significance of nurses' having an increase in autonomy and self-efficacy in the work place, which supported the nurses' being satisfied in their jobs and an increased commitment to the organization (Faulkner & Laschinger, 2008; Lucas et al., 2008; Manojlovich & Laschinger, 2002). Autonomy and self-efficacy resulted from structural empowerment (Kanter, 1977; Kanter, 1993) and psychological empowerment (Spreitzer, 1995; Spreitzer, 1996). Job satisfaction was defined in the literature as an attitude or behavior that an employee had within the workplace, which was shaped by personal characteristics (Manojlovich & Laschinger, 2002). Job satisfaction was a result of work environments where nurses felt structurally and psychologically empowered to make decisions within the organization, which impacted outcomes (Kanter, 1977; Kanter, 1993; Purdy et al., 2010; Spreitzer, 1995; Spreitzer, 1996). Job satisfaction for nurses was found to be impacted by the work environment, stress on the job, a role with conflict and ambiguity, the perception of the role, professional and organizational commitments (Lu et al., 2012). Commitment to the organization was defined in the literature as dedication to an organization with the intent of a nurse to stay or continue to work for the organization (Manojlovich & Laschinger, 2002). Commitment to the organization resulted from HWEs in healthcare organizations (Huddleston, 2014). Nurse outcomes impacted patient and organizational outcomes.

Organizational outcomes were identified in the literature as an increased productivity by the

employee, attainment of organizational goals, increased retention of employees (Laschinger et al., 2003; Wooten & Carne, 2003), and a HWE (Huddleston, 2014; Laschinger et al., 2003). Manojlovich & Laschinger (2002) stated that if employees experienced positive feelings at work, the employees would be more productive and complete job tasks successfully as well as meet the goals set by the organization. Research studies demonstrated that nurse retention or the intent for nurses to continue working for the same organization would increase if staffing issues were improved (Aiken et al., 2002; Aiken et al., 2003) and positive practice environments where in place (Twigg & McCullough, 2014). Patient safety initiatives and nursing excellence resulted in quality patient outcomes (Aiken, et al., 2002; Donabedian, 1966; Donabedian, 2005; Laschinger et al., 2003; Spreitzer, 1996). A perceived HWE by nurses at all levels in an organization resulted in positive outcomes for the patient, nurse, and organization (Huddleston, 2014). Organizational outcomes resulted from patient and nurse outcomes.

Tools to Measure a Healthy Work Environment

Tools found in the literature to measure a HWE included the Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002), the Essentials of Magnetism (EOM) tool (Kramer & Schmalenberg, 2004), the HWEAT (AACN, 2005), and the Critical Elements of a Healthy Work Environment (CEHWE) scale (Ulrich et al., 2014).

Practice Environment Scale of the Nursing Work Index Tool

The PES-NWI tool (Lake, 2002) has been used to measure the practice environment (see Appendix B). The survey was distributed to 41,860 subjects with 11,636 direct care nurses serving as the subjects to test the psychometric properties of the tool. Construct validity of the subscales and the composite as measures of the nursing practice environment were evaluated using comparative scores between the Magnet and non-Magnet organizations in 210 Pennsylvania hospitals. Thirty one items were retained across the five subscales, with 3 to 10 items loading on each subscale. Four of the scales had questions in relationship to the image of nursing, a nurse's role in quality of patient care, staff nurse-supervisor relationships, and nurse-physician relationships. The subscales were named based on the

conceptual interpretation found in context with the Magnet hospital findings (Lake 2002).

The result of the exploratory factor analysis ranged from 0.40 to 0.73. The composite score ranged from 2.76 (SD 0.47) to 3.09 (SD 0.39) in Magnet hospitals and 2.44 (SD 0.44) to 2.83 (SD 0.36) in non-Magnet hospitals. Inter-correlations with second-order factor loadings and variance components for the PES-NWI subscales in the Magnet hospital nurse sample resulted in the five subscales loaded on to one factor with an eigenvalue equal to 2.39. The loadings ranged from 0.52 (collegial nurse-physician relations) to 0.78 (nurse participation in hospital affairs). The proportion of variance for one communality ranged from 0.28 (collegial nurse-physician relations) to 0.61 (nurse participation in hospital affairs) while the specific range is 0.22 (nurse participation in hospital affairs) to 0.43 (collegial nurse-physician relations). Values exceeding error variance (1-coefficient alpha) were considered substantial (Lake, 2002). The internal consistency reliability of the tool was assessed using a Cronbach's alpha, which ranged from 0.71 to 0.84 at the individual level (Lake, 2002). The collegial nurse-physician relations Cronbach's alpha was 0.71. This tool has been used to measure the practice environment in Magnet and non-Magnet facility and demonstrated strong validity and reliability. The conceptual definition of a HWE was inferred from the subscales and component items. This scale did not clearly operationalize the construct of a HWE based on AACN's definition.

Essentials of Magnetism II Tool

The Essentials of Magnetism II (EOM II) tool was developed to measure the practice environment for Magnet facilities. The EOM II scale consisted of eight subscales and 58 items using two different Likert scales and a rating scale (Kramer & Schmalenberg, 2004) (see Appendix C). The first six items examined the collegial/collaborative registered nurse/medical doctor (MD) relationship with a response scale ranging from true for most MDs most of the time, true for some of the MDs some of the time, true for one or two MDs on occasion, and not true for any MDs. The second set of items on the seven subscales were scored from strongly agree, agree, disagree, and strongly disagree. Finally, the nurse was asked to define the quality of patient care on the unit by circling a number zero through ten ranging from dangerously low to

safe (but not much more) to very high quality (Kramer & Schmalenberg, 2004).

Principal component analysis (PCA), using varimax rotation with Kaiser Normalization, was used to identify the subscales and the factors (Kramer & Schmalenberg, 2004). Items with a loading of 0.31 or better were included on the subscale. The 65 item EOM generated 10 factors. The first eight factors contained the clusters of items which constituted the eight attributes in the original EOM tool. The items on the clinical competence and support for education scales loaded together on the same factor instead on two separate factors. The nurse manager support items loaded on two separate factors clustering on one with leadership activities and one on managerial activities. One item on the value subscale, known as keeping physicians happy, did not load on any factor and was eliminated. The last two factors related to clusters of items known as nurse care delivery systems and was reported elsewhere (Kramer & Schmalenberg, 2004).

The EOM II tool had the same scaling method as above using PCA with varimax rotation and Kaiser Normalization, which generated 10 factors with eight essentials and two factors related to the delivery systems (Kramer & Schmalenberg, 2008). All items in relationship to primary nursing loaded on one of the delivery system factors while the remaining delivery system items loaded on the other factor. The varimax rotation and Kaiser Normalization indicated a presence of only two factors, which accounted for 69.01% of the variance. Factor one of the perceived appropriate staffing loaded six items, which included enough budgeted positions, teamwork, delivery system, staffing adequate for quality care, safe care, and nurse job satisfaction. It accounted for 59.38% of the variance. The other five items included ancillary staff, support services, paid time off, inexperienced nurses and reinforce others performance loaded on factor two, which was 9.634% of the variance. The item in factor two was eliminated (Kramer & Schmalenberg, 2008).

The EOMII score was identified as the professional work satisfaction, which measured the extent clinical nurses reported or confirmed a healthy, productive work environment that enabled nurses to give good quality care (Kramer & Schmalenberg, 2008). This tool demonstrated validity and reliability in

measuring the perceptions of direct care nurses practice environments; however, it was copyrighted and not available for research without paying for its use and data analysis.

Healthy Work Environment Assessment Tool

AACN along with the Vital Smarts ® organization developed the standards of a HWE and the AACN HWEAT (2005). The questions and scale were reviewed for face validity and administered to two groups of about 250 subjects to assess the tool for validity and reliability, which showed internal consistency with Cronbach's alpha scores of .80 or better and identical factor structures on the two groups of subjects (AACN, 2005). This tool was the most closely linked to the standards of a HWE based on AACNs definitions (AACN, 2005).

Critical Elements of a Healthy Work Environment

In 2006, the CEHWE scale was developed to assess the work environment using the AACN HWE standards (Ulrich et al., 2006). It had 32 items using a Likert scale of 1 to 4, where 1 equaled strongly disagree and 4 equaled strongly agree. The Cronbach alpha for the scale was 0.97 with a sample size of 5875 subjects and the inter-item correlations ranged from 0.20 to 0.91 (Ulrich et al., 2014). This tool had been modified in 2008 (Ulrich et al., 2009) and 2013 (Ulrich et al., 2014) to conduct national studies on a HWE in the U.S.

Gap in the Literature

Both the PES-NWI and the EOM II tools measure the practice environment within acute care hospital settings; however, these tools measure global concepts of the practice environment at the organizational level and not specific characteristics of a HWE at the unit level. Though the PES-NWI and the EOM II were reported in the literature to have strong validity and reliability, they do not conceptually fit the characteristics of a HWE established by the AACN. The AACN HWEAT (2005) was developed to evaluate the critical care nurses' perceptions of a HWE in acute care hospital settings; however, minimal validity and reliability testing of this tool exists with only three descriptive studies found in the literature. The CEHWE scale was developed in 2006 and modified in 2008 and 2013; however, this instrument lacks

evidence of psychometric testing. Without a valid and reliable tool to measure the specific characteristics of nurses' perceptions of a HWE in acute care hospital settings as set forth by AACN, interventions cannot be implemented or evaluated to change the work environment at the unit level.

Preliminary Research Studies on a Healthy Work Environment

As a part of this dissertation, two pilot studies were conducted at Baylor Medical Center at Irving to measure the psychometric properties of the AACN HWEAT (2005) in 2012. The purposes of these studies were three-fold: 1) to describe the direct care nurses' and nurse leaders' perceptions of a HWE; 2) to estimate reliability; and 3) to establish face, content, and convergent validity of the AACN HWEAT (2005).

Non-experimental descriptive survey designs were used for these research studies. Subjects included direct care nurse (nurses who work at the bedside at least 50% of the time including supervisors) and nurse leaders (nurses in formal and non-formal leadership positions including managers, directors, and chief nursing officer). One hundred and seven direct care nurses and 28 nurse leaders were asked to score 18 questions using a five-point Likert scale ranging from one-strongly disagree, two-disagree, three-neutral, four-agree, and five-strongly agree. Ninety six direct care nurses completed the survey a second time to assess stability of the tool over time by using the test-retest method. They also completed the PES-NWI tool to test convergent validity of the AACN HWEAT (2005). The nurse leaders placed the 18 questions in one of six categories including appropriate staffing, authentic leadership, effective decision-making, meaningful recognition, skilled communication, and true collaboration while identifying if each question was relevant or non-relevant to measure face and content validity. The results of the preliminary studies may be found in Table 2.1 below.

Table 2.1 Measuring the Direct Care Nurses' Perceptions of a Healthy Work Environment

Research Questions	Statistical Analysis
What are the direct care nurses and ders' perceptions of a HWE at Iedical Center at Irving (BMCI)?	Overall mean score 3.89-good category for a HWE Direct Care Nurses (Mean Scores) Skilled Communication=61.81% • True Collaboration=54.52% • Effective Decision Making=65.97% • Appropriate Staffing=41.67% • Meaningful Recognition=58.33% • Authentic Leadership=65.28% Nurse Leaders (Mean Scores) • Skilled Communication=73.81% • True Collaboration=67.86% • Effective Decision Making=78.58% • Appropriate Staffing=60.71% • Meaningful Recognition=72.63% • Authentic Leadership=79.69%
What is the reliability of the AACN HWEAT (2005)?	• Test for Internal Consistency-Cronbach's alpha 0.97 • Pearson Product Moment Correlation-positive correlation between the variables, r = .58 to .79, n = 45, p <.05 with high correlations between items • Test/Retest Reliability-no significant differences between the scores demonstrate the tool was stable over time
What are the face, content, and convergent validity of the AACN HWEAT (2005)?	• Pairwise Correlation-ranged from 0.42 with 95% CI (0.57, 0.69) to 0.85 with 95% CI (0.70, 0.93), p value <.05 • Non-parametric Spearman rho test-ranged from 0.39 to 0.87, p value <.05 • Content Validity Index =96.63% • Convergent Validity-appropriate staffing mean scores ranged from 38.55 to 43.75 (HWEAT) • Staffing and resource adequacy mean score 2.54 at BMCI compared to the national benchmark of 2.79 (PES-NWI tool)
Principal component factor analysis on the AACN HWEAT (2005)	Common variances of 31.41%, 17.74%, 15.31% respectively, with cumulative variance was 31.41%, 49.15%, and 64.46% respectively). Factor one eigenvalue of 10.56 Factor two eigenvalue of 1.14

Principal component analysis (PCA) of the AACN HWEAT (2005) revealed a fairly simple factor structure. Eighteen items were analyzed to identify item clusters or factors. Based on the significance level and eigenvalues, three factors emerged and were labeled as communication, staffing, and recognition. Factor one encompassed the leadership, decision-making, communication and collaboration questions.

Factor two encompassed the staffing questions. Factor three encompassed the recognition questions. With the results of these preliminary studies, the questions on the AACN HWEAT (2005) required further modification and reassessment of the psychometric properties to demonstrate the tool was valid and reliable.

Qualitative Research Studies on a Healthy Work Environment

The next step to modify the AACN HWEAT (2005) was to conduct two qualitative research studies on a HWE. The purposes of these studies were to explore the nurses' perceptions of a HWE and to validate the meanings of the characteristics of a HWE in order to guide instrument modification. In March 2014, direct care nurses and nurse leaders from 10 of the acute care hospitals throughout the Baylor Health Care System (BHCS), renamed as Baylor Scott and White Health (BSWH) system in 2013, participated in two qualitative research studies.

The purposes of the studies were three-fold:

1. To explore the direct care nurses' and nurse leaders' perceptions of the meaning of a HWE in acute care hospital settings;
2. To describe the direct care nurses' and nurse leaders' perceptions of a HWE in acute care hospital settings; and
3. To define the concepts and characteristics of a HWE in acute care hospital settings.

Sample

Purposive sampling was used to obtain the sample populations for these research studies. The samples were homogenous groups of direct care nurses and nurse leaders. There were 57 direct care nurses in 10 focus groups with one focus group at each of 10 hospitals within the BSWH. The direct care nurses were staff members working on any nursing units in the hospitals. There were 72 nurse leaders in nine focus groups with one focus group at nine hospitals within the BSWH. The nurse leaders consisted of nurse educators, nurse managers, nurse directors, and one chief nursing officer in the focus groups. The exclusion criteria for both sample populations were nurses who served in agency or contract positions

within or outside the BSWH and a relative of the principal investigator. New graduate nurses and a nurse who was the daughter of the principal investigator were excluded from the direct care nurse study.

Research Design

An exploratory descriptive qualitative design was used for these research studies. The purposes of this research design included: 1) to develop interventions to measure a concept or construct; 2) to evaluate the appropriateness of an intervention following implementation; or 3) to develop definitions of concepts that the researcher would be able to measure (Grove et al., 2013). The design was strengthened by a discussion on the philosophical perspective of the studies. This design was used to determine themes describing characteristics of a HWE, which was adapted from the AACN HWEAT (2005).

Procedures

The study proposals were presented to the Baylor Health Care System Institutional Review Board. The researcher met all ethical standards for these studies. Subjects were consented prior to the start of the studies. Data collection took place using tape-recorded interviews guided by questions that reflected the objectives of the two studies (see Appendix D). There were 19 interviews in 10 of the Baylor Scott and White Health (BSWH) North Division facilities.

Data Analysis

The primary source of the data was transcribed interviews and field notes taken by the nurse researcher. The data were reported without transforming the variables into more abstract concepts of constructs. The data were coded and analyzed for emerging themes, key themes, and re-examination of the full data set to ensure the 'goodness of fit' of the codes while achieving the goal of consensus. Rigor was ensured in the data collection and analysis phase of the studies by the using the principles of credibility (the researcher's training, role, experiences, track record, and status of conducting the qualitative study), transferability (the degree to which the themes can be generalized or transferred to other contexts or settings), quality (the techniques and methods used to gather the high-quality data), and trustworthiness (the believability of the data in the study) (Munhall, 2012). The researcher tested for consistency of the data by

comparing and cross-checking the data through observations of the interviews and checking for consistency with what the subjects said in the interviews. Credibility was obtained through member checking of the subjects and reviewing the transcripts and commencing on the reliability and validity of what was written. Multiple researchers analyzed the transcripts and compared their findings. Thick, rich word descriptions were used to demonstrate the quality of the data (Munhall, 2012).

Findings

Characteristics of a HWE were derived from the interviews of the direct care nurses and nurse leaders participation in focus groups. Direct care nurses and nurse leaders defined a HWE as follows: 1) patients and staff felt physically and psychologically safe; 2) staff had adequate tools and resources to do their jobs including assistance to complete their work to provide optimal patient care; 3) managers and supervisors fostered a collaborative effort through teamwork and open communication; 4) nurses were empowered to make decisions within the organization; 5) nurses had collegial relationships with a high level of professionalism, honesty, integrity, respect, trust, and teamwork; and 6) the environment was free from retaliation and was non-punitive environment. Eight characteristics were found in the transcripts, which included appropriate staffing, authentic leadership, effective decision-making, genuine teamwork, meaningful recognition, physical and psychological safety, skilled communication, and true collaboration. At this point in this dissertation, the six standards written by AACN (2005) were identified as characteristics rather than standards of a HWE as genuine teamwork and physical and psychological safety were added as a result of the qualitative research studies. The definitions of these characteristics may be found below.

Appropriate Staffing

Characteristic one was identified as appropriate staffing. Appropriate staffing was defined as being able to take care of patients in a manner that is safe, timely, efficient, effective, equitable, and patient-centered care. Staffing depends on the acuity of the patient, the staffing matrix, the skill level and educational level of the nurse, and a safe environment for both the patient and nurse.

Authentic Leadership

Characteristic two was identified as authentic leadership. Authentic leadership was defined by the participants as an individual who was goal oriented, able to get the followers to follow, approachable, friendly, respectful, trustworthy, a good communicator, open-minded, confident, positive, listens, coaches, visible, transparent, and responsive to requests and needs of the staff.

Effective Decision-Making

Characteristic three was identified as effective decision-making. Effective decision-making was defined as the ability to make a decision by using critical thinking skills to examine all aspects of the decision including who the decision affects and the possible outcomes of the decision.

Genuine Teamwork

Characteristic four was identified as genuine teamwork. Genuine teamwork was defined as no bullying by fellow workers, caring for one another through showing appreciation for the work that has been completed, and working together with other co-workers resulting in the best outcomes for the patient, nurse, and organization.

Meaningful Recognition

Characteristic five was identified as meaningful recognition. Meaningful recognition was defined as receiving individualized recognition or being appreciated for the work a person does for a patient or co-worker. Meaningful recognition was not monetary in nature but a smile from a patient, a thank you note, an email, or a note delivered to the home.

Physical and Psychological Safety

Characteristic six was identified as physical and psychological safety. The subjects described safety as being physically and psychologically safe for the patients, family members, and staff. Physical safety was defined as preventing physical injury or harm to the patients, family members, and staff and having the right tools to do the job. Psychological safety was defined as a non-retaliatory environment where jobs were secure and there was no bullying.

Skilled Communication

Characteristic seven was identified as skilled communication. Skilled communication was defined as specific, direct, concise, skilled, received from the listener, planned out, not misinterpreted or misunderstood, clearly directed, clarified by seeking feedback, and varied in styles based on the audience. It also included how the message was delivered using body language and eye contact.

True Collaboration

Characteristic eight was identified as true collaboration. True collaboration was defined as a leader guiding a group, listening, playing a neutral role, establishing goals, acting respectfully toward others, feeling comfortable to express his or her ideas, and willingness to compromise. In Table 2.2, themes of a HWE were derived from the sub-categories and categories found in the data analysis phase of the transcripts of these two research studies. The sub-categories were determined by the frequency of the words in the transcripts.

Table 2.2 Themes of a Healthy Work Environment

Sub-categories	Categories	Themes
Staffing, patient, nurses, technician, manager, safe, safety, matrix, available, individualized, people, communication, satisfaction, assignment, acuity, productivity, effective, shift, skill, time, census, number, ratio, resources, staffing plan, quality outcome	Patient census Acuity of patient Nursing skill Matrix-staffing plan Assignment Safety Quality outcome	Appropriate staffing
Nurse, open, approachable, team player, change agent, respectful, trustworthy, honest, integrity, consistent, motivating, inspiring, goal oriented, malleable, fair, good decision-maker, visionary, patient centered, accountable, transparent, listener, direct, kind, sincere, formal, informal, knowledgeable, experience	Visible, transparent Integrity, fair Goal-directed Good communicator Accountable Change agent	Authentic leadership

Table 2.2-continued

Sub-categories	Categories	Themes
Critical thinking, weighing the pros and cons, process, data, facts, problem based, outcomes, benefit, collaboration, evaluate, information, direct, changes, learn, open, right, evidence, patient centered, communication, feedback, input, research, goals, knowledge, best practices	Evidence Collaboration Critical thinking Outcome driven	Effective decision-making
Nurse, physicians, patient care technicians, common goal, goal oriented, completion of a goal, outcome, working together with others, recognizing the success of the team	Staff Team Job	Genuine teamwork
Peer, gift, card, verbal, non-verbal, individualized, appreciation, service, kind, email, people, award, sincere, appropriate, thank you, excellence, outcome, personal, public, timely	Individualized Public or private Appreciation	Meaningful recognition
Physically safe from harm, resources including supplies and equipment, non-retaliatory, bullied, lateral violence, patient, nurse, staff	Physical Environmental Emotional or psychological	Physical and psychological safety
Message, sender, receiver, clear, concise, listen, direct, feedback, body language, perception, educated, understanding, language, verbal, non-verbal, talking, information, thinking, tone, problem, nurse, physician, patient	Experienced Message with sender and receiver Verbal or non-verbal Body language	Skilled communication
Honest, truth, respect, integrity, having a voice, being empowered, goal, open, ideas, input, order, clear, kind, decision, common, listen, communication, accomplish, group, share, agreement, teamwork, work, departments, everyone, patients, satisfaction, achieve, process, equal, interdependence, care, outcomes	Integrity Empowerment Team Working together Goal oriented Outcome driven	True collaboration

Other underlying characteristics that overlap each of the themes of a HWE were honesty, integrity, respect, and trust. Both the direct care nurses and nurse leaders were in agreement that these characteristics must be a part of the underlying culture to determine the health of the organization. The definitions and statements found in the transcripts may be found in Table 2.3.

Table 2.3 Underlying Values within a Healthy Work Environment

Themes	Definitions	Supporting Statements
Honesty	Honesty was defined as telling the truth in all organizational activities.	Being truthful…leaders need to tell the truth when managing people…the staff needs to be trusted by others.
Integrity	Integrity was defined as demonstrating ethical principles, which include honesty and respect in all organizational activities.	Leaders must demonstrate integrity if others are going to trust them. Integrity includes honesty, respect, and trust.
Respect	Respect was defined as having the opportunity for everyone to speak openly in a conversation, being open minded, sharing decisions, listening while negotiating and empathizing with coworkers.	Everyone has an opportunity to speak his or her mind and be open minded…willing to listen to what others are trying to say…seeing another person's point of view.
Trust	Trust was defined as demonstrating integrity, honesty, and respect.	Leaders must be trustworthy and be able to be trusted.

The next step in this dissertation was to modify the items on the AACN HWEAT (2005) to develop two instruments entitled Healthy Work Environment Scale for Direct Care Nurses and Healthy Work Environment Scale for Nurse Leaders in formal positions. The modifications of the Healthy Work Environment Scales (HWES) tools were based on the results of the psychometric testing found from the two pilot studies and the two qualitative studies conducted on a HWE in the past three years at BSWH North Division.

Healthy Work Environment Tools

Based on the adaptation of the AACN HWEAT (2005), the HWES for Direct Care Nurses was developed by reviewing statements found in the direct care nurse transcripts. The development of the HWES for Nurse Leaders in formal positions occurred as a result of reviewing statements found in the

nurse leader transcripts of the qualitative research studies conducted on a HWE. The findings for the HWES for Direct Care Nurses may be found in Appendix E.1 and for the HWES for Nurse Leaders may be found in Appendix E.2.

Conclusion

A HWE within a healthcare setting was identified in the literature as vital to patient safety, quality patient outcomes, outcomes for an organization, job satisfaction, increased productivity, attainment of organizational goals, and employee retention (Kramer & Schmalenberg, 2008; Lake, 2002; Shirey, 2006; Wagner, 2006; Wooten & Carne, 2003). With ambiguity of the definition and multiple tools being used to measure a HWE, nurse researchers will be well served to determine a standardized definition, uniform characteristics or attributes of a HWE, and tools with strong psychometric properties to measure a HWE in acute care hospital settings for nurses. Once standardized tools have been developed and psychometrically assessed to measure a HWE in acute care settings, interventions may be developed, implemented, and measured to determine their effects on the work environment. Interventions to improve the work environment may lead to better retention of direct care nurses and nurse leaders in acute care hospital settings, which will improve outcomes for the patients, nurses, and health care organizations.

Chapter 3

Methods

Rigorous research designs require psychometrically sound measurement tools. Validity and reliability testing of new instruments are pre-requisites for assuring the integrity of a study (DeVon, et al., 2007). Psychometric properties of an instrument consist of validity and reliability testing. Validity is defined as the ability of an instrument to measure what it purports to measure (Waltz et al., 2010). Types of construct validity testing include translational and criterion. Translational validity includes face or content validity. Criterion validity includes concurrent, predictive, convergent, or discriminant validity. Reliability is defined as the ability of an instrument to consistently measure an attribute (Waltz et al., 2010). The types of reliability testing are internal consistency, inter-rater, test-retest, and parallel form. Instruments must be tested for validity and reliability properties to demonstrate the rigor of a research design (Waltz et al., 2010).

A plethora of literature has been published on a HWE; however, no standardized definition of a HWE or tool with strong psychometric evidence to measure the characteristics of a HWE have been found in the literature. The AACN HWEAT (2005) is most closely linked to the concepts of a HWE, but as a result of the research already conducted on this tool, further validity and reliability testing is necessary for it to be deemed acceptable in the research community. In this chapter, the purposes, research questions, research design, sample, setting, measurement method, procedures, steps for data analysis, and ethical considerations will be discussed.

Purposes

The purposes of these studies were to develop two tools to measure a HWE known as the HWES for Direct Care Nurses and the HWES for Nurse Leaders (adapted from the AACN HWEAT, 2005); to assess the psychometric properties of the HWES for Direct Care Nurses and the HWES for Nurse Leaders; and to describe the direct care nurses' and nurse leaders' perceptions of HWEs in acute care settings.

Research Questions

The research questions were as follows:

1. What were the psychometric properties of the HWES used to evaluate the work environment of direct care nurse' employed in acute care hospital settings?
2. What were the psychometric properties of the HWES used to evaluate the work environment of nurse leaders' employed in acute care settings?
3. What were the direct care nurses' and nurse leaders' perceptions of a HWE in acute care hospital settings?

Research Design

A methodological descriptive design was used for these studies. The rationale for using this design was to assess underlying concepts using principal component analysis (PCA) and to estimate the reliability by measuring the internal consistency of these tools. The studies were conducted in two phases. The first phase of the studies consisted of establishing face validity and measuring content validity of the two tools. The second phase of the studies were to assess PCA to determine the number of components, to conduct reliability testing for internal consistency of the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions, and to describe the direct care nurses' and nurse leaders' perceptions of a HWE.

Setting

In 2013, the largest not-for-profit health care system in Texas, and one of the largest in the U.S. was formed with the merger of Baylor Health Care System (BHCS) and Scott and White Health system. Known for exceptional patient care for more than a century, the two organizations serve adjacent regions of Texas and operate on a foundation of complementary values and similar missions. The two phases of the research studies were conducted at Baylor Scott and White Health (BSWH) North Division (originally known as the Baylor Health Care System), located in the Dallas/Fort Worth area (BSWH, 2013). BSWH North Division is comprised of 15 hospitals with greater than 109,000 admissions annually and 5589 nurses

comprising of direct care nurses and nurse leaders. The approval letter to use the names of BHCS and BSWH in these research studies may be found in Appendix E.

Definitions of Nurse Roles

The categories of nursing roles differ from organization-to-organization. The nurse roles were defined to assist the subjects in responding to the demographic questionnaire and statements on the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions in Table 3.1.

Table 3.1 Categories for Nurse Roles

Categories for Nurse Roles	Categories for Nurse Roles at BHCS/BSWH	Categories for Nurse Roles
Direct Care Nurse	Direct Care Nurse	Direct Care Nurse
Frontline Nurse Supervisor	Nurse Supervisor	Direct Care Nurse
Frontline Nurse Manager	Nurse Manager	Nurse Leader
Nurse Administrator	Nurse Director	Nurse Leader
Advanced Practice Registered Nurse	Advanced Practice Nurse including certified nurse anesthetist, certified nurse midwife, clinical nurse specialist, or certified nurse practitioner	Nurse Leader
Nurse Executive	Chief Nursing Officer, Chief Operating Officer, Vice President	Nurse Leader
Other informal roles	Examples include educator, health care improvement coordinator, Magnet coordinator, employee health nurse	Other

Samples

Subjects were obtained from a randomized sample of all nurses working for the BSWH North Division. There were two groups including the direct care nurse group and the nurse leader group. All subjects eligible to participate were invited to participate in the studies.

Direct Care Nurses

Direct care nurses and supervisors, who worked at one of the 11 BHCS/BSWH North Division hospitals, served as the first sample of this study. Inclusion criteria included direct care nurses and nurse supervisors who worked at the bedside at least 50 % of the time. The exclusion criteria for phase one were

direct care nurses and nurse supervisors who worked for the BHCS\BSWH North Division internal staffing agency and a nurse who was a relative of the researcher.

Nurse Leaders

Frontline unit nurse managers and nurse leaders, who worked at one of the 10 BHCS/BSWH North Division hospitals, served as the second sample for this study. Inclusion criteria for nurse leaders were those nurses whose job descriptions were in a non-direct patient care role such as a frontline unit nurse manager, an advanced practice nurse, a nurse administrator, a nurse executive, or a nurse in other nurse leader positions. Exclusion criteria were nurse leaders who worked in a contract or agency position and nurses in leadership positions for less than two years.

Subjects for Phase One of the Studies

Waltz et al. (2010) recommended at least two subject experts be used to measure content validity of a tool. Experts were selected based on their specific roles in the organization.

Direct Care Nurses

Direct care nurses and supervisors from the BHCS\BSWH North Division, who had a minimum of five years of overall nursing experience, served as the content experts for phase one of this study. Based on the overall number of 5000 direct care nurses, a minimum of 50 subjects were invited to participate in phase one of this study to assess content validity of the HWES for Direct Care Nurses. These direct care nurses from Baylor Medical Center at Irving (BMCI) were invited to participate in this phase of the direct care nurse study.

Nurse Leaders

Frontline unit nurse managers, nurse administrators, advanced practice nurses, and nurse executives from the BHCS\BSWH North Division, who served in a leadership position for a minimum of two years, served as the content experts for phase one of this study. With approximately 200 hundred nurse leaders in BHCS\BSWH North Division, a minimum of 20 nurse leaders were invited to participate in phase one of this study to assess content validity of the HWES for Nurse Leaders. Nurse leaders from

BMCI and the Office of the Chief Nursing Officers were invited to participate in this phase of the nurse leader study.

Demographic Questions for Phase One

Demographic characteristics of the sample were measured to describe the sample and compare the population. Gender, birth year, race, ethnicity, initial entry level of education into practice, highest level of education, nursing unit or department, leadership role, number of years worked in the current leadership position, number of years of experience as an RN, and number of years employed at the current facility were measured using a demographic questionnaire (see Appendix F).

Data Collection for Phase One of the Studies

Data collection was accomplished with an electronic survey hosted on Qualtrics at www.qualtrics.com. A list of all nurses' names working for the BHCS\BSWH North Division was obtained from the Human Resource department. Nurse leaders were coded as a one while direct care nurses and supervisors were coded as a two in order to separate and route the appropriate scales to the subjects. Invitations with a link to the consent survey letters and online surveys were sent to the subjects by electronic mail. The electronic mail included the instructions on how to complete the surveys and the link to the surveys. Those subjects who volunteered to participate in the studies read the survey cover letters (see Appendix G) and clicked on the link to complete the online surveys based on the two samples. The open period for phase one of these studies was one week for both direct care nurses and nurse leaders.

Procedures for Phase One of the Studies

Content Validity

Direct care nurses, supervisors, and nurse leaders assigned each survey item from their respective tool to one of the eight characteristics of a HWE including appropriate staffing, authentic leadership, effective decision-making, genuine teamwork, meaningful recognition, physical and psychological safety, skilled communication, and true collaboration. This process assisted the researcher to determine if each

item was clearly stated on the tools.

Direct care nurses, supervisors, and nurse leaders rated each survey item from their respective tools in terms of relevance using the scoring system of 1-not relevant, 2-somewhat relevant, 3-quite relevant, or 4-very relevant. The subject responses were examined for relevancy of each item on the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions to establish the content validity indices of both tools.

Data Analysis for Phase One of the Studies

Face validity was determined by the researcher reviewing to see if each item on the tools was assigned to the appropriate categories as intended by the author. The percentage of times the items were placed in the correct category was calculated. If an item was not placed in the correct category, the item revised or deleted on the tools for phase two of the research studies.

Content Validity

Content validity was also determined by the researcher computing an item content validity index score (I-CVI) for each item on the tools. The researcher used the item ratings of quite relevant or very relevant to determine the I-CVI (Lynn, 1986). The researcher counted up the number of content experts who gave an item a 3 or 4 and divided it by the total number of content experts to obtain the I-CVI. The acceptable criterion for six or more judges was an I-CVI of .78 or higher (Lynn, 1986). The researcher used the I-CVI data to revise or delete the statements on both the HWES for Direct Care Nurses and the HWES for Nurse Leaders.

Once this was completed, a scale content validity index (S-CVI) score was calculated for both the tools. The S-CVI was obtained by calculating an overall score from items that were given a 3 or 4 by all raters involved (Lynn, 1986). The researcher added the number of items that were scored a 3 or 4 by the content experts and divided that number by the total number of items scored to obtain the S-CVI. The acceptable criterion for six or more judges was an S-CVI of .90 or greater (Lynn, 1986). A Cronbach alpha was calculated to determine the extent to which performance on any one item on an instrument was a good

indicator of performance on any other item on the same instrument (Waltz et al., 2010).

Samples for Phase Two of the Studies

Comrey and Lee (1992) recommended guidelines to assess the adequacy of the total sample size as follows: 1) 50 as very poor; 2) 100 as poor; 3) 200 as fair; 4) 300 as good; 5) 500 as very good; and 1000 or more as excellent. Nunnally and Bernstein (1994) recommended a representative sample size of at least 300 subjects be employed in a psychometric study to prevent sampling error. Once the results of the face and content validity were determined in phase one of the studies, the items on the HWES for Direct Care Nurses and the HWES for Nurse Leaders were revised or deleted to strengthen the validity of the tools for phase two of the studies.

Direct Care Nurses

Since the sample populations consisted of 3700 direct care nurses in the BHCS/BSWH North Division, the sample size was set at 20 subjects per item on the HWES for Direct Care Nurses tool. With 47 items on this tool, a representative sample size was set at 940 subjects to complete data collection for phase two of the study for direct care nurses.

Nurse Leaders

Since the sample population consisted of 1200 nurse leaders in the BHCS\BSWH North Division, the sample size was set at 300 subjects to complete data collection for phase two of this study for nurse leaders. According to Comrey and Lee (1992), this sample size was good for a psychometric study.

Demographic Questions for Phase Two of the Studies

Demographic characteristics were collected to describe the sample. Questions on the demographic questionnaire included gender, birth year, race, ethnicity, initial entry level of education into practice, highest level of education, nursing unit or department, number of years worked in the current unit or department, number of years of experience as an RN, number of years worked in the current leadership position, and number of years employed at the current facility (see Appendix G).

Data Collection for Phase Two of the Studies

Data collection was accomplished using electronic surveys hosted on Qualtrics at www.qualtrics.com. Convenience samples were used for phase two of these research studies. A list of names of all nurses, full time equivalent, and nursing department for the BHCS\BSWH North Division were obtained from the staff of the human resource department. Direct care nurses and nurse leaders that met the inclusion criteria were invited to participate in phase two of the research studies. Subjects were coded as either direct care nurses or nurse leaders to separate the two groups and route the appropriate scales to the subjects. Invitations with a link to the survey cover letters and online surveys were sent to the subjects by electronic mail. Those subjects who volunteered to participate in the studies read the cover letter, clicked on the link, and completed the surveys (see Appendix H).

The open period for direct care nurses in phase two was three weeks with a time extension of one week to reach the minimum sample size. The open period for nurse leaders for phase two of the study was three weeks. Electronic mail reminders, with an updated number of participants who completed the survey, were sent out every other day to encourage return responses.

Procedures for Phase Two of the Studies

The measurement method consisted of using the HWES for Direct Care Nurses and the HWES for Nurse Leaders (see Appendix I). Version one of the HWES for Direct Care Nurses was composed of 51 items and the HWES for Nurse Leaders in formal positions was composed of 48 questions to measure the eight characteristics of a HWE. In phase two of the studies, version two of the HWES for Direct Care Nurses was revised to have 47 items and version two of the HWES for Nurse Leaders was revised to 47 items based on the item content validity indices of the tools. The surveys were provided to the subjects without headings and the items were randomized for each subject. The direct care nurses and nurse leaders were asked to complete their respective surveys using the standardized scoring system. Likert scales were used to measure the extent of agreement to which the subjects observed a characteristic in the work

environment. The response options were as follows: 1-strongly disagree, 2-disagree, 3-agree, or 4-strongly agree, with the neutral point being removed in the new instruments. The final scoring system was changed to reflect the 50th percentile or lower, the 50th to 75th percentiles, and the 76th to 100th percentiles for version two of the HWES for Direct Care Nurses and the HWES for Nurse Leaders. The mean scores with standard deviations were calculated with a final mean scoring systems of 1.00 to 3.00 reflecting the work environment needs improvement to be healthy, 3.01 to 3.34 reflecting the health of the work environment as good, and 3.35 to 4.00 reflecting the health of the work environment as excellent. The permission letters from the AACN and the Vital Smarts® organization to use the AACN HWEAT (2005) may be found in Appendix J.

Data Analyses of Phase Two of the Research Studies

Data analyses were performed using a Statistical Package for the Social Sciences (SPSS®) 22. The data were analyzed to determine the results of the research studies as follows:

1. Any missing variables were recoded as system-missing data.
2. Subject demographic characteristics measured on a continuous scale were described using the mean and standard deviation. Percentages and frequency proportions were calculated for categorically scaled demographic variables.
3. The data were analyzed to obtain a mean score and standard deviation for each item on the HWES for Direct Care Nurses and the HWES for Nurse Leaders.
4. The items were analyzed by each of the eight characteristics within a HWE to obtain mean scores and standard deviations for the system and facility levels.
5. The data were scored according to the new guidelines for the tools.

Reliability Testing

The Cronbach's alpha was calculated as the statistic to estimate the internal consistency of the HWES for Direct Care Nurses and the HWES for Nurse Leaders. The acceptable criterion was a Cronbach's alpha of 0.70 or greater for each item and the overall scores on both instruments.

Validity Testing

Parametric and non-parametric factor analysis procedures may be employed to obtain a group of linear combinations of items called factors, which were independent of other factors (Waltz et al., 2010). The instruments were tested by administering them to two large representative samples of subjects at one point in time. PCA was used to assess the psychometric properties and to determine the number of components for each instrument.

The first step included a correlation matrix to evaluate the inter-relationships of the variables using a Pearson product moments coefficient (*r*). The range of scores was between -1 to +1, with a -1 representing an inverse relationship, a +1 representing a positive relationship, and 0 representing no relationship (Pett et al, 2003). The next step was to compute the Bartlett's Test of Sphericity.

The Bartlett's Test of Sphericity was used to test the null hypothesis to demonstrate that the correlation matrix was not an identity matrix (Pett et al, 2003), which could be influenced by sample size. If the results were not significant, than the sample size would need to be increased prior to conducting factor analysis on the items. The Kaiser-Meyer-Olkin (KMO) as the measure of sampling adequacy (MSA) was calculated. The KMO suggested that the sample size was sufficient relative to the number of items on the scale (Pett et al., 2003). The MSA statistics indicated that the correlations among the individual items were strong enough to conduct factor analysis (Pett et al., 2003). Partial correlations and correlations coefficients were examined with a range of 0 to 1 with the recommended value of >.70 or higher values demonstrated significance (Pett et al, 2003). If the KMO/MSA were found to be <.60, than the researcher would need to eliminate any low values and re-run the data. Once this step was completed, the researcher could conduct PCA to assess the validity of the tools as long as the null hypothesis was rejected (Pett et al., 2003).

PCA was used to assess whether all items were measuring the construct of a HWE on the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions. PCA was also used to establish the underlying components that provided the structure of the instruments. PCA assisted in

reducing the items on the instruments by measuring the variance in the items, which led to the modification and deletion of items that did not support the construct or concepts being measured (Waltz, Strickland, & Lenz, 2010).

Factor rotational methods were used as a part of PCA to assist in the identification of components and to interpret the instruments more easily (Waltz, Strickland, & Lenz, 2010). The goal was to determine the simplest structures on the instruments to explain the construct of a HWE for direct care nurses and nurse leaders. Oblique rotation using Promax with Kaiser Normalization was the preferred method used to provide a simple structure while allowing components to remain correlated in the analysis (Waltz et al., 2010). This technique provided the researcher with the data to make an informed decision on which survey items were to be retained or deleted.

With the best rotation method identified, the researcher chose the number of components to investigate the latent construct on the instruments (Waltz et al., 2010). Component identification was used to assess the number of components to keep in the instruments. Component loadings were set at a minimum of .40 or higher. The researcher's knowledge of the construct of a HWE assisted in the determination of the number of items and components to be measured by the instruments. The first component provided the researcher the most information regarding the latent constructs on the survey measures (factor 1) (Waltz et al., 2010). PCA assisted in the identification of the combination of items that explained the greatest total variance remaining (component 2) until it accounted for all item shared correlations. Each subsequent component provided additional information to help explain the latent construct, which could be used to explain an outcome that was not directly measured (Waltz et al., 2010).

The next step was to run principal axis factoring (PAF) to explain the common variance separating out the variance that items shared in common from the unique variance of the item on each instrument (Pett et al., 2003). The number of components was reduced by one in SPSS. The researcher examined the results of PCA and PAF to determine the best loadings and the number of items to be retained on the instruments using the established criteria.

Criteria were set using four methods to determine the appropriate number of components to be retained or deleted in the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions. The first method included the Kaiser criterion or components with eigenvalues greater than 1.0 to be identified as components to be retained (Waltz et al., 2010). The second method used was the examination of a scree plot (a plot of the eigenvalues along an x-y axis), which provided a picture of the point on a graph where the curve decreased and straightened out (Pett et al., 2003). The third method used was the cumulative percentage of variance extracted by the successive components (Pett et al., 2003). The extraction of components continued until all components accounted for at least 90% of the explained variance or until there was only a small portion of the variance extracted in the last component, which was less than 5% (Pett et al., 2003). The fourth method used to determine the number of components was the researcher's prior knowledge of how the items were developed for the tool (Burton & Mazerolle, 2011). After evaluating the criteria to determine the most appropriate components to be retained for the HWES for Direct Care Nurse and the HWES for Nurse Leaders, items were trimmed and retained based on the loadings to determine the final forms of the surveys.

Ethical Considerations

The study proposals were presented to the BHCS Institutional Review Board and the University of Texas at Arlington to be examined for ethical concerns and to ensure ethical standards were met. Subject participation was strictly voluntary. Subjects had the choice not to participate in the research studies without any penalty. The potential benefits, potential risks, privacy, and confidentiality criteria for these studies were clearly identified in the consent forms as noted below.

Potential Benefits

The potential benefits for the subjects included the opportunity to enhance their understanding of the research process. The subjects developed a better understanding of their perceptions of a HWE in their work setting. Nurse leaders learned areas of opportunities to improve a HWE in their entity within the BHCS/BSWH North Division. A final benefit to the studies was to increase the body of nursing

knowledge on a HWE, while developing two tools to measure a HWE.

Potential Risks

Minimal risks were associated with these studies. One potential risk for these studies was survey fatigue based on the number of other surveys administered by the healthcare organization. This risk was minimized to the subjects by obtaining permission from the BSWH North Division as when the best time was to run the surveys, which prevented these surveys from conflicting with other surveys being completed throughout the BSWH system. Another potential risk was sharing of responses between the subjects. The subjects were reminded of the importance of the anonymity of the surveys being maintained at all times.

Privacy and Confidentiality

With respect to the right of self-determination, informed consent was obtained from the subjects only after they agreed to participate in the studies. Individual subjects were de-identified. The specific uses of the data collected and how the information would be used was explained to the subjects by the researcher. The surveys with no personal identifiers were numerically coded to ensure confidentiality and anonymity of the subjects. The researcher kept the coding entries in an electronic database on a computer file. Data received from the private Qualtrics account was password protected and secured through encryption with only the researcher having the password to the account. No identification of any subject names or electronic mail addresses was revealed to anyone. All digital files, records, and data were stored in a password-protected computer site with only the researcher having access to the secured site. After three years, the researcher will delete and destroy all computerized files related to these studies.

Conclusion

In this chapter, the purposes for phases one and two of these studies were outlined. The research questions and design were identified. The settings and samples with inclusion and exclusion criteria were explained. The ethical considerations were discussed. The measurement methods were identified. The criteria for the subjects to complete the first and second phases of the studies were identified. The step-by-step data collection procedures were identified. Finally, the criteria for data analysis were established.

Chapter 4

Results

In this chapter, the psychometric findings of the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions in acute care hospital settings within the BHCS\BSWH North Division will be presented. The results of the direct care nurses' and nurse leaders' perceptions of a HWE in acute care settings will be discussed. Finally, the findings of these research studies will be presented based on each phase of the studies.

Findings for Phase One of the Studies

Phase One Sample of Direct Care Nurses

Phase one of this study consisted of a sample of direct care nurses from Baylor Medical Center at Irving (BMCI), which included nurse supervisors who worked at the bedside at least 50% of the time. There were 50 subjects that completed the first set of items, which determined the content validity of the HWES for Direct Care Nurses. Out of these 50 subjects, 29 subjects completed the second set of items on this survey to determine face validity of the HWES for Direct Care Nurses. The direct care nurse sample consisted of 39 or 78% females. Age was calculated based on the year the subject was born. Ten subjects reported their birth place instead of their birth year so they were excluded from this calculation. The mean age for all subjects of 42 (SD =10.02). The sample was largely white with Bachelor of Science in Nursing degrees. The details of the demographic information may be found in Table 4.1.

Table 4.1 Demographic Characteristics for Direct Care Nurses (Phase One)

Demographic Characteristics	n	%
Race/Ethnicity	n=50	
African American	3	6%
American Indian	1	2%
Asian	9	18%
Hispanic	3	6%
White	31	62%
Other	3	6%
Entry Level of Education into Practice	n=50	
Diploma	1	2%
Associate degree	21	42%
Bachelor degree	28	56%
Highest Level of Education	n=50	
Diploma	1	2%
Associate degree	13	26%
Bachelor degree	28	56%
Masters' degree	3	6%
Other	5	10%
Type of Nursing Unit or Department	n=50	
Cardiology Services	2	4%
Coronary Care Unit	1	2%
Day Surgery Unit	4	8%
Emergency Department	4	8%
Intensive Care Unit	6	12%
Labor and Delivery Unit	4	8%
Maternal/Child Unit	2	4%
Medical Surgical Unit	6	12%
Neonatal Intensive Care Unit	1	2%
Oncology Unit	3	6%
Orthopedic Unit	2	4%
Other	3	6%
Post Anesthesia Care Unit	2	4%
Progressive Care Unit	2	4%
Special Care Nursery	2	4%
Telemetry Unit	6	12%

Table 4.1-continued

Demographic Characteristics	n	%
Number of Years as a Registered Nurse	n=50	
1-5	16	32%
6-10	8	16%
11-15	6	12%
16-20	7	14%
21-25	5	10%
26-30	5	10%
>30	3	6%
Number of Years on Current Unit or Department	n=50	
0-1	1	2%
1-5	27	54%
6-10	15	30%
11-15	4	8%
16-20	1	2%
21-25	2	4%
Number of Years at BHCS/BSWH	n=50	
0-1	2	4%
1-5	21	42%
6-10	11	22%
11-15	10	20%
16-20	1	2%
21-25	3	6%
26-30	1	2%
>30	1	2%
Number of Years at the Current Facility	n=50	
1-5	23	56%
6-10	14	28%
11-15	6	12%
16-20	2	4%
21-25	4	8%
>30	1	2%

Phase One Sample for Nurse Leaders

Phase one of this study consisted of nurse leaders from BMCI and the Office of the Chief Nursing Officers at the BHCS/BSWH North Division system level. There were 32 subjects that completed the first set of items, which included identifying the content validity of the tool. Out of these 32 subjects, 15

subjects completed the second set of items on this survey. The sample consisted of 26 (81%) females. Age was calculated based on the birth year of the subjects. Five subjects reported their birth place instead of their birth year so they were excluded from this calculation. The mean overall age was 48 (SD=8.89). The sample consisted of largely white individuals (n=27, 84%). The subjects were advanced practice nurses (n=5, 16%), frontline nurse managers (n=9, 28%), nurse administrators (n=10, 31%), nurse executives n=3, 9%), or in another leadership capacity (n=5, 16%). The demographic characteristics for these subjects may be found in Table 4.2.

Table 4.2 Demographic Characteristics for Nurse Leaders (Phase One)

Demographic Characteristics	n	%
Race/Ethnicity	n=32	
African American	1	3%
Asian	2	6%
Hispanic	1	3%
Native Hawaiian or Pacific Islander	1	3%
White	27	84%
Entry Level of Education into Practice	n=32	
Diploma	3	9%
Associate degree	5	16%
Bachelor degree	19	59%
Masters' degree	5	16%
Highest Level of Education	n=31	
Bachelor degree	11	35%
Masters' degree	12	39%
Doctorate of Nursing Practice	1	3%
Doctorate of Philosophy	3	10%
Other	4	13%
Type of Nursing Unit or Department	n=32	
Administration	11	34%
Coronary Care Unit	2	6%
Emergency Department	1	3%
Intensive Care Unit	1	3%
Medical Surgical Unit	1	3%
Oncology Unit	1	3%
Operating Room	1	3%
Other	11	34%
Progressive Care Unit	1	3%
Telemetry Unit	2	6%

Table 4.2-continued

Demographic Characteristics	n	%
Number of Years as a Registered Nurse	n=32	
6-10	5	15.63%
11-15	9	28.13%
16-20	6	18.75%
21-25	3	9.38%
26-30	2	6.25%
>30	7	21.88%
Number of Years at BHCS/BSWH North Division	n=32	
1-5	11	34.38%
6-10	7	21.88%
11-15	4	12.50%
16-20	5	15.63%
21-25	2	6.25%
>30	3	9.38%
Number of Years on Current Unit or Department	n=32	
1-5	17	53.13%
6-10	8	25.00%
11-15	1	3.13%
16-20	4	12.50%
21-25	1	3.13%
26-30	1	3.13%
Number of Years in an Acute Care Facility	n=32	
1-5	10	31.25%
6-10	9	28.13%
11-15	3	9.38%
16-20	5	15.63%
21-25	1	3.13%
26-30	1	3.13%
>30	3	9.38%

Content Validity of Tools (Phase One)

In phase one of these studies, the content validity was assessed for the HWES for Direct Care Nurses and the HWES for Nurse Leaders in formal positions.

Content Validity of the HWES for Direct Care Nurses

Content validity was established by determining the item content validity index (I-CVI) and the scale content validity index (S-CVI). The I-CVI was calculated by adding the percent of responses that

were identified by the subjects as 3-quite relevant and 4-very relevant for each item on the HWES for Direct Care Nurses. Any item on this tool lower than an I-CVI of .78 was modified in its wording or the item was deleted for phase two of this study. The findings may be found in Table 4.3.

Table 4.3 Item Content Validity Indices HWES for Direct Care Nurses (Phase One)

Item	Item Content Validity Index	Action
Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	0.78	No change
A staffing matrix is used to determine staffing for a shift	0.72	Item modified
Patient safety is taken into consideration when making patient assignments	0.78	No change
Nursing supervisor ensure there is the right mix of nurses and other staff for optimal patient outcomes	0.68	Item modified
Assignments are made based on the patient's acuity level	0.76	Item modified
Ancillary staff is provided at a level that allows nurses and other staff to spend their time on the priorities and requirements of patient and family care	0.52	Item modified
Direct care nurses are honest in their interactions with their peers	0.94	Item deleted
Direct care nurses have a voice in the organization	0.80	Item modified
Direct care nurses strive to meet patient and nursing outcomes	1.00	Item deleted
Direct care nurses are focused on patient-centered care	1.00	Item deleted
Direct care nurses are role models in the organization	0.88	No change
Direct care nurses strive to grow professionally	0.86	No change
Nurse leaders lead with integrity in their interactions with the staff	0.86	No change
Nurse leaders are transparent to communicate positive changes in the organization	0.80	No change
Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	0.84	No change
Direct care nurses are empowered to make decisions within the organization	0.78	Item modified
Direct care nurses use critical thinking skills to make decisions about patient care	0.96	No change
Decisions are made to benefit the patient	0.88	No change
Direct care nurses include all key stakeholders when making a decision	0.82	No change
Direct care nurses make decisions with a goal and outcome in mind	0.98	No change
Direct care nurses use a step-by-step process to make a decision	0.84	No change
Direct care nurses are recognized for a job well done	0.66	Item modified

Table 4.3-continued

Item	Item Content Validity Index	Action
There are opportunities for professional advancement as a form of recognition in the organization	0.72	Item deleted
The formal reward and recognition systems work to make direct care nurses feel valued	0.60	Item modified
Patient safety is a primary focus for the organization	0.82	No change
Employee safety is a primary focus for the organization	0.78	No change
Staff is not retaliated against when reporting errors	0.86	Item modified
There is zero tolerance for lateral violence in the organization	0.96	No change
The organization provides physical and psychological safety for patients, families, and staff	0.86	No change
Direct care nurses have the necessary resources and equipment to do their jobs	0.84	Item modified
Direct care nurses and physicians have clear communication between each other	0.80	No change
Clear communication is where the receiver understands a message from the sender as it was intended	0.94	No change
Messages are communicated in an objective and unbiased manner	0.84	No change
Direct care nurses take into account a person's non-verbal communication or body language when trying to communicate a message	0.98	No change
When communicating to a patient, the direct care nurse determines the patient's understanding of the message	0.96	No change
When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message	1.00	No change
Members of the team support each other by checking others work for accuracy	0.86	No change
Direct care nurses work with other disciplines in a non-threatening manner	1.00	Item modified
Members of the team get along well with their peers and other team members	0.96	No change
Members of the team function with unselfish desire to see the whole picture and how it affects the group	0.88	No change
Members of the team work together without an individual being bullied	0.94	No change
Members of the team work together to establish a common goal	0.98	No change
Members of the team work together to achieve positive patient and staff outcomes	1.00	No change
Direct care nurses treat others with respect	0.94	Item modified

Table 4.3-continued

Item	Item Content Validity Index	Action
Direct care nurses are passionate when working with other disciplines to accomplish a goal	0.92	Item modified
Direct care nurses support all team members while making them feel equal and a part of the team	0.94	Item modified
Direct care nurses engage other disciplines to work together for the best outcome of the patient	0.96	Item modified
Direct care nurses engage with other disciplines to develop policies and make decisions	0.76	Item modified
Direct care nurses speak up and let their peers and bosses know when an employee has done a good job	0.82	No change
Recognition is given to direct care nurses in a timely fashion	0.54	Item modified
Recognition is individualized (public or private) to how the direct care nurse likes to receive it	0.68	Item modified

The S-CVI for the HWES for Direct Care Nurses was 0.897 or 0.90, which demonstrated strong content validity of this tool. A Cronbach alpha of 0.972 demonstrated strong internal consistency of the instrument.

The subjects assigned each item in one of the eight characteristics of a HWE for the purpose of determining if the items were clearly defined on the HWES for Direct Care Nurses. The results may be found in Table 4.4.

Table 4.4 Characteristics of the HWES for Direct Care Nurses (Phase One)

Item	Percent	Characteristic Identified
Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	79%	Appropriate staffing
A staffing matrix is used to determine staffing for a shift	90%	Appropriate staffing
Patient safety is taken into consideration when making patient assignments	66%	Appropriate staffing
Nursing supervisor ensure there is the right mix of nurses and other staff for optimal patient outcomes	83%	Appropriate staffing
Assignments are made based on the patient's acuity level	90%	Appropriate staffing
Ancillary staff is provided at a level that allows nurses and other staff to spend their time on the priorities and requirements of patient and family care	69%	Appropriate staffing
Direct care nurses are honest in their interactions with their peers	0% (55% placed in genuine teamwork)	Authentic leadership
Direct care nurses have a voice in the organization	38%	Authentic leadership

Table 4.4-continued

Item	Percent	Characteristic Identified
Direct care nurses are role models in the organization	59%	Authentic leadership
Direct care nurses strive to grow professionally	52%	Authentic leadership
Direct care nurses strive to meet patient and nursing outcomes	52%	Authentic leadership
Direct care nurses are focused on patient-centered care	14% (31% placed in effective decision-making)	Authentic leadership
Nurse leaders lead with integrity in their interactions with the staff	79%	Authentic leadership
Nurse leaders are transparent to communicate positive changes in the organization	69%	Authentic leadership
Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	100%	Authentic leadership
Direct care nurses are empowered to make decisions within the organization	48%	Effective decision-making
Direct care nurses use critical thinking skills to make decisions about patient care	97%	Effective decision-making
Decisions are made to benefit the patient	76%	Effective decision-making
Direct care nurses include all key stakeholders when making a decision.	55%	Effective decision-making
Direct care nurses make decisions with a goal and outcome in mind	100%	Effective decision-making
Direct care nurses use a step-by-step process to make a decision	93%	Effective decision-making
Patient safety is a primary focus for the organization	79%	Physical and psychological safety
Employee safety is a primary focus for the organization	83%	Physical and psychological safety
Staff is not retaliated against when reporting errors	45%	Physical and psychological safety
There is zero tolerance for lateral violence in the organization	66%	Physical and psychological safety
The organization provides physical and psychological safety for patients, families, and staff	86%	Physical and psychological safety
Direct care nurses have the necessary resources and equipment to do their jobs	34%	Physical and psychological safety
Direct care nurses and physicians have clear communication between each other	79%	Skilled communication
Clear communication is where the receiver understands a message from the sender as it was intended	100%	Skilled communication
Messages are communicated in an objective and unbiased manner	97%	Skilled communication

Table 4.4-continued

Item	Percent	Characteristic Identified
Direct care nurses take into account a person's non-verbal communication or body language when trying to communicate a message	90%	Skilled communication
When communicating to a patient, the direct care nurse determines the patient's understanding of the message	97%	Skilled communication
When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message	90%	Skilled communication
Members of the team support each other by checking others work for accuracy	69%	Genuine teamwork
Members of the team get along well with their peers and other team member	97%	Genuine teamwork
Members of the team function with unselfish desire to see the whole picture and how it affects the group	62%	Genuine teamwork
Members of the team work together without an individual being bullied	69%	Genuine teamwork
Members of the team work together to establish a common goal	72%	Genuine teamwork
Members of the team work together to achieve positive patient and staff outcomes	55%	Genuine teamwork
Direct care nurses work with other disciplines in a non-threatening manner	41% (45% in genuine teamwork)	True collaboration
Direct care nurses treat others with respect	52%	True collaboration
Direct care nurses are passionate when working with other disciplines to accomplish a goal	62%	True collaboration
Direct care nurses support all team members while making them feel equal and a part of the team	31% (59% in genuine teamwork)	True collaboration
Direct care nurses engage other disciplines to work together for the best outcome of the patient	72%	True collaboration
Direct care nurses engage with other disciplines to develop policies and make decisions	59%	True collaboration
Direct care nurses speak up and let their peers and bosses know when an employee has done a good job	97%	Meaningful recognition
Recognition is given to direct care nurses in a timely fashion	93%	Meaningful recognition
Recognition is individualized (public or private) to how the direct care nurse likes to receive it	100%	Meaningful recognition
Direct care nurses are recognized for a job well done	93%	Meaningful recognition
There are opportunities for professional advancement as a form of recognition in the organization	66%	Meaningful recognition

Table 4.4-continued

Item	Percent	Characteristic Identified
The formal reward and recognition systems work to make direct care nurses feel valued	97%	Meaningful recognition

Based on the subjects identifying items from the HWES for Direct Care Nurses in different categories of a HWE than the author, the researcher modified or deleted items on the survey. The researcher also inserted a portion of the characteristic name in the stem of each item to see if this would improve the psychometric properties and content validity of the tool. The items were also reworded to improve clarity, which may be found in Table 4.5 below.

Table 4.5 Comparison of Original and Modified Items for the HWES for Direct Care Nurses (Phase One)

Original Item	Change	Rationale for Change	Modified Item
A staffing matrix is used to determine staffing for a shift	Item modified	I-CVI 0.72	Staff assignments are made based on a staffing matrix
Nursing supervisor ensure there is the right mix of nurses and other staff for optimal patient outcomes	Item modified	I-CVI 0.68	Nurse supervisors ensure the right skill mix of nurses and other staff when making assignments
Assignments are made based on the patient's acuity level	Item modified	I-CVI 0.76	Staff assignments are made by the charge nurse based on the patient's acuity level
Ancillary staff is provided at a level that allows nurses and other staff to spend their time on the priorities and requirements of patient and family care	Item modified	I-CVI 0.52	Nursing staff is provided at a level that affords nurses the ability to meet the needs of their patients
Direct care nurses are honest in their interactions with their peers	Item deleted	55% placed in genuine teamwork rather than authentic leadership	Not applicable
Direct care nurses have a voice in the organization	Item modified	I-CVI 0.80 and 62% placed in another characteristic than authentic leadership	Direct care nurses speak up to make changes within the organization
Direct care nurses strive to meet patient and nursing outcomes	Item deleted	48% placed in another characteristic than authentic leadership	Not applicable

Table 4.5-continued

Original Item	Change	Rationale for Change	Modified Item
Direct care nurses are focused on patient-centered care	Item deleted	31% place in effective decision-making	Not applicable
Direct care nurses are empowered to make decisions within the organization	Item modified	I-CVI 0.78	Direct care nurses are empowered to make effective decisions within the organization
Direct care nurses are recognized for a job well done	Item modified	I-CVI 0.66	Direct care nurses are recognized in the organization for a job well done
There are opportunities for professional advancement as a form of recognition in the organization	Item deleted	I-CVI 0.72 and 34% placed in other category than meaningful recognition	Not applicable
The formal reward and recognition systems work to make direct care nurses feel valued	Item modified	I-CVI 0.60	The reward and recognition program is meaningful and makes direct care nurses feel valued in the organization
Staff is not retaliated against when reporting errors	Item modified	I-CVI 0.86	Direct care nurses feel safe in the organization by not being retaliated against when reporting errors
Direct care nurses have the necessary resources and equipment to do their jobs	Item modified	I-CVI 0.84	Direct care nurses have the necessary resources and equipment to provide safe patient care
Direct care nurses work with other disciplines in a non-threatening manner	Item modified	I-CVI 1.00; wording modified to provide clarity to the item and proper placement in category	Direct care nurses collaborate with other disciplines in a non-threatening manner
Direct care nurses treat others with respect	Item modified	I-CVI 0.94; wording modified to provide clarity to item and proper placement in category	Direct care nurses collaborate respectfully with other disciplines
Direct care nurses are passionate when working with other disciplines to accomplish a goal	Item modified	I-CVI 0.92; wording modified to provide clarity to item and proper placement in category	Direct care nurses collaborate with other disciplines to accomplish goals within the organization
Direct care nurses support all team members while making them feel equal and a part of the team	Item modified	I-CVI 0.94; wording modified to provide clarity to item and proper placement in category	Direct care nurses collaborate with other team members and make them feel equal and a part of the team

Table 4.5-continued

Original Item	Change	Rationale for Change	Modified Item
Direct care nurses engage other disciplines to work together for the best outcome of the patient	Item modified	I-CVI 0.96; wording modified to provide clarity to item and proper placement in category	Direct care nurses collaborate with other disciplines to work together for the best outcomes for the patients
Direct care nurses engage with other disciplines to develop policies and make decisions	Item modified	I-CVI 0.76	Direct care nurses collaborate with other disciplines to develop policies and procedures for patient care
Recognition is given to direct care nurses in a timely fashion	Item modified	I-CVI 0.54	Recognition is given to direct care nurses by their nurse leaders in a meaningful manner
Recognition is individualized (public or private) to how the direct care nurse likes to receive it	Item modified	I-CVI 0.68	Recognition is individualized to how a direct care nurse likes to receive it

Content Validity of the HWES for Nurse Leaders

The item content validity index (I-CVI) was calculated by adding the percent of responses for 3-quite relevant and 4-very relevant for each item on the HWES for Nurse Leaders. The results may be found in Table 4.6.

Table 4.6 Item Content Validity Indices of the HWES for Nurse Leaders (Phase One)

Items	Item Content Validity Index	Action
Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	0.97	No change
A staffing matrix is used to determine staffing for a shift	0.94	No change
Nursing leaders ensure there is enough staff to provide the best outcomes for the patients	0.97	No change
Nurse leaders ensure input from direct care nurses to develop a staffing plan for each nursing unit	0.94	Item modified
Assignments are made based on the patient's acuity level	0.90	No change
Nurse leaders are held accountable for meeting the productivity targets set by the organization	1.00	Item modified
Nurse leaders lead with integrity in their interactions with the staff	1.00	No change
Nurse leaders are transparent to communicate positive changes in the organization	0.94	Item modified
Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	0.97	No change
Nurse leaders have a voice in the organization	0.97	Item modified
Nurse leaders strive to meet patient and nursing outcomes	1.00	Item modified
Nurse leaders are focused on patient-centered care	1.00	Item modified

Table 4.6-continued

Items	Item Content Validity Index	Action
Nurse leaders are empowered to make decisions within the organization	0.94	No change
Nurse leaders use critical thinking skills to make decisions for the organization	1.00	Item modified
Nurse leaders make decisions that benefit the group rather than just one individual	1.00	Item modified
Nurse leaders determine the facts and remain objective when making a decision	0.94	Item modified
Nurse leader involves key stakeholders when making a decision	0.97	Item modified
The nurse leaders consider the mission of the organization when making a decision	0.97	Item modified
Nurse leaders are recognized for a job well done	0.87	No change
Nurse leaders speak up and let their peers and bosses know when an employee has done a good job	0.94	No change
Recognition is given to nurse leaders in a timely fashion	0.84	No change
Recognition is individualized (public or private) as to how the nurse leader likes to receive it	0.75	Item modified
The formal reward and recognition systems work to make nurse leaders feel valued	0.66	Item modified
Nurse leaders have opportunities for professional advancement as a form of recognition in the organization	0.91	No change
Patient safety is a primary focus for the organization	1.00	No change
Employee safety is a primary focus for the organization	0.94	No change
Nurse leaders are not retaliated against when reporting errors	0.94	Item modified
There is zero tolerance for lateral violence in the organization	0.97	No change
The organization provides physical and psychological safety for patients, families, and staff	0.97	No change
Nurse leaders have the necessary resources and equipment to do their jobs	0.97	Item modified
Nurse leaders communicate in a respectful manner with other people in the organization	0.94	No change
Clear communication is where the receiver understands a message from the sender as it was intended	1.00	No change
Messages are communicated in an objective and unbiased manner	1.00	No change
Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message	0.84	No change
Nurse leaders are active listeners	1.00	No change
Nurse leaders communicate in a non-threatening manner	0.97	No change
Members of the team support each other by checking others work for accuracy	0.74	Item deleted
Members of the team get along well with their peers and other team members	0.87	Item modified
Members of the team function with unselfish desire to see the whole picture and how it affects the group	0.87	No change

Table 4.6-continued

Items	Item Content Validity Index	Action
Members of the team work together without an individual being bullied	0.91	No change
Members of the team work together to establish a common goal	1.00	Item modified
Members of the team work together to achieve positive patient and staff outcomes	1.00	Item modified
Nurse leaders work with other disciplines in a non-threatening manner	1.00	Item modified
Nurse leaders treat others with respect	0.97	Item modified
Nurse leaders are passionate when working with other disciplines to accomplish a goal	0.97	Item modified
Nurse leaders support all team members and make them feel equal and a part of the team	0.97	Item modified
Nurse leaders engage other disciplines to work together for the best outcome of the patient	1.00	Item modified
Nurse leaders engage with other disciplines to develop policies and make decisions	0.90	Item modified

The scale content validity index (S-CVI) for the HWES for Nurse Leaders was 0.939 or 0.94, which demonstrated strong content validity for this tool. A Cronbach alpha of 0.945 demonstrated strong internal consistency of the instrument.

The subjects were also asked to place each item in one of the eight categories of a HWE for the purpose of determining if the items were clearly defined on the HWES for Nurse Leaders. The items were modified or deleted based on these results, which may be found in Table 4.7.

Table 4.7 Characteristics of the HWES for Nurse Leaders (Phase One)

Items	Percent	Characteristic Identified
Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	93%	Appropriate staffing
A staffing matrix is used to determine staffing for a shift	93%	Appropriate staffing
Nursing leaders ensure there is enough staff to provide the best outcomes for the patients	100%	Appropriate staffing
Nurse leaders ensure input from direct care nurses to develop a staffing plan for each nursing unit	53%	Appropriate staffing
Assignments are made based on the patient's acuity level	87%	Appropriate staffing

Table 4.7-continued

Items	Percent	Characteristic Identified
Nurse leaders are held accountable for meeting the productivity targets set by the organization	40%	Appropriate staffing
Nurse leaders lead with integrity in their interactions with the staff	93%	Authentic leadership
Nurse leaders are transparent to communicate positive changes in the organization	47% (47% placed in Skilled communication)	Authentic leadership
Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	93%	Authentic leadership
Nurse leaders have a voice in the organization	67%	Authentic leadership
Nurse leaders strive to meet patient and nursing outcomes	60%	Authentic leadership
Nurse leaders are focused on patient centered care	67%	Authentic leadership
Nurse leaders are empowered to make decisions within the organization	60%	Effective decision-making
Nurse leaders use critical thinking skills to make decisions for the organization	87%	Effective decision-making
Nurse leaders make decisions that benefit the group rather than just one individual	53%	Effective decision-making
Nurse leaders determine the facts and remain objective when making a decision	87%	Effective decision-making
Nurse leader involves key stakeholders when making a decision	73%	Effective decision-making
The nurse leaders consider the mission of the organization when making a decision	67%	Effective decision-making
Nurse leaders are recognized for a job well done	100%	Meaningful recognition
Nurse leaders speak up and let their peers and bosses know when an employee has done a good job	93%	Meaningful recognition
Recognition is given to nurse leaders in a timely fashion	87%	Meaningful recognition
Recognition is individualized (public or private) as to how the nurse leader likes to receive it	87%	Meaningful Recognition
The formal reward and recognition systems work to make nurse leaders feel valued	93%	Meaningful recognition
Nurse leaders have opportunities for professional advancement as a form of recognition in the organization	67%	Meaningful recognition
Patient safety is a primary focus for the organization	95%	Physical and psychological safety

Table 4.7-continued

Items	Percent	Characteristic Identified
Employee safety is a primary focus for the organization	100%	Physical and psychological safety
Nurse leaders are not retaliated against when reporting errors	60%	Physical and psychological safety
There is zero tolerance for lateral violence in the organization	87%	Physical and psychological safety
The organization provides physical and psychological safety for patients, families, and staff	100%	Physical and psychological safety
Nurse leaders have the necessary resources and equipment to do their jobs	40%	Physical and psychological safety
Nurse leaders communicate in a respectful manner with other people in the organization	87%	Skilled communication
Clear communication is where the receiver understands a message from the sender as it was intended	100%	Skilled communication
Messages are communicated in an objective and unbiased manner	100%	Skilled communication
Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message	93%	Skilled communication
Nurse leaders are active listeners	87%	Skilled communication
Nurse leaders communicate in a non-threatening manner	93%	Skilled communication
Members of the team support each other by checking others work for accuracy	60%	Genuine teamwork
Members of the team get along well with their peers and other team members	67%	Genuine teamwork
Members of the team function with unselfish desire to see the whole picture and how it affects the group	67%	Genuine teamwork
Members of the team work together without an individual being bullied	53%	Genuine teamwork
Members of the team work together to establish a common goal	53%	Genuine teamwork
Members of the team work together to achieve positive patient and staff outcomes	80%	Genuine teamwork
Nurse leaders work with other disciplines in a non-threatening manner	60%	True collaboration
Nurse leaders treat others with respect	20% (53% placed in Authentic leadership)	True collaboration
Nurse leaders are passionate when working with other disciplines to accomplish a goal	80%	True collaboration

Table 4.7-continued

Items	Percent	Characteristic Identified
Nurse leaders support all team members and make them feel equal and a part of the team	47%	True collaboration
Nurse leaders engage other disciplines to work together for the best outcome of the patient	80%	True collaboration
Nurse leaders engage with other disciplines to develop policies and make decisions	93%	True collaboration

Based on the subjects identifying items from the HWES for Nurse Leaders in different categories of a HWE than the author, the researcher modified or deleted items on the survey. The researcher also inserted a portion of the characteristic name in the stem of each item to see if this would improve the psychometric properties and content validity of the tool. The items were also reworded to improve clarity, which may be found in Table 4.8 below.

Table 4.8 Comparison of Original and Modified Items for the HWES for Nurse Leaders (Phase One)

Original Item	Change	Rationale for Change	Modified Item
Nurse leaders ensure input from direct care nurses to develop a staffing plan for each nursing unit	Item modified	I-CVI 0.94; wording modified to provide clarity to the item and proper placement in category	Nurse leaders receive input from direct care nurses to develop a staffing plan for each nursing unit
Nurse leaders are held accountable for meeting the productivity targets set by the organization	Item modified	I-CVI 1.00; wording modified to provide clarity to the item and proper placement in category	Nurse leaders are accountable for staffing the units to meet the productivity targets set by the organization
Nurse leaders are transparent to communicate positive changes in the organization	Item modified	I-CVI 0.94; 47% placed in skilled communication rather than authentic leadership	Nurse leaders lead by being transparent and communicating changes within the organization
Nurse leaders have a voice in the organization	Item modified	I-CVI 0.97; wording modified to provide clarity to the item and proper placement in category	Nurse leaders lead by having a voice within the organization
Nurse leaders strive to meet patient and nursing outcomes	Item modified	I-CVI 1.00; wording modified to provide clarity to the item and proper placement in category	Nurse leaders lead changes in the organization to improve patient and nurse outcomes
Nurse leaders are focused on patient-centered care	Item modified	I-CVI 1.00; wording modified to provide clarity to the item and proper placement in category	Nurse leaders focus of patient centered care to lead changes in the organization

Table 4.8-continued

Original Item	Change	Rationale for Change	Modified Item
Nurse leaders use critical thinking skills to make decisions for the organization	Item modified	I-CVI 1.00; wording modified to provide clarity to the item and proper placement in category	Nurse leaders use critical thinking skills to make effective decisions for the organization
Nurse leaders make decisions that benefit the group rather than just one individual	Item modified	I-CVI 1.00; wording modified to provide clarity to the item and proper placement in category	Nurse leaders make effective decisions that benefit the group rather than just one individual
Nurse leaders determine the facts and remain objective when making a decision	Item modified	I-CVI 0.94; wording modified to provide clarity to the item and proper placement in category	Nurse leaders determine the facts and remain objective when making effective decisions
Nurse leader involves key stakeholders when making a decision	Item modified	I-CVI 0.97; wording modified to provide clarity to the item and proper placement in category	Nurse leader involves key stakeholders when making effective decisions
The nurse leaders consider the mission of the organization when making a decision	Item modified	I-CVI 0.97; wording modified to provide clarity to the item and proper placement in category	The nurse leaders consider the mission of the organization when making effective decisions
Recognition is individualized as to how the nurse leader likes to receive it	Item modified	I-CVI 0.75	Recognition is individualized to how the nurse leader likes to receive it
The formal reward and recognition systems work to make nurse leaders feel valued	Item modified	I-CVI 0.66	The reward and recognition program is meaningful and makes nurse leaders feel valued in the organization
Nurse leaders are not retaliated against when reporting errors	Item modified	I-CVI 0.94; wording modified to provide clarity to the item and proper placement in category	Nurse leaders feel safe by not being retaliated against when reporting errors
Nurse leaders have the necessary resources and equipment to do their jobs	Item modified	I-CVI 0.97; wording modified to provide clarity to the item and proper placement in category	Nurse leaders have the necessary resources and equipment to do their jobs safely
Members of the team support each other by checking others work for accuracy	Item deleted	I-CVI 0.74	Item deleted
Members of the team get along well with their peers and other team members	Item modified	I-CVI 0.87; wording modified to provide clarity to the item and proper placement in category	Members of the team treat other team members with compassion and respect
Members of the team work together to establish a common goal	Item modified	I-CVI 1.00; wording modified to provide proper placement in category	Members of the team work together to establish common goals for the organization

Table 4.8-continued

Original Item	Change	Rationale for Change	Modified Item
Members of the team work together to achieve positive patient and staff outcomes	Item modified	I-CVI 1.00; wording modified to provide proper placement in category	Members of the team work together to achieve the best patient and staff outcomes
Nurse leaders work with other disciplines in a non-threatening manner	Item modified	I-CVI 1.00; wording modified to provide proper placement in category	Nurse leaders collaborate with other disciplines in a non-threatening manner
Nurse leaders treat others with respect	Item modified	I-CVI 0.97; wording modified to provide clarity to the item and proper placement in category	Nurse leaders collaborate respectfully with other disciplines
Nurse leaders are passionate when working with other disciplines to accomplish a goal	Item modified	I-CVI 0.97; wording modified to provide clarity to the item and proper placement in category	Nurse leaders collaborate with other disciplines to accomplish goals of the organization
Nurse leaders support all team members and make them feel equal and a part of the team	Item modified	I-CVI 0.97; wording modified to provide clarity to the item and proper placement in category	Nurse leaders collaborate with other team members and make them feel equal and a part of the team
Nurse leaders engage other disciplines to work together for the best outcome of the patient	Item modified	I-CVI 1.00; wording modified to provide proper placement in category	Nurse leaders collaborate with other disciplines to work together for the best outcome of the patients and staff
Nurse leaders engage with other disciplines to develop policies and make decisions	Item modified	I-CVI .90; wording modified to provide clarity to the item and proper placement in category	Nurse leaders collaborate with other disciplines to develop policies and procedures regarding patient care

Findings for Phase Two of the Research Studies

Direct Care Nurses

The sample for phase two of the direct care nurse study consisted of 986 direct care nurses or supervisors throughout the BHCS/BSWH North Division, which met the requirement of 20 subjects per item on the tool for a psychometric study. There were 1214 surveys started, 228 surveys in progress, and 986 surveys completed at the close of the survey with a response rate of 26.65%. The sample consisted of 884 or 89.66% females. Age was calculated based on the birth year of the subject. Ninety nine subjects reported their birth place instead of their birth year so they were excluded from this calculation. The mean age was 41.5 years (SD 11.87). The sample consisted primarily of white individuals. The largest number of subjects reported an initial entry level of education into nursing practice as a Bachelor of Science in

Nursing degree (n=600, 60.85%) and the highest level of education as a Bachelor of Science in Nursing degree (n=672, 68.15%). The demographic characteristics may be found in Table 4.9.

Table 4.9 Demographic Characteristics for Direct Care Nurses (Phase Two)

Demographic Characteristics	N (n=986)	%
Race/Ethnicity		
African American	77	7.81%
American Indian	5	0.51%
Asian	126	12.78%
Hispanic	38	3.85%
Native Hawaiian or Pacific Islander	5	0.51%
White	690	69.98%
Other	45	4.56%
Baylor Locations		
Baylor All Saints	150	15.21%
Baylor Health Care System	23	2.33%
Baylor Heart and Vascular Hospital	35	3.55%
Baylor Medical Center at Carrolton	37	3.75%
Baylor Medical Center at Garland	37	3.75%
Baylor Medical Center at Grapevine	92	9.33%
Baylor Medical Center at Irving	132	13.39%
Baylor Medical Center at McKinney	67	6.80%
Baylor Medical Center at Plano	54	5.48%
Baylor Medical Center at Waxahachie	29	2.94%
Baylor Specialty Health Centers/Our Children's House	1	0.10%
Baylor University Medical Center	254	25.76%
Texas Health Provider Network	3	0.30%
The Heart Hospital Baylor Plano	54	5.48%
Other/The Heart Hospital Baylor Denton	18	1.83%
Type of Nursing Unit or Department		
Administration	4	0.41%
Cardiology Services	34	3.45%
Coronary Care Unit	19	1.93%
Day Surgery Unit	48	4.87%
Emergency Department	77	7.81%
Endoscopy Lab	21	2.13%
Intensive Care Unit	122	12.37%
Labor and Delivery Unit	52	5.27%
Maternal/Child Unit	74	7.51%
Medical Surgical Unit	96	9.74%
Neonatal Intensive Care Unit	63	6.39%
Neurology Unit	6	0.61%
Oncology Unit	44	4.46%
Operating Room	56	5.68%
Orthopedic Unit	20	2.03%
Other	55	5.58%
Outpatient Unit	9	0.91%

Table 4.9-continued

Type of Nursing Unit or Department	3	0.30%
Pediatric Unit	21	2.13%
Post Anesthesia Care Unit	48	4.87%
Progressive Care Unit	1	0.10%
Psychiatric Unit	6	0.61%
Rehabilitation Unit	7	0.71%
Special Care Nursery	79	8.01%
Telemetry Unit	21	2.13%
Transplant Unit		
Number of Years as a Registered Nurse		
0-1	29	2.94%
1-5	267	27.08%
6-10	184	18.66%
11-15	127	12.88%
16-20	127	12.88%
21-25	90	9.13%
26-30	52	5.27%
>30	110	11.16%
Number of Years at BHCS/BSWH North Division		
0-1	52	5.27%
1-5	435	44.12%
6-10	248	25.15%
11-15	113	11.46%
16-20	67	6.80%
21-25	30	3.04%
26-30	17	1.72%
>30	24	2.43%
Number of Years on Current Unit or Department		
0-1	91	9.23%
1-5	482	48.88%
6-10	229	23.23%
11-15	99	10.04%
16-20	45	4.56%
21-25	21	2.13%
26-30	11	1.12%
>30	8	0.81%
Number of Years at the Current Acute Care Facility		
0-1	72	7.30%
1-5	444	45.03%
6-10	240	24.34%
11-15	105	10.65%
16-20	58	5.88%
21-25	29	2.94%
26-30	15	1.52%
>30	23	2.33%

Nurse Leaders

The sample for phase two of the nurse leader study consisted of 314 subjects, which met the criteria of 300 subjects for a psychometric study. There were 373 surveys started, 59 surveys in progress, and 314 surveys completed at the close of the survey with a response rate of 26.67%. The sample consisted of 286 or 91.08% females. Age was calculated based on the birth year of the subject. Twenty six subjects reported their birth place rather than their birth year so they were excluded from this calculation. The mean age was 48 years (SD 9.36). The sample consisted primarily of white individuals who were advanced practice nurses (n=28, 8.92%), frontline nurse managers (n=77, 24.52%), nurse administrators (n=41, 13.06%), nurse executives (n=12, 3.82%), or in other leadership positions (n=156, 49.68%). Phase two demographic characteristics for nurse leaders may be found in Table 4.10 below.

Table 4.10 Demographic Characteristics for Nurse Leaders (Phase Two)

Demographic Characteristics	N (n=314)	%
Race/Ethnicity		
African American	24	7.64%
American Indian	6	1.91%
Asian	29	9.24%
Hispanic	11	3.50%
Native Hawaiian or Pacific Islander	2	0.64%
White	239	76.11%
Other	3	0.96%
Entry Level of Education into Practice		
Diploma	30	9.55%
Associate degree	106	33.76%
Bachelor degree	162	51.59%
Masters' degree	16	5.10%
Highest Level of Education		
Diploma	8	2.55%
Associate degree	25	7.96%
Bachelor degree	143	45.54%
Masters' degree	101	32.17%
Doctorate of Nursing Practice	2	0.64%
Doctorate of Philosophy	7	2.23%
Other	28	8.92%
Baylor Locations		
Baylor All Saints	61	19.43%
Baylor Health Care System	21	6.69%
Baylor Heart and Vascular Hospital	15	4.78%
Baylor Medical Center at Carrolton	12	3.82%
Baylor Medical Center at Garland	19	6.05%
Baylor Medical Center at Grapevine	22	7.01%

Table 4.10-continued

Demographic Characteristics	N (n=314)	%
Baylor Medical Center at Irving	28	8.92%
Baylor Medical Center at McKinney	21	6.69%
Baylor Medical Center at Plano	17	5.41%
Baylor Medical Center at Waxahachie	12	3.82%
Baylor Specialty Centers/Our Children's House	5	1.59%
Baylor University Medical Center	52	16.56%
Texas Health Provider Network	10	3.18%
The Heart Hospital Baylor Plano	13	4.14%
Other/The Heart Hospital Baylor Denton	6	1.91%
Type of Nursing Unit or Department		
Administration	64	20.38%
Cardiology Services	13	4.14%
Coronary Care Unit	2	0.64%
Day Surgery Unit	1	0.32%
Emergency Department	9	2.87%
Intensive Care Unit	14	4.46%
Labor and Delivery Unit	9	2.87%
Maternal/Child Unit	6	1.91%
Medical Surgical Unit	11	3.50%
Neonatal Intensive Care Unit	6	1.91%
Neurology Unit	1	0.32%
Oncology Unit	9	2.87%
Operating Room	14	4.46%
Orthopedic Unit	2	0.64%
Other	114	36.31%
Outpatient Unit	11	3.50%
Pediatric Unit	4	1.27%
Post Anesthesia Care Unit	4	1.27%
Progressive Care Unit	5	1.59%
Rehabilitation Unit	3	0.96%
Telemetry Unit	7	2.23%
Transplant Unit	5	1.59%
Number of Years as a Registered Nurse		
1-5	15	4.78%
6-10	42	13.38%
11-15	52	16.56%
16-20	55	17.52%
21-25	45	14.33%
26-30	34	10.83%
>30	71	22.61%
Number of Years in a Leadership Position		
0-1	11	3.50%
1-5	147	46.82%
6-10	69	21.97%
11-15	34	10.83%
16-20	27	8.60%
21-25	11	3.5%
26-30	6	1.91%

Table 4.10-continued

Demographic Characteristics	N (n=314)	%
Number of Years in a Leadership Position >30	9	2.87%
Number of Years at BHCS/BSWH North Division		
0-1	15	4.78%
1-5	100	31.85%
6-10	83	26.43%
11-15	37	11.78%
16-20	30	9.55%
21-25	20	6.37%
26-30	11	3.50%
>30	18	5.73%
Number of Years on Current Unit or Department		
0-1	32	10.19%
1-5	169	53.82%
6-10	64	20.38%
11-15	21	6.69%
16-20	15	4.78%
21-25	6	1.91%
26-30	3	0.96%
>30	4	1.27%
Number of Years at the Current Acute Care Facility		
0-1	20	6.37%
1-5	125	39.81%
6-10	72	22.93%
11-15	31	9.87%
16-20	26	8.28%
21-25	18	5.73%
26-30	8	2.55%
>30	14	4.46%

Validity Testing

Correlation Matrix

A correlation matrix was calculated to evaluate the inter-relationships of the items on both tools. The Pearson Product Moment Correlation statistic was calculated for the HWES for Direct Care Nurses with positive correlations between the items $r = 0.979$, $n = 986$, p value $<.001$ and on the HWES for Nurse Leaders $r = .965$, $n = 314$, p value $<.001$. Correlations were found among the items. The determinant for the HWES for Direct Care Nurses was 2.60E-011= 2.60 times 10^{-11} while the determinant for the HWES for Nurse Leaders was 1.01E-017=1.01 times 10^{-17}.

Bartlett's Test of Sphericity

The result of the Bartlett's Test of Sphericity for the HWES for Direct Care Nurses version 2 was an approximate X^2 = 18,727.676, *df* 741, p value < .001. The result of the Bartlett's Test of Sphericity for the new HWES for Nurse Leaders Version 1 was an approximate X^2=9372.944, *df 780*, p value < .001. With p values < .05, the researcher rejected the null hypothesis demonstrating there were relationships between the items allowing for PCA and PAF to be performed in order to measure the psychometric properties of both instruments.

Kaiser-Meyer-Olkin/Measure of Sample Adequacy

The Kaiser-Meyer-Olkin (KMO) as a measure of sampling adequacy (MSA) was 0.977 in the HWES for Direct Care Nurses and 0.974 in the HWES for Nurse Leaders. With the values close to 1, the results demonstrated that the patterns of correlations were relatively compact so PCA should yield distinct and reliable components (Pett et al., 2003).

Results for the HWES for Direct Care Nurses (Phase Two)

The 47 items on the HWES for Direct Care Nurses were developed to measure eight components of a HWE within an acute care hospital setting; however, after completing the psychometric testing of this tool, five components were identified. The eigenvalues and cumulative explained variances in percent were the same using PCA and PAF, which may be found on Table 4.11.

Table 4.11 Total Variance Explained of the HWES for Direct Care Nurses (Version 2)

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Components	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.153	38.624	38.624	18.153	38.624	38.624
2	2.655	5.649	44.273	2.655	5.649	44.273
3	1.398	2.975	47.248	1.398	2.975	47.248
4	1.304	2.775	50.024	1.304	2.775	50.024
5	1.117	2.376	52.399	1.117	2.376	52.399

In Figure 4.1, the scree plot further assisted in the identification of the five components. Based on the point where the items leveled off on the plot and the eigenvalues >1 were identified as components on the HWES for Direct Care Nurses.

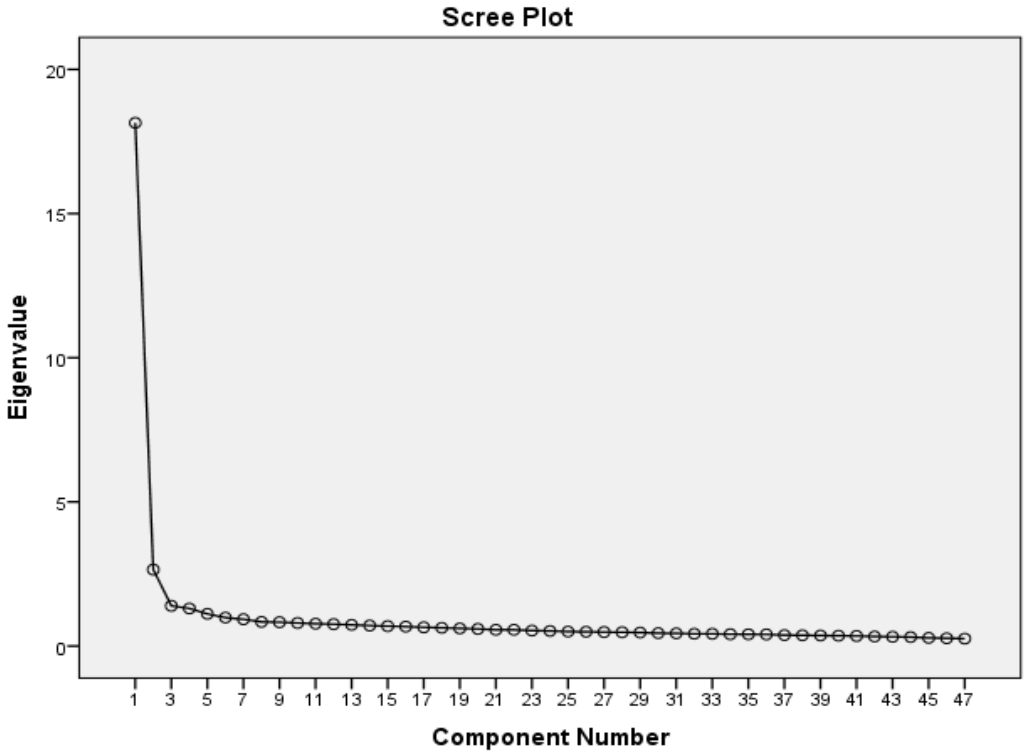

Figure 4.1 Scree plot of the HWES for direct care nurses (versions 2)

Findings from the Oblique Rotation using the Promax Method

After reviewing all of the rotation methods, the oblique rotation with the Promax method was used to rotate the correlated factors, which allowed the researcher the clearest depiction of the items loading on the components (see Table 4.12). Each item was expected to highly load on only one factor or component as designated with an asterisk (Pett et al., 2003). The high loadings of the items formed a cluster of items on a component. A Kappa of 4 was the set value for Promax rotations.

Table 4.12 Structure Matrix of the HWES for Direct Care Nurses (Version 2)

Components	1	2	3	4	5
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	.547	.439	.489	.805*	.514
2. Staff assignments are made based on a staffing matrix	.410	.361	.456	.616*	.431
3. Staff assignments are made by the charge nurse based on the patient's acuity level	.450	.373	.464	.808*	.460
4. Patient safety is taken into consideration when making patient assignments	.507	.437	.497	.795*	.573
5. Nurse supervisors ensure the right skill mix of nurses and other staff when making assignments	.579	.416	.530	.805*	.521

Table 4.12-continued

Components	1	2	3	4	5
6. Nursing staff is provided at a level that affords nurses the ability to meet the needs of their patients	.581	.411	.448	.647*	.540
7. Direct care nurses speak up to make changes within the organization	.553*	.432	.442	.415	.513
8. Direct care nurses are role models in the organization	.446	.534*	.523	.404	.535*
9. Direct care nurses strive to grow professionally	.362	.609*	.475	.341	.399
10. Nurse leaders lead with integrity in their interactions with the staff	.651	.408	.594	.525	.711*
11. Nurse leaders are transparent to communicate positive changes in the organization	.737*	.385	.484	.487	.638
12. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	.671*	.420	.515	.466	.688
13. Direct care nurses are empowered to make effective decisions within the organization	.737*	.450	.495	.563	.650
14. Direct care nurses use critical thinking skills to make decisions about patient care	.283	.685*	.462	.333	.493
15. Decisions are made to benefit the patient	.471	.591	.558	.505	.738*
16. Direct care nurses include all key stakeholders when making a decision	.472	.577*	.512	.353	.492
17. Direct care nurses make decisions with a goal and outcome in mind	.338	.704	.521	.326	.484
18. Direct care nurses use a step-by-step process to make a decision	.435	.689*	.401	.411	.312
19. Direct care nurses are recognized in the organization for a job well done	.799*	.393	.496	.530	.510
20. Direct care nurses speak up and let their peers and bosses know when an employee has done a good job	.605*	.452	.470	.371	.339
21. Recognition is given to direct care nurses by nurse leaders in a meaningful manner	.797*	.375	.490	.547	.532
22. Recognition is individualized to how a direct care nurse likes to receive it	.743*	.330	.374	.442	.330
23. The reward and recognition program is meaningful and makes direct care nurses feel valued in the organization	.776*	.346	.416	.427	.419
24. Patient safety is a primary focus for the organization	.457	.437	.473	.494	.761*
25. Employee safety is a primary focus for the organization	.583	.382	.478	.554	.689*
26. Direct care nurses feel safe in the organization by not being retaliated against when reporting errors	.650*	.400	.611	.542	.572
27. There is zero tolerance for lateral violence in the organization	.509	.370	.671*	.403	.521
28. The organization provides physical and psychological safety for patients, families, and staff	.539	.454	.452	.557	.692*
29. Direct care nurses have the necessary resources and equipment to provide safe patient care	.564	.413	.484	.583	.652*
30. Direct care nurses and physicians have clear communication between each other	.412	.459	.543*	.414	.357
31. Clear communication is where the receiver understands a message from the sender as it was intended	.252	.515*	.366	.224	.467
32. Messages are communicated in an objective and unbiased manner	.613	.447	.624*	.362	.549

Table 4.12-continued

Components	1	2	3	4	5
33. Direct care nurses take into account a person's non-verbal communication or body language when to communicate a message	.250	.686*	.368	.305	.287
34. When communicating to a patient, the direct care nurse determines the patient's understanding of the message	.340	.699*	.362	.286	.331
35. When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message	.337	.594*	.423	.353	.361
36. Members of the team support each other by checking others work for accuracy	.491	.570*	.500	.548	.273
37. Members of the team get along well with their peers and other team members	.399	.478	.757*	.419	.406
38. Members of the team function with unselfish desire to see the whole picture and how it affects the group	.550	.567	.693*	.534	.446
39. Members of the team work together without an individual being bullied	.439	.388	.767*	.425	.388
40. Members of the team work together to establish a common goal	.471	.569	.710*	.494	.555
41. Members of the team work together to achieve positive patient and staff outcomes	.395	.526	.656	.461	.572*
42. Direct care nurses collaborate with other disciplines in a non-threatening manner	.331	.584	.696*	.380	.580
43. Direct care nurses collaborate respectfully with other disciplines	.359	.675	.679*	.374	.585
44. Direct care nurses collaborate with other disciplines to accomplish the goals of the organization	.403	.677*	.564	.412	.540
45. Direct care nurses collaborate with other team members while making them feel equal and a part of the team	.418	.597	.681*	.442	.480
46. Direct care nurses collaborate with other disciplines to work together for the best outcomes of the patient	.360	.651*	.608	.381	.549
47. Direct care nurses collaborate with other disciplines to develop policies and procedures for patient care	.551*	.478	.407	.476	.471

The component correlation matrix using PCA as the extraction method and Promax with Kaiser Normalization may be found in Table 4.13.

Table 4.13 Component Correlation Matrix of the HWES for Direct Care Nurses (Version 2)

Component	1	2	3	4	5
1	1.000	.480	.580	.632	.589
2		1.000	.662	.496	.555
3			1.000	.564	.655
4				1.000	.556
5					1.000

Results for the HWES for Nurse Leaders (Phase Two)

The HWES for Nurse Leaders was examined for its psychometric properties. The 47 items on the HWES for Nurse Leaders (Version 2) were developed to measure eight components of a HWE within an acute care hospital setting; however, after completing the psychometric testing of this tool, four components were identified. The eigenvalues and cumulative explained variances in percent were the same using PCA and PAF, which may be found on Table 4.14.

Table 4.14 Total Variance Explained of the HWES for Nurse Leaders (Version 2)

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Components	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	24.441	52.002	52.002	24.441	52.002	52.002
2	2.112	4.494	56.496	2.112	4.494	56.496
3	1.305	2.777	59.273	1.305	2.777	59.273
4	1.187	2.526	61.799	1.187	2.526	61.799

In Figure 4.2, the scree plot further assisted in the identification of the four components. Based on the point where the items leveled off on the plot and the eigenvalues were greater than one, these items were identified as components on the HWES for Nurse Leaders (Version 2).

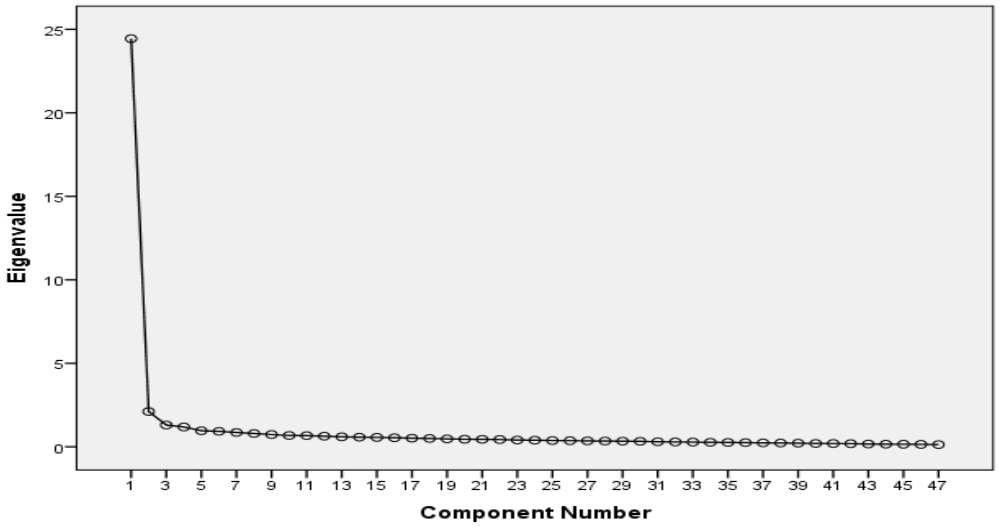

Figure 4.2 Scree plot of the HWES for nurse leaders (version 2)

Findings from the Oblique Rotation using the Promax Method

After reviewing all of the rotation methods, the oblique rotation with the Promax method was used to rotate the correlated factors, which allowed the researcher the clearest depiction of the items loading on the components. Each item was expected to highly load on only one factor or component (Waltz et al., 2010). The high loadings of the items form a cluster of items on a component. A Kappa of 4 was the set value for Promax rotations. The structure matrix of PCA may be found in Table 4.15.

Table 4.15 Structure Matrix of the HWES for Nurse Leaders (Version 2)

Component	1	2	3	4
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	.689	.561	.569	.834*
2. A staffing matrix is used to determine staffing for a shift	.379	.443	.314	.608*
3. Assignments are made based on the patient's acuity level	.625	.493	.450	.823*
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients	.637	.588	.534	.806*
5. Nurse leaders receive input from direct care nurses to develop a staffing plan for each nursing unit	.689	.551	.501	.809*
6. Nurse leaders are accountable for staffing the units to meet the productivity targets set by the organization	.583	.606*	.219	.551
7. Nurse leaders lead with integrity in their interactions with the staff	.803*	.568	.463	.589
8. Nurse leaders lead by being transparent and to communicating change within the organization	.765*	.627	.566	.727
9. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	.773*	.657	.518	.659
10. Nurse leaders lead by having a voice in the organization	.689	.729*	.640	.629
11. Nurse leaders lead changes within the organization to improve patient and nurse outcomes	.715	.775*	.467	.638
12. Nurse leaders focus of patient-centered care to lead changes in the organization	.738*	.714	.448	.717
13. Nurse leaders are empowered to make effective decisions within the organization	.725*	.645	.611	.659
14. Nurse leaders use critical thinking skills to make effective decisions for the organization	.777*	.652	.441	.651
15. Nurse leaders make effective decisions that benefit the group rather than just one individual	.753*	.702	.505	.618
16. Nurse leaders determine the facts and remain objective when making effective decisions	.832*	.618	.613	.648
17. Nurse leader involves key stakeholders when making effective decisions	.817*	.575	.593	.650
18. Nurse leaders consider the mission of the organization when making effective decisions	.735*	.756	.488	.729
19. Nurse leaders are recognized for a job well done	.485	.399	.856*	.441
20. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job	.736*	.603	.572	.606
21. Recognition is given to nurse leaders in a timely fashion	.510	.423	.821*	.470

Table 4.15-continued

Components	1	2	3	4
22. Recognition is individualized to how the nurse leader likes to receive it	.528	.341	.741*	.518
23. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization	.535	.543	.719*	.540
24. The reward and recognition program is meaningful and makes nurse leaders feel valued in the organization	.479	.431	.818*	.412
25. Patient safety is a primary focus for the organization	.508	.746*	.459	.573
26. Employee safety is a primary focus for the organization	.580	.677	.568	.680*
27. Nurse leaders feel safe by not being retaliated against when reporting errors	.690*	.599	.664	.610
28. There is zero tolerance for lateral violence in the organization	.607*	.498	.488	.405
29. The organization provides physical and psychological safety for patients, families, and staff	.646	.726*	.533	.703
30. Nurse leaders have the necessary resources and equipment to do their jobs safely	.555	.609	.691*	.491
31. Nurse leaders communicate in a respectful manner with other people in the organization	.806*	.668	.446	.558
32. Clear communication is where the receiver understands a message from the sender as it was intended	.481	.732*	.304	.378
33. Messages are communicated in an objective and unbiased manner	.723*	.604	.658	.593
34. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message	.759*	.559	.468	.659
35. Nurse leaders are active listeners	.820*	.548	.507	.646
36. Nurse leaders communicate in a non-threatening manner	.818*	.567	.555	.610
37. Members of the team treat other team members with compassion and respect	.746*	.519	.528	.540
38. Members of the team function with unselfish desire to see the whole picture and how it affects the group and organization	.720*	.628	.589	.633
39. Members of the team work together without an individual feeling bullied	.790*	.599	.608	.585
40. Members of the team work together to establish common goals for the organization	.702*	.703*	.532	.671
41. Members of the team work together to achieve the best patient and staff outcomes	.707*	.762	.598	.596
42. Nurse leaders collaborate with other disciplines in a non-threatening manner	.800*	.713	.465	.622
43. Nurse leaders collaborate respectfully with others disciplines	.808*	.635	.493	.544
44. Nurse leaders collaborate with other disciplines to accomplish the goals of the organization	.759	.773*	.523	.635
45. Nurse leaders collaborate with other team members and make them feel equal and a part of the team	.802*	.725	.544	.664
46. Nurse leaders collaborate with other disciplines to work for the best outcome of the patients and staff	.601	.690*	.399	.466
47. Nurse leaders collaborate with other disciplines to develop policies and procedures regarding patient care	.742*	.709	.560	.607

The component correlation matrix using PCA as the extraction method and Promax with Kaiser

Normalization may be found in Table 4.16.

Table 4.16 Component Correlation Matrix of the HWES for Nurse Leaders (Version 2)

Component	1	2	3	4
1	1.000	.751	.641	.758
2		1.000	.558	.688
3			1.000	.593
4				1.000

Item Trimming

Item trimming was used to decrease the number of items on the tools (Pett et al., 2003). A few reasons why items were trimmed from an instrument were eigenvalues less than one, one item loading on multiple components, items found on a scree plot at the point at which the components level or trail off (Pett et al., 2003). Based on the loadings on the structure matrices of the HWES for Direct Care Nurses (Version 2) and the HWES for Nurse Leaders (Version 2), item trimming was necessary to further define the components of both tools as a result of one item loading on multiple components.

HWES for Direct Care Nurses

Based on the loadings on the structure matrix for PCA with Promax Kaiser Normalization for the HWES for Direct Care Nurses, items with similar loadings on multiple components were deleted for version 3 of the HWES for Direct Care Nurses. The items deleted on the third version of this instrument were item 8 (direct care nurses are role models in the organization), item 12 (nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally), item 16 (direct care nurses include all key stakeholders when making a decision), item 26 (direct care nurses feel safe in the organization by not being retaliated against when reporting errors, item 32 (messages are communicated in an objective and unbiased manner), item 36 (members of the team support each other by checking others work for accuracy), item 42 (direct care nurses collaborate with other disciplines to work together for the best outcomes of the patient), and item 43 (direct care nurses collaborate respectfully with other disciplines). The items in the third version were renumbered as a result. The loadings may be found on Table 4.12. The eigenvalues and cumulative explained variances in percent were the same using PCA and PFA may be found in Table 4.17.

Table 4.17 Total Variance Explained of the HWES for Direct Care Nurses (Version 3)

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.008	38.483	38.483	15.008	38.483	38.483
2	2.360	6.051	44.534	2.360	6.051	44.534
3	1.357	3.480	48.014	1.357	3.480	48.014
4	1.260	3.231	51.245	1.260	3.231	51.245
5	1.018	2.611	53.856	1.018	2.611	53.856

In Figure 4.3, the scree plot further assisted in the identification of the four components. Based on the point where the items leveled off on the plot and the eigenvalues were greater than one, these items were identified as components on the HWES for Direct Care Nurses (Version 3).

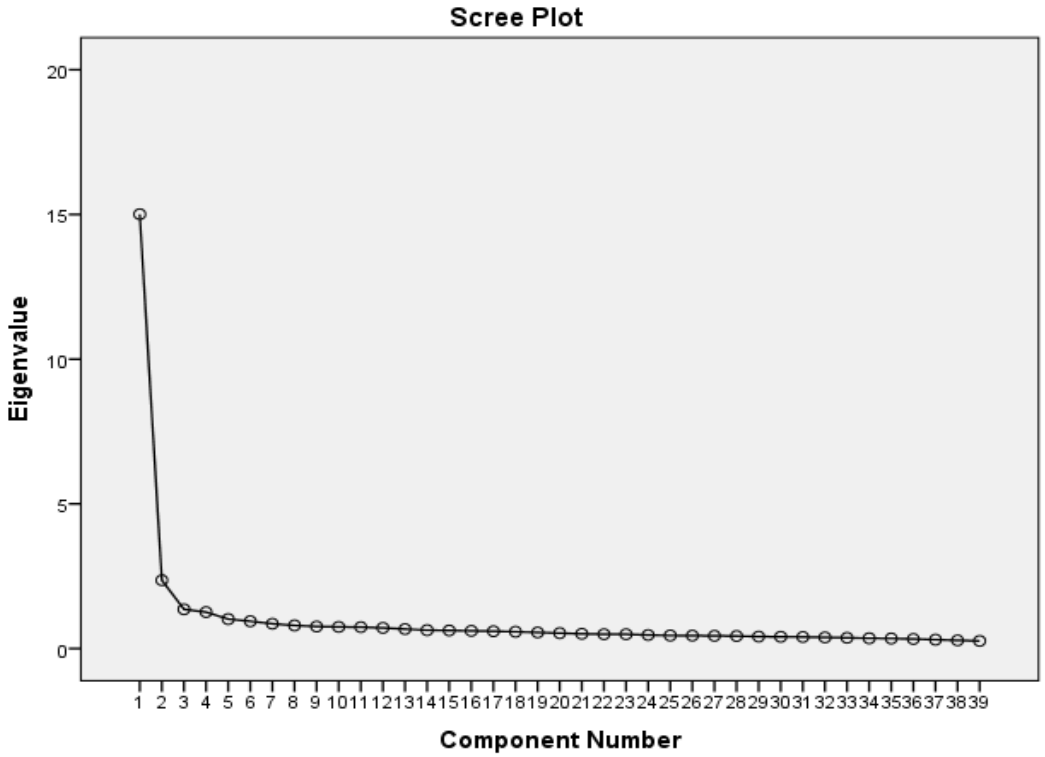

Figure 4.3 Scree plot of the HWES for direct care nurses (version 3)

The structure matrix with new correlations for the rotated components may be found in Table 4.18. Version three of the HWES for Direct Care Nurses may be found in Appendix K.

Table 4.18 Structure Matrix of the HWES for Direct Care Nurses (Version 3)

Components	1	2	3	4	5
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	.542	.431	.477	.820*	.552
2. Staff assignments are made based on a staffing matrix	.412	.357	.458	.626*	.460
3. Staff assignments are made by the charge nurse based on the patient's acuity level	.444	.364	.464	.822*	.495
4. Patient safety is taken into consideration when making patient assignments	.500	.432	.491	.806*	.610
5. Nurse supervisors ensure the right skill mix of nurses and other staff when making assignments	.575	.405	.519	.831*	.567
6. Nursing staff is provided at a level that affords nurses the ability to meet the needs of their patients	.569	.396	.436	.639*	.617
7. Direct care nurses speak up to make changes within the organization	.545*	.439	.433	.442	.526
8. Direct care nurses strive to grow professionally	.355	.602*	.489	.339	.424
9. Nurse leaders lead with integrity in their interactions with the staff	.635	.413	.569	.587	.682*
10. Nurse leaders are transparent to communicate positive changes in the organization	.728*	.384	.454	.542	.638
11. Direct care nurses are empowered to make effective decisions within the organization	.728*	.449	.476	.595	.676
12. Direct care nurses use critical thinking skills to make decisions about patient care	.278	.699*	.466	.336	.500
13. Decisions are made to benefit the patient	.465	.588	.545	.515	.759*
14. Direct care nurses make decisions with a goal and outcome in mind	.330	.715*	.533	.337	.495
15. Direct care nurses use a step-by-step process to make a decision	.424	.699*	.397	.422	.344
16. Direct care nurses are recognized in the organization for a job well done	.814*	.383	.489	.533	.560
17. Direct care nurses speak up and let their peers and bosses know when an employee has done a good job	.610*	.442	.481	.364	.391
18. Recognition is given to direct care nurses by nurse leaders in a meaningful manner	.815*	.364	.486	.568	.561
19. Recognition is individualized to how a direct care nurse likes to receive it	.760*	.315	.365	.446	.386
20. The reward and recognition program is meaningful and makes direct care nurses feel valued in the organization	.796*	.333	.414	.425	.472
21. Patient safety is a primary focus for the organization	.457	.425	.467	.487	.797*
22. Employee safety is a primary focus for the organization	.583	.365	.466	.546	.745*
23. There is zero tolerance for lateral violence in the organization	.495	.365	.657*	.433	.521
24. The organization provides physical and psychological safety for patients, families, and staff	.534	.451	.440	.556	.738*
25. Direct care nurses have the necessary resources and equipment to provide safe patient care	.567	.405	.479	.588	.689*
26. Direct care nurses and physicians have clear communication between each other	.411	.444	.556*	.400	.400

Table 4.18-continued

Components	1	2	3	4	5
27. Clear communication is where the receiver understands a message from the sender as it was intended	.248	.536*	.362	.250	.451
28. Direct care nurses take into account a person's non-verbal communication or body language when to communicate a message	.241	.705*	.373	.308	.304
29. When communicating to a patient, the direct care nurse determines the patient understands of the message	.334	.712*	.358	.287	.364
30. When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message	.318	.603*	.429	.352	.386
31. Members of the team get along well with their peers and other team members	.396	.453	.776*	.419	.425
32. Members of the team function with unselfish desire to see the whole picture and how it affects the group	.531	.546	.694*	.543	.487
33. Members of the team work together without an individual being bullied	.422	.377	.774*	.442	.399
34. Members of the team work together to establish a common goal	.467	.544	.714*	.500	.590
35. Members of the team work together to achieve positive patient and staff outcomes	.384	.511	.672*	.448	.613
36. Direct care nurses collaborate with other disciplines to accomplish the goals of the organization	.400	.662*	.547	.415	.572
37. Direct care nurses collaborate with other disciplines in a non-threatening manner	.333	.562	.687*	.387	.584
38. Direct care nurses collaborate with other team members while making them feel equal and a part of the team	.404	.572	.680*	.450	.504
39. Direct care nurses collaborate with other disciplines to develop policies and procedures for patient care	.528*	.476	.384	.492	.517

***Extraction Method: Principal Component Analysis with Promax with Kaiser Normalization

The component correlation matrix of the HWES for Direct Care Nurses (Version 3) may be found in Table 4.19.

Table 4.19 Component Correlation Matrix of the HWES for Direct Care Nurses (Version 3)

Component	1	2	3	4	5
1	1.000	.458	.548	.644	.635
2		1.000	.631	.484	.590
3			1.000	.575	.647
4				1.000	.660
5					1.000

***Extraction Method: Principal Component Analysis with Promax with Kaiser Normalization

HWES for Nurse Leaders

Based on the loadings on the structure matrix for PCA using Promax with Kaiser Normalization, items with similar loadings on multiple components were deleted for the HWES for Nurse Leaders (Version 2). The items deleted on version 2 included item 12 (nurse leaders focus of patient-centered care to lead changes in the organization), item 15 (nurse leaders make decisions that benefit the group rather than just one individual), item 26 (employee safety is a primary focus for the organization), and item 40 (members of the team work together to establish common goals for the organization). The eigenvalues and cumulative explained variances in percent for the HWES for Nurse Leaders may be found in Table 4.20.

Table 4.20 Total Variance Explained of the HWES for Nurse Leaders (Version 2)

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	24.441	52.002	52.002	24.441	52.002	52.002
2	2.112	4.494	56.496	2.112	4.494	56.496
3	1.305	2.777	59.273	1.305	2.777	59.273
4	1.187	2.526	61.799	1.187	2.526	61.799

In Figure, 4.4, the scree plot further assisted in the identification of the four components. Based on the point where the items leveled off on the plot and the eigenvalues >1, four components for the HWES for Nurse Leaders (Version 2) were identified. The structure matrix of PCA may be found on Table 4.21.

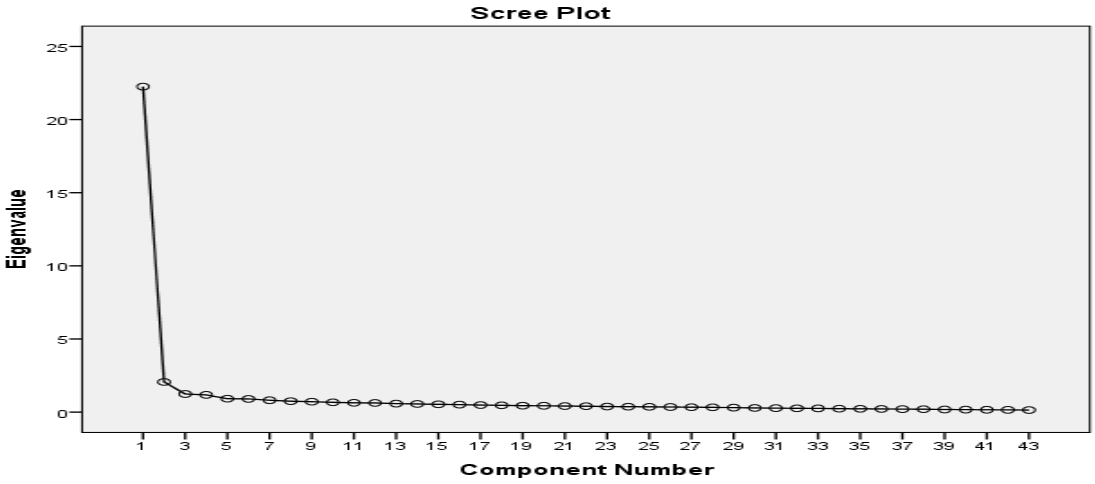

Figure 4.4 Scree plot of the HWES for nurse leaders (version 2)

Table 4.21 Structure Matrix of the HWES for Nurse Leaders (Version 2)

Components	1	2	3	4
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	.690	.569	.538	.832*
2. A staffing matrix is used to determine staffing for a shift	.375	.317	.449	.618*
3. Assignments are made based on the patient's acuity level	.625	.450	.473	.825*
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients	.639	.531	.572	.807*
5. Nurse leaders receive input from direct care nurses to develop a staffing plan for each nursing unit	.686	.500	.533	.808*
6. Nurse leaders are accountable for staffing the units to meet the productivity targets set by the organization	.570*	.221	.617	.573*
7. Nurse leaders lead with integrity in their interactions with the staff	.801*	.455	.565	.596
8. Nurse leaders lead by being transparent and to communicating change within the organization	.768*	.559	.617	.728
9. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	.772*	.516	.644	.656
10. Nurse leaders lead by having a voice in the organization	.690	.642	.720*	.625
11. Nurse leaders lead changes within the organization to improve patient and nurse outcomes	.712	.470	.762*	.632
13. Nurse leaders are empowered to make effective decisions within the organization	.728*	.609	.633	.651
14. Nurse leaders use critical thinking skills to make effective decisions for the organization	.775*	.437	.650	.656
16. Nurse leaders determine the facts and remain objective when making effective decisions	.834*	.605	.606	.647
17. Nurse leader involves key stakeholders when making effective decisions	.815*	.588	.560	.654
18. Nurse leaders consider the mission of the organization when making effective decisions	.728*	.492	.757	.736
19. Nurse leaders are recognized for a job well done	.492	.861*	.381	.434
20. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job	.733*	.572	.598	.612
21. Recognition is given to nurse leaders in a timely fashion	.511	.826*	.412	.472
22. Recognition is individualized to how the nurse leader likes to receive it	.540	.742*	.315	.502
23. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization	.542	.719*	.537	.538
24. The reward and recognition program is meaningful and makes nurse leaders feel valued in the organization	.487	.820*	.422	.406
25. Patient safety is a primary focus for the organization	.521	.457	.734*	.549
27. Nurse leaders feel safe by not being retaliated against when reporting errors	.701*	.660	.581	.594
28. There is zero tolerance for lateral violence in the organization	.622*	.479	.464	.382
29. The organization provides physical and psychological safety for patients, families, and staff	.654	.532	.705*	.685
30. Nurse leaders have the necessary resources and equipment to do their jobs safely	.568	.686*	.595	.477
31. Nurse leaders communicate in a respectful manner with other people in the organization	.804*	.440	.663	.559

Table 4.21-continued

Components	1	2	3	4
32. Clear communication is where the receiver understands a message from the sender as it was intended	.475	.308	.764*	.390
33. Messages are communicated in an objective and unbiased manner	.726*	.656	.593	.589
34. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message	.754*	.463	.559	.674
35. Nurse leaders are active listeners	.816*	.498	.544	.659
36. Nurse leaders communicate in a non-threatening manner	.817*	.545	.556	.616
37. Members of the team treat other team members with compassion and respect	.756*	.516	.487	.527
38. Members of the team function with unselfish desire to see the whole picture and how it affects the group and organization	.725*	.588	.605	.623
39. Members of the team work together without an individual feeling bullied	.800*	.599	.572	.577
41. Members of the team work together to achieve the best patient and staff outcomes	.711	.602	.752*	.581
42. Nurse leaders collaborate with other disciplines in a non-threatening manner	.797*	.462	.707	.622
43. Nurse leaders collaborate respectfully with others disciplines	.808*	.487	.637	.550
44. Nurse leaders collaborate with other disciplines to accomplish the goals of the organization	.764*	.518	.755*	.617
45. Nurse leaders collaborate with other team members and make them feel equal and a part of the team	.803*	.543	.731	.668
46. Nurse leaders collaborate with other disciplines to work for the best outcome of the patients and staff	.603	.396	.694*	.462
47. Nurse leaders collaborate with other disciplines to develop policies and procedures regarding patient care.	.751*	.554	.691	.593

***Extraction Method: Principal Component Analysis and Promax with Kaiser Normalization

The component correlation matrix may be found in Table 4.22.

Table 4.22 Component Correlation Matrix of the HWES for Nurse Leaders (Version 2)

Component	1	2	3	4
1	1.000	.647	.739	.757
2		1.000	.535	.576
3			1.000	.656
4				1.000

Extraction Method: Principal Component Analysis and Promax with Kaiser Normalization

Based on the loadings on the structure matrix for PCA using Promax with Kaiser Normalization, items with similar loadings on multiple components were deleted for version 3 of the HWES for Nurse Leaders. The items deleted were item 15 (nurse leaders make effective decisions that benefit the group rather than just one individual), item 18 (nurse leaders consider the mission of the organization when making effective decisions), item 41 (members of the team work together to achieve the best patient and

staff outcomes), and item 44 (nurse leaders collaborate with other disciplines to accomplish the goals of the organization) for the third version of this instrument. The eigenvalues and cumulative explained variances in percent of the HWES for Nurse Leaders (Version 3) may be found in Table 4.23.

Table 4.23 Total Variance Explained of the HWES for Nurse Leaders (Version 3)

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	20.466	51.164	51.164	20.466	51.164	51.164
2	2.023	5.057	56.221	2.023	5.057	56.221
3	1.201	3.002	59.223	1.201	3.002	59.223
4	1.137	2.843	62.066	1.137	2.843	62.066

In Figure 4.5, the scree plot further assisted in the identification of the four components. Based on the point where the items leveled off on the plot and the eigenvalues >1, four components of the HWES for Nurse Leaders (Version 3) were identified. The structure matrix of PCA for the HWES for Nurse Leaders (Version 3) may be found in Table 4.24.

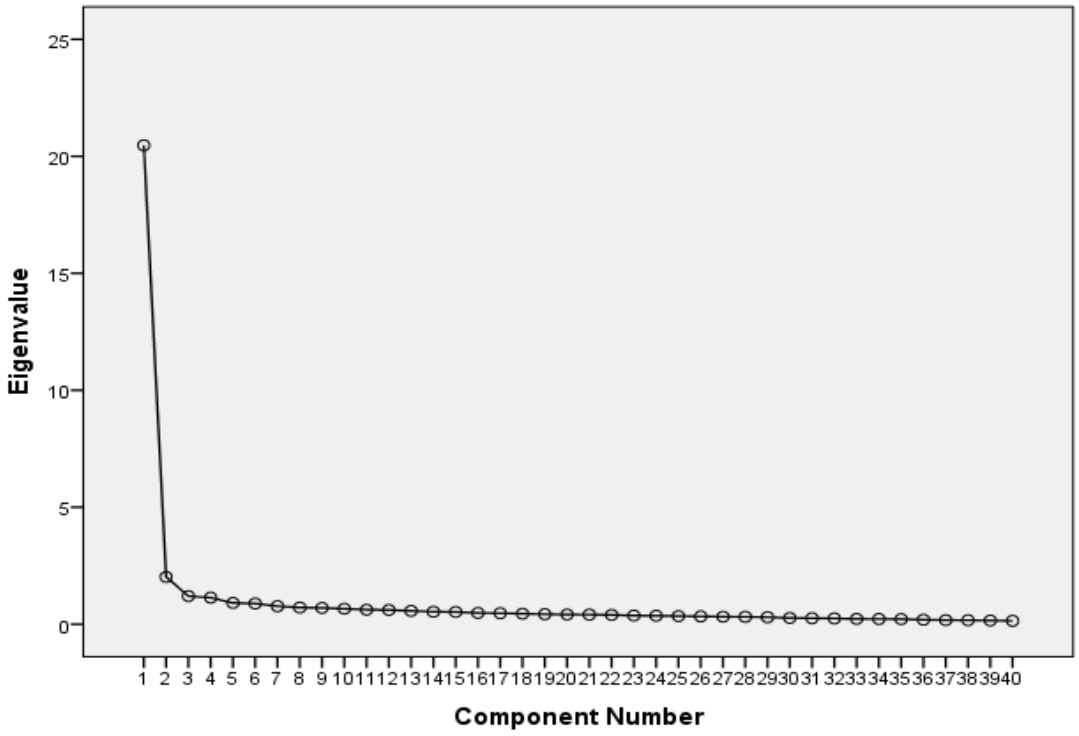

Figure 4.5 Scree plot of the HWES for nurse leaders (version 3)

Table 4.24 Structure Matrix of the HWES for Nurse Leaders (Version 3)

Component	1	2	3	4
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	.692	.566	.836*	.478
2. A staffing matrix is used to determine staffing for a shift	.378	.318	.622*	.438
3. Assignments are made based on the patient's acuity level	.627	.446	.827*	.412
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients	.643	.531	.803*	.549
5. Nurse leaders receive input from direct care nurses to develop a staffing plan for each nursing unit	.686	.498	.808*	.473
6. Nurse leaders are accountable for staffing the units to meet the productivity targets set by the organization	.577	.223	.560	.613*
7. Nurse leaders lead with integrity in their interactions with the staff	.800*	.453	.588	.517
8. Nurse leaders lead by being transparent and to communicating change within the organization	.768*	.558	.726	.579
9. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	.773*	.516	.654	.577
10. Nurse leaders lead by having a voice in the organization	.696*	.642	.626	.695*
11. Nurse leaders lead changes within the organization to improve patient and nurse outcomes	.717	.471	.629	.735*
12. Nurse leaders are empowered to make effective decisions within the organization	.731*	.610	.651	.601
13. Nurse leaders use critical thinking skills to make effective decisions for the organization	.778*	.437	.652	.620
14. Nurse leaders determine the facts and remain objective when making effective decisions	.834*	.603	.643	.548
15. Nurse leader involves key stakeholders when making effective decisions	.814*	.589	.650	.502
16. Nurse leaders are recognized for a job well done	.492	.863*	.440	.327
17. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job	.737*	.573	.603	.544
18. Recognition is given to nurse leaders in a timely fashion	.513	.828*	.474	.375
19. Recognition is individualized to how the nurse leader likes to receive it	.536	.740*	.515	.233
20. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization	.545	.723*	.534	.514
21. The reward and recognition program is meaningful and makes nurse leaders feel valued in the organization	.488	.821*	.415	.389
22. Patient safety is a primary focus for the organization	.530	.453	.561	.750*
23. Nurse leaders feel safe by not being retaliated against when reporting errors	.703*	.655	.602	.542
24. There is zero tolerance for lateral violence in the organization	.621*	.481	.380	.422
25. The organization provides physical and psychological safety for patients, families, and staff	.659	.526	.698*	.671
26. Nurse leaders have the necessary resources and equipment to do their jobs safely	.572	.684*	.480	.580
27. Nurse leaders communicate in a respectful manner with other people in the organization	.805*	.440	.550	.617
28. Clear communication is where the receiver understands a message from the sender as it was intended	.486	.310	.379	.795*

Table 4.24-continued

Component	1	2	3	4
29. Messages are communicated in an objective and unbiased manner	.728*	.654	.589	.532
30. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message	.754*	.464	.664	.503
31. Nurse leaders are active listeners	.815*	.500	.649	.506
32. Nurse leaders communicate in a non-threatening manner	.816*	.544	.613	.509
33. Members of the team treat other team members with compassion and respect	.754*	.511	.539	.423
34. Members of the team function with unselfish desire to see the whole picture and how it affects the group and organization	.727*	.581	.634	.513
35. Members of the team work together without an individual feeling bullied	.799*	.595	.586	.510
36. Nurse leaders collaborate with other disciplines in a non-threatening manner	.799*	.460	.622	.669
37. Nurse leaders collaborate respectfully with other disciplines	.808*	.483	.549	.598
38. Nurse leaders collaborate with other team members and make them feel equal and a part of the team	.806*	.540	.670	.678
39. Nurse leaders collaborate with other disciplines to work for the best outcome of the patients and staff	.608*	.400	.460	.653
40. Nurse leaders collaborate with other disciplines to develop policies and procedures regarding patient care	.752*	.550	.604	.621

Extraction Method: Principal Component Analysis and Promax with Kaiser Normalization

The component correlation matrix for the HWES for Nurse Leaders (Version 3) may be found in Table 4.25.

Table 4.25 Component Correlation Matrix of the HWES for Nurse Leaders (Version 3)

Component	1	2	3	4
1	1.000	.646	.758	.678
2		1.000	.585	.477
3			1.000	.600
4				1.000

Extraction Method: Principal Component Analysis and Promax with Kaiser Normalization

Item Retention

Item retention was defined as the retention of items on an instrument (Pett et al., 2003). At this time, the number of items on the HWES for Direct Care Nurses instrument decreased from 47 items to 39 items in version 3 (Appendix K.1). The number of items on the HWES for Nurse Leaders in formal positions decreased from 43 to 40 items in version 3 (Appendix K.2). The items retained had a high loading on only one component of the structure matrix of PCA on both tools.

Component Labels

The HWES for Direct Care Nurses (Version 3) had five components based on the loadings of the items. The first component consisted of loadings for the characteristics of authentic leadership and meaningful recognition within a HWE, which led to component one being labeled as authentic leadership. The second component consisted of loadings for the characteristics of effective decision-making and skilled communication, which led to component two being labeled effective decision-making. The third component was labeled genuine teamwork. The fourth component was labeled appropriate staffing. The fifth component was labeled physical and psychological safety. The items for the characteristic of true collaboration loaded on all five components of the instrument, which was not surprising. Collaboration is a vital component of a HWE at every level of an acute care hospital setting.

The HWES for Nurse Leaders (Version 3) had four components based on the loadings of the items. The characteristics of authentic leadership, effective decision-making, true collaboration, and genuine teamwork were found to be loaded on the first component, which led to component one being labeled authentic leadership. It is not surprising that these four characteristics highly loaded on one component. Intuitively it makes sense that an authentic leadership is linked to effective decision-making, true collaboration, and genuine teamwork in the nurse leader role. The HWE characteristics of true collaboration and genuine teamwork are necessary to meet the needs of patients in all healthcare settings. The second component was labeled as meaningful recognition. The third component was labeled as appropriate staffing. The fourth component was labeled as skilled communication. Physical and psychological safety loaded on all four components of the HWES for Nurse Leaders (Version 3), which makes intuitive sense as safety should be a primary focus of all aspects of a HWE. Based on these findings, the items will need to be modified and trimmed so PCA may be re-run to determine if modifying or deleting items on HWES for Nurse Leaders will strengthen the psychometric properties of the tool and allow for clear depiction of labels for this instrument.

Measurement Reliability

The Cronbach alpha coefficient was used to measure the internal consistency of the instruments to ensure that all items fit conceptually together to represent the construct of a HWE (DeVon et al., 2007).

The Cronbach alpha coefficient estimate for the HWES for Direct Care Nurses and the HWES for Nurse Leaders for version 2 may be found in Table 4.26 and version 3 may be found in Table 4.27. The scores were higher than 0.70, which demonstrated strong internal consistency of the items on both tools.

Table 4.26 Reliability Estimates of the HWES for Direct Care Nurses and Nurse Leaders for Versions 2

Tools	Mean (*SD*)	Number of Scale Items	Cronbach Alpha
HWES for Direct Care Nurses Version 2 (N=986)	144.15 (19.48)	47	0.965
HWES for Nurse Leaders Version 2 (N=314)	137.72 (20.08)	43	0.976

Table 4.27 Reliability Estimates of the HWES for Direct Care Nurses and Nurse Leaders for Versions 3

Tools	Mean (*SD*)	Number of Scale Items	Cronbach Alpha
HWES for Direct Care Nurses Version 3 (N=986)	119.67 (16.239)	39	0.957
HWES for Nurse Leaders Version 3 (N=314)	127.74 (18.756)	40	0.974

Measuring the Perceptions of a Healthy Work Environment

In phase two, the perceptions of a HWE were measured for direct care nurses and nurse leaders throughout the BHCS/BSWH North Division. A Likert scale was used to measure the extent of agreement to which the subjects agreed with the statements seen in their work environment. Subjects scored each statement using a Likert scale of 1-strongly disagree, 2-disagree, 3-agree, and 4-strongly agree. The results of the direct care nurses' and nurse leaders' perceptions on a HWE were satisfactory. Overall, the nurse leader perceptions of a HWE in this acute care system were higher than the direct care nurses' perceptions in 7 of the 8 categories. Notably, the nurse leaders' perceptions fell below the direct care nurses' perceptions in the characteristic of effective decision-making. The findings may be found in Table 4.28.

Table 4.28 Direct Care Nurses' and Nurse Leaders' Perceptions of a HWE Overall Mean Scores

Characteristic	Direct Care Nurses Mean (Standard Deviation)	Nurse Leaders Mean (Standard Deviation)
Appropriate Staffing	2.96 (0.60)	3.14 (0.55)
Authentic Leadership	3.03 (0.50)	3.28 (0.51)
Effective Decision-making	3.51 (0.43)	3.25 (0.50)
Meaningful Recognition	2.79 (0.59)	2.96 (0.56)
Physical and Psychological Safety	3.08 (0.53)	3.28 (0.51)
Skilled Communication	3.19 (0.38)	3.25 (0.49)
Genuine Teamwork	3.10 (0.46)	3.22 (0.52)
True Collaboration	3.19 (0.43)	3.30 (0.51)

The overall mean scores for each item of the direct care nurses perceptions of a HWE may be found on Table 4.29.

Table 4.29 Perceptions of a Healthy Work Environment by Direct Care Nurses

Item	Mean Score (N=986)	Standard Deviation
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	2.92	0.78
2. Staff assignments are made based on a staffing matrix	3.01	0.78
3. Staff assignments are made by the charge nurse based on the patient's acuity level	2.99	0.80
4. Patient safety is taken into consideration when making patient assignments	3.12	0.73
5. Nurse supervisors ensure the right skill mix of nurses and other staff when making assignments	2.94	0.77
6. Nursing staff is provided at a level that affords nurses the ability to meet the needs of their patients	2.79	0.79
7. Direct care nurses speak up to make changes within the organization	2.95	0.69
8. Direct care nurses are role models in the organization	3.18	0.65
9. Direct care nurses strive to grow professionally	3.18	0.55
10. Nurse leaders lead with integrity in their interactions with staff	3.04	0.73
11. Nurse leaders are transparent to communicate positive changes in the organization	2.89	0.75
12. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	2.93	0.76
13. Direct care nurses are empowered to make effective decisions within the organization	2.86	0.75
14. Direct care nurses use critical thinking skills to make decisions about patient care	3.42	0.58
15. Decisions are made to benefit the patient	3.27	0.62
16. Direct care nurses include all key stakeholders when making a decision	3.00	0.62

Table 4.29-continued

Item	Mean Score (N=986)	Standard Deviation
17. Direct care nurses make decisions with a goal and outcome in mind	3.27	0.56
18. Direct care nurses use a step-by-step process to make a decision	3.08	0.55
19. Direct care nurses are recognized in the organization for a job well done	2.83	0.75
20. Direct care nurses speak up and let their peers and bosses know when an employee has done a good job	3.04	0.64
21. Recognition is given to direct care nurses by their nurse leaders in a meaningful manner	2.76	0.77
22. Recognition is individualized to how a direct care nurse likes to receive it	2.58	0.76
23. The reward and recognition program is meaningful and makes direct care nurses feel valued in the organization	2.74	0.83
24. Patient safety is a primary focus for the organization	3.33	0.70
25. Employee safety is a primary focus for the organization	2.99	0.78
26. Direct care nurses feel safe in the organization by not being retaliated against when reporting errors	2.91	0.75
27. There is zero tolerance for lateral violence in the organization	3.21	0.76
28. The organization provides physical and psychological safety for patients, families, and staff	3.11	0.63
29. Direct care nurses have the necessary resources and equipment to provide safe patient care	2.95	0.72
30. Direct care nurses and physicians have clear communication between each other	2.98	0.62
31. Clear communication is where the receiver understands a message from the sender as it was intended	3.37	0.59
32. Messages are communicated in an objective and unbiased manner	2.98	0.64
33. Direct care nurses take into account a person's non-verbal communication or body language when trying to communicate a message	3.24	0.55
34. When communicating to a patient, the direct care nurse determines the patient understands the message	3.27	0.53
35. When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message	3.27	0.58
36. Members of the team support each other by checking others work for accuracy	2.93	0.67
37. Members of the team get along well with their peers and other team members	3.17	0.59
38. Members of the team function with unselfish desire to see the whole picture and how it affects the group	2.96	0.68
39. Members of the team work together without an individual being bullied	3.08	0.71

Table 4.29-continued

Item	Mean Score (N=986)	Standard Deviation
40. Members of the team work together to establish a common goal	3.23	0.57
41. Members of the team work together to achieve positive patient and staff outcomes	3.24	0.61
42. Direct care nurses collaborate with other disciplines in a non-threatening manner	3.24	0.58
43. Direct care nurses collaborate respectfully with other disciplines	3.29	0.54
44. Direct care nurses collaborate with other disciplines to accomplish goals within the organization	3.20	0.54
45. Direct care nurses collaborate with other team members and make them feel equal and a part of the team	3.15	0.57
46. Direct care nurses collaborate with other disciplines to work together for the best outcomes of the patients	3.27	0.59
47. Direct care nurses collaborate with other disciplines to develop policies and procedures for patient care	2.97	0.67

The nurse leaders' perceptions of a HWE were also measured throughout the BHCS/BSWH North Division, which may be found in Table 4.30.

Table 4.30 Perceptions of a Healthy Work Environment by Nurse Leaders

Item	Mean Score (N=314)	Standard Deviation
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	3.08	0.75
2. A staffing matrix is used to determine staffing for a shift	3.26	0.64
3. Assignments are made based on the patient's acuity level	3.02	0.78
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients	3.07	0.77
5. Nurse leaders receive input from direct care nurses to develop a staffing plan for each nursing unit	3.07	0.71
6. Nurse leaders are accountable for staffing the units to meet the productivity targets set by the organization	3.39	0.64
7. Nurse leaders lead with integrity in their interactions with the staff	3.32	0.60
8. Nurse leaders lead by being transparent and communicating changes within the organization	3.15	0.70
9. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	3.21	0.62
10. Nurse leaders lead by having a voice within the organization	3.26	0.63
11. Nurse leaders lead changes in the organization to improve patient and nurse outcomes	3.38	0.60
12. Nurse leaders focus of patient-centered care to lead changes in the organization	3.34	0.60

Table 4.30-continued

Item	Mean Score (N=314)	Standard Deviation
13. Nurse leaders are empowered to make effective decisions within the organization	3.18	0.69
14. Nurse leaders use critical thinking skills to make effective decisions for the organization	3.34	0.59
15. Nurse leaders make effective decisions that benefit the group rather than just one individual	3.32	0.64
16. Nurse leaders determine the facts and remain objective when making effective decisions	3.17	0.60
17. Nurse leader involves key stakeholders when making effective decisions	3.17	0.64
18. The nurse leaders consider the mission of the organization when making effective decisions	3.30	0.54
19. Nurse leaders are recognized for a job well done	2.90	0.71
20. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job	3.23	0.65
21. Recognition is given to nurse leaders in a timely fashion	2.86	0.73
22. Recognition is individualized to how the nurse leader likes to receive it	2.77	0.74
23. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization	3.23	0.66
24. The reward and recognition program is meaningful and makes nurse leaders feel valued in the organization	2.79	0.82
25. Patient safety is a primary focus for the organization	3.54	0.59
26. Employee safety is a primary focus for the organization	3.27	0.71
27. Nurse leaders feel safe by not being retaliated against when reporting errors	3.15	0.72
28. There is zero tolerance for lateral violence in the organization	3.31	0.77
29. The organization provides physical and psychological safety for patients, families, and staff	3.32	0.62
30. Nurse leaders have the necessary resources and equipment to do their jobs safely	3.11	0.64
31. Nurse leaders communicate in a respectful manner with other people in the organization	3.34	0.60
32. Clear communication is where the receiver understands a message from the sender as it was intended	3.48	0.61
33. Messages are communicated in an objective and unbiased manner	3.14	0.63
34. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message	3.18	0.64
35. Nurse leaders are active listeners	3.18	0.62
36. Nurse leaders communicate in a non-threatening manner	3.36	0.62
37. Members of the team treat other team members with compassion and respect	3.23	0.64

Table 4.30-continued

Item	Mean Score (N=314)	Standard Deviation
38. Members of the team function with unselfish desire to see the whole picture and how it affects the group and organization	3.07	0.64
39. Members of the team work together without an individual feeling bullied	3.17	0.69
40. Members of the team work together to establish common goals for the organization	3.30	0.58
41. Members of the team work together to achieve the best patient and staff outcomes	3.33	0.59
42. Nurse leaders collaborate with other disciplines in a non-threatening manner	3.36	0.62
43. Nurse leaders collaborate respectfully with other disciplines	3.30	0.61
44. Nurse leaders collaborate with other disciplines to accomplish goals of the organization	3.35	0.60
45. Nurse leaders collaborate with other team members and make them feel equal and a part of the team	3.21	0.66
46. Nurse leaders collaborate with other disciplines to work together for the best outcome of the patients and staff	3.31	0.64
47. Nurse leaders collaborate with other disciplines to develop policies and procedures regarding patient care	3.28	0.62

Conclusion

In this chapter, PCA of the HWES for Direct Care Nurses (Version 3) revealed a fairly simple component structure. Thirty nine items were analyzed to identify item clusters. Based on the eigenvalues and significance levels, five components of a HWE were identified. After modifying the HWES for Direct Care Nurses, the instrument was found to have strong reliability property with the Cronbach alpha of 0.957, a strong content validity index of 0.897 or 0.90. The perceived health of the work environment for the direct care nurses at BHCS/BSHW North Division ranged from good with a mean score of 2.58 (SD.0.76) to excellent with a mean score of 3.42 (SD 0.58) on the individual items on the instrument.

PCA of the HWES for Nurse Leaders revealed a fairly simple component structure. Forty items were analyzed to identify item clusters. Based on the eigenvalues and significance levels, four components were identified. The HWES for Nurse Leaders (Version 3) was found to have strong reliability properties with the Cronbach alpha of 0.974, a strong content validity index of 0.939 or 0.94. The perceived health of the work environment for the nurse leaders at BHCS/BSWH North Division ranged from good with a mean

score of 2.77 (SD 0.74) to excellent with a mean score 3.54 (SD 0.59) on the individual items of the instruments. The HWES for Direct Care Nurses and the HWES for Nurse Leaders have promising psychometric properties that may result in the ability for nurse researchers to measure a HWE in acute care hospital settings.

Chapter 5

Discussion

In this chapter, a discussion of the findings of these studies will be presented. Face and content validity of the HWES for Direct Care Nurses and the HWES for Nurse Leaders will be further discussed. A discussion on the psychometric properties of the instruments will occur. The results of the direct care nurses' and nurse leaders' perceptions of a HWE in acute care settings will be discussed. The limitations to these studies will be addressed. The implications to nursing practice will be presented. Finally, the recommendations for future research will be presented.

Discussion on the Findings of Phase One of the Studies

Phase one of the studies was conducted to determine content and face validity of the tools. Content and face validity were used to establish the instrument's ease of use, clarity of the items, and the items readability (Waltz et al., 2010). With the scale content validity index (S-CVI) of 0.897 or 0.90 for phase one of the HWES for Direct Care Nurses and 0.939 for the HWES for Nurse Leaders, the tools demonstrated good content validity. These results were not surprising since BHCS/BSWH uses the characteristics of a HWE from AACN (2005) as a part of their professional nursing practice model. Nurses throughout BHCS/BSWH have been educated on the characteristics of a HWE based on AACNs (2005) standards of a HWE. Six of 11 hospitals have received the Magnet designation with three more hospitals on the journey to obtain the Magnet designation. Magnet organizations exemplify characteristics of HWEs resulting in better retention and decreased errors (Ritter, 2011).

Discussion on the Findings of Phase Two of the Studies

Phase two of the studies was conducted to determine construct validity and reliability properties of the HWES for Direct Care Nurses and the HWES for Nurse Leaders. Demographic characteristics of the samples were in alignment with national nursing research studies on a HWE with more females (90%) than males (10%) participating in the surveys (Ulrich et al., 2006; Ulrich et al., 2009; Ulrich et al., 2014).

Validity Testing

PCA had a standardized set of criteria for the researcher to interpret the data, which included an

eigenvalue >1, a scree plot depicting where the components trail or level off, and the intuitive sense of the researcher. With the results of these studies demonstrating eigenvalues slightly under 1.0 and the scree plot trailed off after this point, it was the decision of the researcher to determine if this component should be included as part of the results based on the researcher's intuitive sense; however, the decision to include these components could leave the option of the results being debated by other researchers (Pett et al., 2003; Tabachnick & Fidell, 2007). The number of components identified for the HWES for Direct Care Nurses was five; however, the researcher assessed the sixth component with an eigenvalue of 0.944. The number of components identified for the HWES for Nurse Leaders was four; however, the researcher assessed the fifth component with an eigenvalue of 0.907. The researcher considered adding the sixth component to the HWES for Direct Care Nurses (Version 3) and the fifth component to the HWES for Nurse Leaders (Version 3) but chose not to include them due to the conceptual overlap on the components or these items loading on more than one component.

The scoring system for the original HWEAT (AACN, 2005) used a Likert scale of 1 to 5 with a neutral point of 3. The researcher removed the neutral point on the Likert scale for the HWES for Direct Care Nurses and the HWES for Nurse Leaders to prevent ambiguity in measuring a subject's perceptions of a HWE. As a result, the scoring system required modification. The researcher determined that the new scoring system would include 1 equaled strongly disagree, 2 equaled disagree, 3 equaled agree, and 4 equaled strongly agree on the Likert scale. Mean scores below 50% established the health of the work environment as needs improvement, mean scores between 50% and 75% established the health of the work environment as good, and mean scores between 75% and 100% established the health of the environment as excellent. The difficulty with this scoring system was that the quartile scores varied based on each of the components of a HWE. The researcher identified the new scoring system for both tools as mean scores between 1.00 to 1.99 equaled the health of the work environment as needing improvement, 2.00 to 2.99 equaled the health of the work environment as good, and 3.00 to 4.00 equaled the health of the work environment as excellent. Standardization of this scoring system allowed the researcher to easily score both tools and compare the scores between the two tools.

Reliability Testing

Reliability was measured by using the Cronbach alpha statistic with the criteria set at >0.70 to demonstrate internal consistency of the tools (Waltz et al., 2010). With Cronbach alphas of 0.957 for the HWES for Direct Care Nurses (Version 3) and 0.974 for the HWES for Nurse Leaders (Version 3), high internal consistency of the instruments were demonstrated. These results were not surprising as the AACN HWEAT (2005) has demonstrated strong reliability on the studies that have been conducted using this tool.

Perceptions of a Healthy Work Environment

A surprise with the findings was that the characteristic of meaningful recognition was lower for the direct care nurses than the nurse leaders. This finding could be a result that nurse leaders believe it is important to provide meaningful recognition to direct care nurses or direct care nurses believe that authentic leaders provide meaningful recognition automatically. The mean scores for meaningful recognition appeared low compared to the overall scores, which could be a result of a lack of recognition or praise occurring in the work environment or that the direct care nurses and nurse leaders did not perceive the method of recognition as being meaningful.

In the literature, appropriate staffing has shown to result in quality patient outcomes (Kelly et al., 2013). The characteristic of appropriate staffing within a HWE was identified as an individual component on both the HWES for Direct Care Nurses and the HWES for Nurse Leaders. The direct care nurses' and nurse leaders' perceived scores for appropriate staffing were the second lowest scores of the work environment, demonstrating the importance of appropriate staffing in this organization. Staffing practices at BHCS/BSWH have been closely monitored to maintain a balance of nursing excellence, quality patient outcomes, and the financial considerations of the organization.

Relationship of Findings to Framework

A HWE is key to the success of any organization as it results in healthy and satisfied employees who are engaged in their work. If nurses at all levels are satisfied in their work, than acute healthcare settings will have improved patient, nurse, and organizational outcomes (Huddleston, 2014). The framework for this research study consisted of Donabedian's (1996) model of structures, processes, outcomes, Kanter's theory on structural empowerment (Kanter, 1977), and Spreitzer's theory on

psychological empowerment (Spreitzer, 1995). Characteristics of HWEs guide structures, processes, and optimal patient and nurse outcomes in acute care hospital settings (Huddleston, 2014).

As a result of the findings of the qualitative research studies on a HWE, physical and psychological safety and genuine teamwork were identified as additional characteristics of HWEs by the direct care nurses and nurse leaders of BHCS/BSWH North Division; however, the quantitative research studies did not clearly establish eight individual components of a HWE. Both of the HWES for Direct Care Nurses (Version 3) and the HWES for Nurse Leaders (Version 3) tools have promising construct validity and strong reliability properties. Table 5.1 clarifies the difference between the characteristics of a HWE, the components loadings for direct care nurses, and the components loadings for nurse leaders.

Table 5.1 Characteristics and Components on HWES for Direct Care Nurses and HWES for Nurse Leaders

Characteristic of a HWE	Component Loadings from HWES for Direct Care Nurses	Component Loadings from HWES for Nurse Leaders
Appropriate Staffing	Component 1: Authentic Leadership and Meaningful Recognition	Component 1: Authentic Leadership, Effective Decision-making, True Collaboration, and Genuine Teamwork
Authentic Leadership	Component 2: Effective Decision-making and Skilled Communication	Component 2: Meaningful Recognition
Effective Decision-making	Component 3: Genuine Teamwork	Component 3: Appropriate Staffing
Genuine Teamwork	Component 4: Appropriate Staffing	Component 4: Skilled Communication
Meaningful Recognition	Component 5: Physical and Psychological Safety	
Physical and Psychological Safety	***True Collaboration fell on all five components	***Physical and Psychological Safety fell on all four components
Skilled Communication		
True Collaboration		

Relationship of Findings to Literature Review

The literature identifies authentic leadership as a key factor in retaining nurses in their positions. Nurse leaders who demonstrate authentic leadership assist with reorganizing workloads and reallocating resources to improve staffing to support the work environment (Chan et al., 2013). Authentic leaders promote structural empowerment including access to information, appropriate staffing and resources to support learned opportunities and develop professionally to enhance empowerment within the work

environment (Chan et al., 2013).

In the latest publication entitled *Critical Care Nurse Work Environments 2013: A Status Report* (Ulrich et al., 2014), the direct care nurses perceptions of effective decision-making decreased from the 2008 report. The Institute of Medicine report (2011) and the American Nurses Credentialing Center (2014) have promoted the importance of empowering nurses in their roles. Nurse who are empowered in the workplace to make effective decisions affect quality outcomes for the patient, nurse, and organization (Huddleston, 2014).

Meaningful recognition, for all levels of nurses, is a key characteristic of a HWE to assist in retaining nurses in the workplace. Meaningful recognition strengthens nurses by recognizing the value of their work and encouraging behaviors that are meaningful to patients, families, and other healthcare workers (Ulrich et al., 2014). Meaningful recognition, as defined by the individual, promotes nurse satisfaction in the work environment. Nurse satisfaction sets the tone and encourages nurses to promote optimal outcomes and assists in the retention of nurses within healthcare organizations.

Skilled communication, true collaboration, and genuine teamwork are important characteristics within a HWE. These characteristics may be used individually or combined together by nurses at all levels of an acute care setting. The literature identified skilled communication as a major factor in the prevention of adverse events within healthcare organizations (James, 2013; Kelly, 2013). Respect is embedded within true collaboration (Ulrich et al., 2013). Lower scores of genuine teamwork have been associated with a higher intent of nurses to leave a healthcare organization (Chan, 2013). True collaboration, genuine teamwork, and skilled communication, individually or combined, provide the structure that is necessary to promote the best outcomes for patients, nurses, and the organization.

Appropriate staffing is a key characteristic within a HWE. Appropriate staffing within the work environment has resulted in a decrease in preventable adverse events (James, 2013) and hospital acquired infections (Kelly et al., 2013) in acute care settings. Appropriate staffing remains at the forefront of healthcare organizations as a result of research findings in the literature that connect staffing issues and poor hand-off communication with increased risk of preventable adverse events and hospital acquired infections (Kelly et al., 2013).

A culture of safety, physical and psychological for both the patient and staff, has been linked to quality patient outcomes within healthcare organizations. With a national focus on preventing adverse events and improving patient outcomes (James, 2013), healthcare organizations must focus on a culture of safety as a part of a HWE. Nurses in Magnet designated organizations rated the quality of care in their own organizations as higher than nurses in hospitals that have not obtained the Magnet designation and are not on the Magnet journey (Ulrich et al., 2014). Physical and psychological safety concerns for nurses within a HWE have been identified as discrimination, bullying, verbal abuse, physical abuse, and disrespectful behavior from patients, families, physicians and other colleagues (Lewis & Malecha, 2011). A recent finding on safety has demonstrated that abuse and disrespectful behavior is less tolerated by nurses than previous surveys (Ulrich et al., 2014). Respondents reported that verbal and physical abuse had increased in the past year (Ulrich et al., 2014). Finally, frontline nurse managers reported higher levels of discrimination in 2013 (Ulrich et al., 2014). Physical and psychological safety continues to be a significant characteristic that must be addressed to support quality patient and nurse outcomes within HWEs in acute care hospital settings.

Limitations to these Studies

The major limitation to these studies was the lack of generalizability of the results to the nursing community as the studies were only conducted in one acute care hospital system in the Dallas/Fort Worth area; however, this system had many different types of nursing units and multiple Magnet facilities within the system. The researcher chose to complete these studies in only one healthcare system to complete the requirements of this dissertation. Further research is necessary to replicate these studies using different types of hospitals including teaching versus non-teaching, rural versus urban, for-profit versus not-for-profit, and Magnet versus non-Magnet organizations.

Implications to Nursing Practice

The findings from these research studies have provided further evidence to support the psychometric properties of the tool as demonstrated by the five components found on the HWES for Direct Care Nurses and the four components found on the HWES for Nurse Leaders. Both direct care nurses and nurse leaders established the importance of genuine teamwork and physical and psychological safety as a

part of a HWE in the qualitative research studies and appropriate staffing and physical and psychological safety in the quantitative studies as they were identified as separate components both by the direct care nurses and nurse leaders of this system. Psychometrically strong tools to measure HWEs will provide the opportunity for direct care nurses and nurse leaders to identify early warning signs of something wrong in the work environment. Once these studies are further replicated, nurses at all levels on any nursing unit or department in acute care health settings will have the ability to develop and implement interventions and measure outcomes of these interventions on the work environment. With the capacity to measure a HWE, nurses at all levels will be empowered to make changes to improve the work environment, to improve patient and nurse outcomes, and to attract and retain nurses in acute care hospital settings.

Recommendations for Future Research

Based on the findings of these research studies, the demographic questions for the HWES for Direct Care Nurses and the HWES for Nurse Leaders will need to be modified. The demographic question of birth year will need to be modified to prevent confusion of the item. The demographic question of where do you work will need to be modified to include all types of organizations participating in the research studies. Another demographic question will need to be added to determine if the acute care facility is not a Magnet organization, is on the Magnet journey (applied to become a Magnet facility), or is a Magnet organization. The demographic question for nursing units will need to be modified to include all types of nursing units that may be included in the studies. Finally, clear instructions on how to complete the survey and score the results will need to be outlined for the instruments.

Another recommendation is to use another method to further test the reliability of the HWES for Direct Care Nurses and the HWES for Nurse Leaders. The researcher could use the test/re-test method to establish the stability of the tools over time. The instruments will need to be administered to the same groups of respondents at different times, usually within a 2 week interval (Waltz et al., 2010). The correlation between the two scores and the individual questions will need to be compared to indicate the stability of the instrument (Devon et al., 2007; Waltz et al., 2010).

Convergent validity is assessed to determine if there is a convergence of theoretically similar

constructs on two tools or instruments (Devon et al., 2007). Convergent validity for the HWES for Direct Care Nurses could also be assessed by having the subjects' complete version 3 of this tool and the Practice Environment Scale of the Nursing Work Index (PES-NWI) tool during the same time period. If the items are found to have high inter-item correlation coefficients, than the instruments will have convergent validity (Devon et al., 2007; Waltz et al., 2010). Convergent validity for the HWES for Nurse Leaders could be tested using Work-Related Quality of Life Scale to determine if the constructs are theoretically similar in nature.

Further research on the individual characteristics of a HWE is necessary to compare the direct care nurses' and nurse leaders' perceptions of a HWE. Future research could assist to determine the differences between the direct care nurses' and nurse leaders' perceptions of a HWE and to determine the differences in leadership styles between chief nurse officers at their entities and at the healthcare system levels. It will be important to determine possible strategies or interventions to be implemented to improve or sustain the work environment.

Another recommendation is to replicate the studies using a larger sample size and multiple acute care hospital settings. The sample should include subjects that work for Magnet and non-Magnet healthcare organizations. The studies could include: 1) nurses from the Dallas/Fort Worth area, which has 81 hospitals, 2) nurses throughout the state of Texas, or 3) nurses throughout different areas of the United States. As a result of modifying the tools and replicating the research studies, the psychometric properties of the tools should be strengthened and become generalizable to the nursing community. Once these studies have been replicated in other studies, the tools can be further adapted and modified to look at the characteristics of a HWE in different professions and settings within healthcare and in the business sector as well.

Conclusion

At this time, the HWES for Direct Care Nurses' and the HWES for Nurse Leaders' instruments demonstrate promising psychometric properties to measure a HWE on any type of nursing unit or department and for nurses at all levels in acute care hospital settings. Future research will include the replication of these studies to strengthen the generalizability of the tools. HWE instruments with strong

psychometric properties will provide nurse researchers the ability to develop and measure interventions to improve or sustain the work environment of nurses at all levels in acute care hospital settings.

Appendix A

AACN Standards for Establishing and Sustaining Healthy Work Environment

Assessment Tool (original version)

AACN Healthy Work Environment Assessment Tool

Scoring Sheet

Skilled Communication Score _____

1. Administrators, nurse managers, physicians, nurses, and other staff maintain frequent communication to prevent each other from being surprised or caught off guard by decisions.
6. Administrators, nurse managers, physicians, nurses, and other staff make sure their actions match their words—they "walk their talk."
14. Administrators, nurse managers, physicians, nurses, and other staff have zero-tolerance for disrespect and abuse. If they see or hear someone being disrespectful, they hold them accountable regardless of the person's role or position.

True Collaboration Score _____

2. Administrators, nurse managers, and physicians involve nurses and other staff to an appropriate degree when making important decisions.
10. Nurses and other staff feel able to influence the policies, procedures, and bureaucracy around them.
15. When administrators, nurse managers, and physicians speak with nurses and other staff, it's not one-way communication or order giving. Instead, they seek input and use it to shape the decision at hand.

Effective Decision Making Score _____

7. Administrators, nurse managers, physicians, nurses, and other staff are consistent in their use of data-driven, logical decision-making processes to make sure their decisions are of highest quality.
11. The right departments, professions, and groups are involved in important decisions.
16. Administrators, nurse managers, physicians, nurses, and other staff are careful to consider the patient's and family's perspectives whenever they are making important decisions.

Appropriate Staffing Score _____

3. Administrators and nurse managers work with nurses and other staff to make sure there are enough staff to maintain patient safety.
8. Administrators and nurse managers make sure there is the right mix of nurses and other staff to ensure optimal outcomes.
12. Support services are provided at a level that allows nurses and other staff to spend their time on the priorities and requirements of patient and family care.

Meaningful Recognition Score _____

2. The formal reward and recognition systems work to make nurses and other staff feel valued.
4. The administrators, nurse managers, physicians, nurses, and other staff members speak up and let people know when they've done a good job.
17. There are motivating opportunities for personal growth, development, and advancement.

Authentic Leadership Score _____

5. Most nurses and other staff here have a positive relationship with their nurse leaders (managers, directors, advanced practice nurses, etc.).
13. Nurse leaders (managers, directors, advanced practice nurses, etc.) demonstrate an understanding of the requirements and dynamics at the point of care, and use this knowledge to work for a healthy work environment.
18. Nurse leaders (managers, directors, advanced practice nurses, etc.) are given the access and authority required to play a role in making key decisions.

Total Score _____

Appendix B

Practice Environment Scale of the Nursing Work Index

Practice Environment Scale of the Nursing Work Index

For each item, please indicate the extent to which you agree that the item is PRESENT IN YOUR CURRENT JOB.

Response options: 4=strongly agree, 3=agree, 2=disagree, 1=strongly disagree

Nurse Participation in Hospital Affairs

1. Career development/clinical ladder opportunity
2. Opportunity for staff nurses to participate in policy decisions
3. A chief nursing officer which is highly visible and accessible to staff
4. A chief nursing officer equal in power and authority to other top-level hospital executives
5. Opportunities for advancement
6. Administration that listens and responds to employee concerns
7. Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees)
8. Staff nurses have the opportunity to serve on hospital and nursing committees
9. Nursing administrators consult with staff on daily problems and procedures

Nursing Foundations for Quality of Care

1. Active staff development or continuing education programs for nurses
2. High standards of nursing care are expected by the administration
3. A clear philosophy of nursing that pervades the patient care environment
4. Working with nurses who are clinically competent
5. An active quality assurance program
6. A preceptor program for newly hired RNs
7. Nursing care is based on a nursing, rather than a medical, model
8. Written, up-to-date nursing care plans for all patients
9. Patient care assignments that foster continuity of care, i.e., the same nurse cares for the patient from one day to the next
7. Use of nursing diagnoses

Nurse Manager Ability, Leadership, and Support of Nurses

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

Staffing and Resource Adequacy

1. Adequate support services allow me to spend time with my patients
2. Enough time and opportunity to discuss patient care problems with other nurses
3. Enough registered nurses to provide quality patient care
4. Enough staff to get the work done

Collegial Nurse-Physician Relations

1. Physicians and nurses have good working relationships
2. A lot of team work between nurses and physicians
3. Collaboration (joint practice) between nurses and physicians

Appendix C

Essentials of a Healthy, Magnetic Work Environment (EOMII) ©

Essentials of a Healthy, Magnetic Work Environment (EOMII) ©

Please complete the background information. Then indicate the extent to which each statement is descriptive of your unit/service work environment.

Hospital number of your clinical unit and kind of patients on unit (Ex. 6W oncology) _____

Shift usually worked? (Ex. 12 hr nights; 8 hr days) _____

Total years of RN work experience? _____

Tenure (How long you have worked) on clinical unit? _____

Circle your highest level of nursing education? ADN Diploma BSN BSN Accelerated Option MSN Accelerated Option (Accelerated option means that you had a BS in another field before entering a nursing program?) MSN

		True for most MDs, most of the time	True for some MDs, some of the time	True for 1 or 2 MDs on occasion	Not true for any MDs
1	Nurse-physician relationships on my unit are that of a 'student-teacher' with physicians willing to explain and teach the nurses.				
2	Nurse-physician relationships consist of willing cooperation based on *mutual* power, trust, and respect.				
3	Relationships between nurses and physicians are frustrating, hostile and characterized by 'power plays,' antagonism or resentment.				
4	Relationships with MDs are that of 'student-teacher' with RNs influencing MDs in their prescribing care for patients.				
5	Our nurse-physician relationships are rather formal and characterized mainly by the nurse responding to the physician's questions.				
6	Physicians treat nurses on this unit as *equals.* MDs need RNs' assessments/observations and RNs need MDs medical knowledge if together we are going to help the patient.				
		Strongly Agree	Agree	Disagree	Strongly Disagree
7	Other professionals (therapists, physicians) indicate they value nurses pursuing their education, extending their knowledge, and increasing their competence				
8	Our nurse manager makes it possible for nurses on the unit to attend continuing education, outside courses and/or degree completion programs.				
9	In this organization, there are few rewards such as salary increases or promotion for pursuing one's education.				
10	This organization provides financial assistance and/or paid time off for nurses to attend educational programs.				

11	Nurses here fear 'getting into trouble' or 'taking big risks' if they make independent, autonomous decisions.
12	Autonomous nursing practice is facilitated because nurses 'feel' or know that nurse managers will support them.
13	Staff nurses must obtain orders or consent from an authority source before making independent or interdependent decisions.
14	On this unit, nurses make independent decisions within the nursing sphere of practice and interdependent decisions in those spheres where nursing overlaps with other disciplines.
15	Our evidence-based practice activities provide us with the knowledge base needed to make sound clinical decisions.
16	This organization has many rules and regulations that prevent nurses from making independent or interdependent decisions.
17	In this hospital, nurses have to do things that, in our professional judgment, may not be in the best interests of the patient.
18	Nurses are held accountable in a positive, constructive, learning way for the outcomes of autonomous clinical nursing practice.
19	There is a general understanding among nurses on my unit that nursing administration wants us to function autonomously.
20	We have a Council or committee structure through which nurses on our unit and in this hospital control nursing practice.
21	Staff nurses have input and make decisions with respect to *practice* issues and policies such as selection of equipment, how frequently to change IV line dressings, etc.
22	Physicians, administrators, nurses and other professionals (ex. physical therapists) recognize that nursing in this hospital controls its own practice.
23	Shared decision-making is more talk than action here; clinical (staff) nurses don't take part in decision-making.
24	Representatives from other departments and disciplines such as transportation, pharmacy, respiratory therapy, participate in our shared decision-making activities on a regular basis.
25	Nurses in this organization have input and make decisions related to *personnel* issues and policies that directly affect them such as floating, schedules, care delivery system.

26	Nurses on my unit can describe decisions made and outcomes achieved as a result of our shared decision-making process.	
27	Nursing practice, policies, issues and standards are determined by nursing management, administration or people outside of nursing. Staff nurses do not have control.	
28	The nurses on my unit judge that, most of the time, we are adequately staffed to give *quality patient care*.	
29	We don't have enough competent and experienced nurses who 'know' the unit, patients and physicians to provide *safe* care.	
30	We modify our patient care delivery system (Ex. team, primary) on the basis of the number and experience of RNs available.	
31	We work as a team on our unit. We need one another and need to work together if patients are to receive high quality care.	
32	Our group cohesiveness enables us to give quality care with our current level of staffing.	
33	Our unit is not consistently budgeted sufficient RNs positions for the acuity of our patients. This makes if difficult to give quality patient care even when all budgeted positions are filled.	
34	Nurses on my unit demonstrate a proficiency level of competence.	
35	Nurses' competent performances are recognized and rewarded both on my unit and in this organization.	
36	Continuing education toward a nursing degree is recognized as a way in which nurses can increase their nursing competence.	
37	National certification is recognized as evidence of proficient clinical competence.	
38	Our nurse manager represents the positions and interests of the staff and of our unit to other departments and to administration. He/she "watches our back".	
39	If we need resources such as equipment or supplies, our nurse manager sees to it that we get these.	
40	Our manager is diplomatic, fair and honest in resolving conflicts between nurses, physicians or other departments.	
41	Our nurse manager supports and encourages interdisciplinary— physicians, nurses, and other disciplines—planning and action.	
42	The nurse manager on our unit sees to it that we have adequate numbers of competent staff to get the job done.	

43	Our nurse manager cites specific examples, both positive and negative, when he/she provides us feedback.	
44	The nurse manager of our unit promotes staff cohesion and is a positive force in getting us to work together.	
5	Our manager is visible, available, approachable and 'safe'.	
46	Our manager instills & "lives" the organization's values regarding patient care. He/she "walks the talk".	
47	Our manager fosters sound decision-making by asking for 'best practice' evidence for the decisions we are making	
8	This hospital is willing to try new things.	
49	Concern for the patient is paramount on my unit and in this hospital.	
50	Problems are solved by swift action; people are not afraid to take risks.	
1	People on my unit are enthusiastic about their work	
2	High performance and productivity are expected of everyone.	
53	We work together as a team, both within nursing and with medicine and other disciplines.	
44	Cost (money) is important, but quality patient care comes first in this organization.	
55	The contributions of all members of the staff (RNs, nurse assistants, techs) are important and are valued.	
56	Our administration anticipates organizational changes that need to be made because of changes in the health care system, and sees to it that we are out in front.	
57	This is a value driven organization. Values are known, understood, shared, and frequently talked about.	
58	We make a conscious effort to transmit our cultural values to in-coming nurses, physicians, techs and assistants.	

NURSE-ASSESSED QUALITY OF PATIENT CARE ON UNIT

Circle a number that indicates the usual quality of care provided to patients on your unit.

0 1 2 3 4 5 6 7 8 9 10

Dangerously Low Safe, but not much more Very high quality

Appendix D

Interview Guide

Interview Guide

1. How do you define a healthy work environment?

Probes:
A. How would you define a healthy work environment?
B. What characteristics make up a healthy work environment?
C. What values or beliefs make up a healthy work environment?
D. Have you heard of the American Association of Critical Care Nurses six standards of a healthy work environment?

3. What is skilled communication from your perspective?

Probes:
A. How would you define skilled communication?
B. What are the characteristics of skilled communication?
C. How does an individual display skilled communication?
D. Who should demonstrate skilled communication in your work setting?

4. What is true collaboration from your perspective?

Probes:
A. How would you define true collaboration?
B. What are the characteristics of true collaboration?
C. How does an individual display true collaboration?
D. Who should demonstrate true collaboration in your work setting?

5. What is effective decision-making in a healthy work environment?

Probes:
A. How would you define effective decision-making?
B. What are the characteristics of effective decision-making?
C. How does an individual display effective decision-making?
D. Who should demonstrate effective decision-making in your work setting?

6. What is appropriate staffing in a healthy work environment?

Probes:
A. How would you define appropriate staffing?
B. What are the characteristics of appropriate staffing?
C. How does appropriate staffing occur in your work setting?
D. Who is responsible for appropriate staffing in your work setting?

7. What is meaningful recognition for you?

Probes:
A. How would you define meaningful recognition?
B. What are the characteristics of meaningful recognition in your work setting?
C. Who is responsible for meaningful recognition in your work setting?
D. How is meaningful recognition displayed in your work setting?
E. Have your received any type of meaning recognition from your work setting?

8. What is authentic leadership from your perspective?

Probes:
B. How would you define an authentic leadership?
C. What are the characteristics of authentic leadership?
D. How does an individual display authentic leadership?
E. Who is an authentic leadership in your work setting?

9. In your opinion, what are the most important standards for a healthy work environment in your work setting?

Probes:
A. What makes the work environment healthy?
B. Who is responsible for creating a healthy work environment?
C. How does one create a healthy work environment?
D. How does one maintain a healthy work environment?

Appendix E

Transcripts from the Qualitative Research Studies for Direct Care Nurses and Nurse Leaders

Transcripts from the Qualitative Research Studies for Direct Care Nurses

Statements	Supporting Evidence from the Transcripts
Appropriate Staffing	
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	It depends on the acuity of the patient, the skill set of the provider, nurse competencies matched with the patient needs, nurse competencies, patient needs, skill mix, synergy
2. A staffing matrix is used to determine staffing for a shift	Basically, guidelines from our professional organizations. We use a matrix multiplier for every patient of ours.
3. Assignments are made based on the patient's acuity level	First of all it is based on the patient…patient acuity. What number it takes to safely care for whatever the patient acuity is. Safe. Effective.
4. Patient safety is taken into consideration when making patient assignments	Appropriate staffing is quiet simple. It is being able to take care of your patients in a manner, in a safe, quality way
5. Nursing supervisor ensures there is the right mix of nurses and other staff for optimal patient outcomes	Staffing based on acuity. Safe for both employee and patient. Resources Staff available for emergencies that might come up
6. Ancillary staff is scheduled at a level that allows nurses and other staff to spend their time on the priorities and requirements of patient and family care	Having the people to do what's necessary to take care of the patients. People and tools…
Authentic Leadership	
7. Direct care nurses are honest in their interactions with their peers	Honest, sincere, uses integrity when caring for patients
8. Direct care nurses have a voice in the organization	Shared governance model…everyone has a voice and an opinion
9. Direct care nurses strive to meet patient and nursing outcomes	A leader is looking to obtain the best outcomes for the patient and facility
10. Direct care nurses are focused on patient centered care	Someone with a vision for the good of the facility and patients
11. Direct care nurses strive to grow professionally	They are confident in the path they are growing
12. Direct care nurses are role models in the organization	They are being role models
13. Nurse leaders lead with integrity in their interactions with the staff	Honest, sincere, respectful, uses integrity in interactions with the staff
14. Nurse leaders are transparent to communicate positive changes in the organization	Nurse leaders are transparent with the staff
15. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	They strive to inspire staff to grow professionally and personally.

Statements	Supporting Evidence from the Transcripts
Effective Decision-making	
16. Direct care nurses are empowered to make decisions within the organization	There are times, though, that they have to be empowered to make the decision. They might not be the final decision-makers, but we want to hear their voice. It's what we do with best practice and literature reviews. We want to hear what information they have to glean for the decision or the problem as a whole.
17. Direct care nurses use critical thinking skills to make decisions about patient care	Appropriately analyzed the decision using critical thinking skills before we make a decision
18. Decisions are made to benefit the patient	It should benefit the patient, the patient's family, staff employees, physicians, and everybody. I think in our world everything impacts the patient. We exist for the patient in many ways and so if it is employee engagement, it still impacts the patient; if its employee retention, if its finance, it still impacts the patients. So, all those pillars have an impact towards that shared vision, which is the patient experience. We seek to improve employee engagement, not just 'cause it's the right thing to do, but in our world it impacts the patients experience and outcomes.
19. Direct care nurses include all key stakeholders when making a decision	Including all stakeholders, including front-line staff, vertically and horizontally through the organization There may be a negative or a positive effect to the stakeholders but it's the right decision. It's an effective decision but may not be well understood.
20. Direct care nurses make decisions with a goal and outcome in mind	Setting goals. Going back to, you know, your outcomes, you know, your measured outcomes, comparable outcomes because you are looking at best practices and you want to see if you are meeting some of those same measurements that you may compare yourselves to another organization…benchmarking
21. Direct care nurses use a step-by-step process to make a decision	Thinking through the process, assess the situation, gather the facts, talking to others to get input, look at the alternatives, weighing the pros and cons.
Meaningful Recognition	
22. Direct care nurses are recognized for a job well done	Being noticed that you are doing a good job. I like recognizing the staff for the little things
23. Direct care nurses speak up and let their peers and bosses know when an employee has done a good job	We're supposed to be managing each other up and that's recognition, right Department-to-department peer-to-peer, shift-to-shift. I can see peer-to-peer being more valuable than the president of the system sending a letter
24. Recognition is given to direct care nurses in a timely fashion	Individual, timely, and genuine

Statements	Supporting Evidence from the Transcripts
25. Recognition is individualized (public or private) to how the direct care nurse likes to receive it	It's based on the individual's preference of what is meaningful. Genuine. Yeah, in respecting their wishes. Because some people just, they don't want, like, public acknowledgement. Just in passing, a thank you is fine for them. Others want, like, a spectacle. To be verbal around other employees. I guess it's also a manner … a genuine showing of appreciation for … Individualized appreciation that is meaningful…that the employee …perceives as private…verbal…a written thank you. It means most to me when gives me a hug. That's what would really mean a lot
26. There are opportunities for professional advancement as a form of recognition in the organization	Patient safety…not only for the patients but also for the workers…and the risk of injury to the employees is minimized as best it can be.
27. The formal reward and recognition systems work to make direct care nurses feel valued	Where you could be safe in reporting errors. Ability to report errors, any kind of problems with machines or people, and not feel like you are going to be retaliated against. Non-retaliatory environment for management and staff. Non-punitive environment.
Physical and Psychological Safety	
28. Patient safety is a primary focus for the organization	Anyone that doesn't put the patient at risk either for a worse experience or a problem is safety. Everyone involved in the process
29. Employee safety is a primary focus for the organization	Patient safety…not only for the patients but also for the workers…and the risk of injury to the employees is minimized as best it can be
30. Errors are reported by direct care nurses without fear of retaliation	Where you could be safe in reporting errors Ability to report errors, any kind of problems with machines or people, and not feel like you are going to be retaliated against. Non-retaliatory environment for management and staff. Non-punitive environment
31. There is zero tolerance for lateral violence in the organization	I would say a place that you feel safe and happy…non-bullying environment. No bullying or lateral violence
32. The organization provides physical and emotional safety for patients, families, and staff	The work environment is where we deliver care to patients and families in a safe manner…I think it's physical and emotional, safety and healthy
33. Direct care nurses have the necessary resources and equipment to do their jobs	Having the necessary resources and equipment to do the job
Skilled Communication	
34. Direct care nurses and physicians have clear communication between each other	Doctor and nurse communication…between everybody

Statements	Supporting Evidence from the Transcripts
35. Clear communication is where the receiver understands a message from the sender as it was intended	Expressing a clear message, receptive to a message, verifying that the message was understood, two-way with two people, sender and receiver, both parties understand the message. The ability to communicate a message clearly so that both parties understand the problem. Speaking clearly and confidently, sending a clear message Communicating with clarity. The recipient is receiving the message that was sent. That it was not miscommunicated. Giving the other person feedback that they understand what they mean. And if not, getting clarification. If I'm communicating to a co-worker
36. Messages are communicated in an objective and unbiased manner	The message must be organized and not biased, not effected by emotion, objectivity of the message. Sometimes you have to keep your emotions in check
37. Direct care nurses take into account a person's non-verbal communication or body language when trying to communicate a message	It depends on the situation. If we're in an emergent situation I need clarity. I need to be specific. I need to be directive. If it is in a less stressful situation, where it's just communicating information, then there is time for, you know, question and answer and dialogue. So, it really is, it's situation-specific. I think sometimes you have the non-verbal communication, too, so your body language needs to say what your mouth is saying. Unless … it can be taken differently depending on how you come off
38. When communicating to a patient, the direct care nurse assesses the patient's understanding of the message	Understanding what the patient knows… their baseline. Yeah, if a nurse is talking to a doctor or vice versa, they need to know the medical language that is being communicated, whereas if a nurse is talking to a patient, they have to communicate differently. So, being able to go back and forth according to the patient, communication that happens in a hospital setting is very specific to the situation
39. When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message	If there is a language barriers, trying to use the family members, even if don't know medical things….it is better to use the phone line
Genuine Teamwork	
40. Members of the team support each other by checking others work for accuracy	I think, interdependence that goes along is, you know, your … another member of the team could catch one of your mistakes or, you know, might see an error that you didn't catch so it improves the accuracy of the work
41. Members of the team get along well with their peers and other team members	Get along well together. Good teamwork

Statements	Supporting Evidence from the Transcripts
42. Members of the team function with unselfish desire to see the whole picture and how it affects the group	I think the ability to unselfishly see the big picture, to be able to see how actions and ideas and things affect the group, and not just yourself
43. Members of the team work together without an individual being bullied	Everybody works together as a team…nobody feels as if he or she is being bullied into doing something
44. Members of the team work together to establish a common goal	Teamwork…working together on a common goal, an established goal
45. Members of the team work together to achieve positive patient and staff outcomes	Working together to achieve an outcome for the patient, patient satisfaction and staff satisfaction… not just only on our units but hospital-wide
True Collaboration	
46. Direct care nurses work with other disciplines in a non-threatening manner	You should collaborate in a non-threatening environment, where it is open and …there are going to be different levels of expertise in whatever goal you are working towards
47. Direct care nurses treat other disciplines with respect	Collegial relationships among the disciplines. It should be collegial between all the staff including the physicians…you should not feel afraid when talking to certain physicians or even a colleague. Supportive, the management that supports the staff in such ways as continuing education, not holding back if someone want to upgrade themselves and move up the ladder. Respectful. Challenging in a good way. Non-judgmental. Trusting. Sense of humor. High level of integrity. Professionalism. Communication
48. The direct care nurses are passionate when working with other disciplines to accomplish a goal	The workers being passionate because people who collaborate are very passionate about a goal or a focus they want to accomplish and they want to hone other people into that that same passion so they work together
49. Direct care nurses support all team members and make them feel equal and a part of the team	Working together…where both parties or whoever it is, everyone at the table feels, you know, that they are…equal…being on the same page…part of the time and the balance…even if there is a disagreement…supporting one another
50. Direct care nurses engage other disciplines to work together for the best outcome of the patient	True collaboration is when at least two parties are speaking and engaging with each other
51. Direct care nurses engage with other disciplines to develop policies and make decisions	It is not only the ability to provide patient care but also nurses feel they have a say in how the care is provided…umm…a say in the decision-making, policies, and so on…shared governance. Sense of belonging to the unit, hospital, and profession. Staff is engaged. Nursing Utopia

Transcripts from the Qualitative Research Study for Nurse Leaders in formal positions

Statements	Supporting Evidence from the Transcripts
Appropriate Staffing	
1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit	It depends on the acuity of the patient, the skill set of the provider, nurse competencies matched with the patient needs, nurse competencies, patient needs, skill mix, which leads to synergy
2. A staffing matrix is used to determine staffing for a shift	Patient acuity, there are formulas for that, like, out on the floors, right? Matrices. Matrix. Basically, guidelines from our professional organizations. We use a matrix multiplier for every patient of ours. Cardiac rehabilitation has national guidelines for patient to staff ratio
3. Assignments are made based on the patient's acuity level	First of all it is based on the patient…patient acuity. What number it takes to safely care for whatever the patient acuity is. Safe. Effective. Based on the acuity of the patient and the skill set of the nursing staff
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients	It's the staffing that meets the best outcome for the patients
5. Nurse leaders ensure input from direct care nurses to develop a staffing plan for each nursing unit	Staffing plans are based on acuity studies and input from direct care nurses. I think, ultimately, it's honest input from the staff of what the acuity is and what the patient needs are for the best outcome of the patients
6. Nurse leaders are held accountable for meeting the productivity targets set by the organization	In order to meet our productivity target, we cannot run the staffing ratios that were set so if we can run the appropriate staffing ratios, our productivity is under our targets and we are held accountable We are given it in hours per patient day, hours per patient day equates to bodies per census. And we run with hours per patient days or census and we do not meet the target or the needs of the patient and staff. So you decide between meeting the target and basically looking good to the higher ups…or we meet the needs of the patients and staff…and are held accountable to that target…I mean the grid… And it is a tough balance. It is a tough balance to maintain this
Authentic Leadership	
8. Nurse leaders lead with integrity in their interactions with the staff	Nurse leaders are honest, trustworthy, sincere, and lead with integrity…Ethical. Ethical, too. Our focus is the patient. What about trust? Respectful. Sincere
9. Nurse leaders are transparent to communicate positive changes in the organization	They are transparent…they have the ability to disseminate information, good and bad…in a way that affects positive change, enhances patient care, and employee satisfaction …giving them a direction, leading them…not only leading but managing as well…or even knowing when to step back and let them shine and not take the credit

Statements	Supporting Evidence from the Transcripts
10. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally	Nurse leaders inspire staff to grow and develop. They have a vision. They pull people toward the vision. To be authentic, it has to lead with a vision in mind to keep you focused and ensure you're on the right path consistently
10. Nurse leaders have a voice in the organization	Shared governance model…everyone has a voice and an opinion. The shared governance model is based on input from all levels
11. Nurse leaders strive to meet patient and nursing outcomes	A leader is looking to obtain the best outcomes for the patient and staff
12. Nurse leaders are focused on patient centered care	Someone with a vision for the good of the facility and patients
Effective Decision-making	
13. Nurse leaders are empowered to make decisions within the organization	All decisions should be made, though, with that shared vision. In our world, it's the patient. I think some way it has to wrap around to that shared vision. If you just make decisions in lieu of a vision or focus, you make wild and uncalculated decisions
14. Nurse leaders use critical thinking skills to make decisions for the organization	Thinking through the process…assess the situation, gather all the facts when making decisions, sometimes in order to make an effective decision you have to use some collaboration Effective decision making would be also, you have reached a good outcome…weighing the pros and cons... considering the alternatives
15. Nurse leaders make decisions that benefit the group rather than just one individual	Effective decision making is a choice made not necessarily for the benefit of the individual but focused more on the benefit of the group at large and considering the cost versus the outcomes. Sometimes you have to make tough choices but it is for the benefit of what you are working towards. Achieves the goal with minimal negative consequences and more positive consequences Weighing the cost and benefits
16. Nurse leaders determine the facts and remain objective when making a decision	I think you need to have the facts and I think the huge point is that it needs to be objective and not subjective. Once you make your decision, you have to be resolute, you have to stay the course You can't really waiver around or waffle here and there, you have to be fair and just and all those things. When you at a manager's level, you have to involve the staff members in the decision making to get to a decision I think you need to listen to what the staff says and consistency is really important because you can't take a situation and make a decision today and see the exact same situation next week, you know, there are different

Statements	Supporting Evidence from the Transcripts
	decision that is made but at the same time if there is more facts that get presented in the meantime, you have to be able, you have to acknowledge that because perhaps it is a different outcome or a different decision based on different information
17. Nurse leader involves key stakeholders when making a decision	I think when you are involved with the patient it has to be very collaborative, you have to involve the patient, you have to involve many different people
18. The nurse leaders consider the mission of the organization when making a decision	I feel effective decision making should be dealing with the mission and vision statement, policies, scope of practice, and then standards and all these things, and ethics, ethical issues…all these going to guide a decision, which is effective so that we will be…when we make a decision we can support it with these kind of things…which are like a skeletal for our decision making. Skeletal or structure… There is always a choice. It is part of the definition of decision. I think one characteristic is the knowledge of you scope of practice to make effective or keeping up with your professional practice or whatever it is called. Part of an effective decision, you weighed the pros and cons and you come to a decision that provides the greatest good for the greatest number…umm…and the willingness to take responsibility for your decision. I think another characteristic is if there is any evidence or research or anything in that area. I mean the outcomes are pretty clear especially if it is quantitative research with a randomized controlled trial or anything. We don't need to just look at pros and cons. We can use as a structure for supporting your decision. A lot of times that is making an on the spot decision when you are the leader of that unit. You have to know what the current circumstances are when somebody asks you a question. There isn't time for collaboration or …You have to have general knowledge…You may have to make a decision that may affect a lot of people and you go with that…but I know that sounds bad… I am just trying to say that decisions are made at different levels. Some decisions have to be made right and some you have the time to collaborate or you have the time to be involved others in that decision. Everyone, it looks different at every level
Meaningful Recognition	
19. Nurse leaders are recognized for a job well done	Being noticed that you are doing a good job. I like recognizing the staff for the little things
20. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job	We're supposed to be managing each other up and that's recognition, department-to-department peer-to-peer, shift-to-shift.

Statements	Supporting Evidence from the Transcripts
21. Recognition is given to nurse leaders in a timely fashion	Individual, timely, and genuine
22. Recognition is individualized (public or private) as to how the nurse leader likes to receive it	Individualized. It's based on the individual's preference of what is meaningful. Genuine. Yeah, in respecting their wishes. Because some people just, they don't want, like, public acknowledgement. Just in passing, a thank you is fine for them. Others want, like, a spectacle, you know. To be verbal around other employees. I guess it's also a manner … a genuine showing of appreciation for … Individualized appreciation. That the employee finds meaningful. That the employee …perceives as private…verbal…a written thank you. It means most to me when gives me a hug. That's what would really mean a lot
23. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization	Change in wording made from the original version to clarify the meaning of the statement
24. The formal reward and recognition systems work to make nurse leaders feel valued	Change in wording made from the original version to clarify the meaning of the statement
Physical and Psychological Safety	
25. Patient safety is a primary focus for the organization	Anyone that doesn't put the patient at risk either for a worse experience or a problem is safety. Everyone involved in the process
26. Employee safety is a primary focus for the organization	Patient safety…safe, not only for the patients but also for the workers…and the risk of injury to the employees is minimized as best as it can be
27. Errors are reported by nurse leaders without fear of retaliation	Where you could be safe in reporting errors. Ability to report errors, any kind of problems with machines or people, and not feel like you are going to be retaliated against. Non-retaliatory environment for management and staff. Non-punitive environment
28. There is zero tolerance for lateral violence	I would say a place that you feel safe and happy…non-bullying environment. No bullying or lateral violence
29. The organization provides physical and emotional safety for patients, families, and staff	Specific to health care, the work environment is where we deliver care to patients and families in a safe manner…I think it's physical and emotional, you know, safety and healthy, you know... I think that goes all together
30. Nurse leaders have the necessary resources and equipment to do their jobs	Having the necessary resources and equipment to do the job
Skilled Communication	
31. Nurse leaders communicate in a respectful manner with other people in the organization	To effectively drive your point, make your point where both parties are on the same page. Without belittling; without being condescending Understanding your target audience and speaking to that level

Statements	Supporting Evidence from the Transcripts
32. Clear communication is where the receiver understands a message from the sender as it was intended	To be able to relate what you want them to understand. To be able to clearly articulate a message and also be able to evaluate if the message was received as you intended. …and also make sure that the person understands what you want to relate to them
33. Messages are communicated in an objective and unbiased manner	The message must be organized and not biased, not effected by emotion, objectivity of the message. Sometimes you have to keep your emotions in check
34. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message	Active listening. Pausing for someone to be able to explain, asking those clarifying questions, restating so that you guys can agree up on the statements…umm…so the information can be tailored. As the receiver, being able to repeat what you have said in a conversation. Someone who is calm or calming if they are talking with a patient…so someone who can calm the patient's fears, explain things at a level they understand… umm…allow them to ask questions because often times we speak language the patients don't understand. Passionate. One who can ensure that the message is clear. It probably should be…I think everyone has potential to communicate that way. It is just at a leadership level, people have had the years of experience or the experiences to have helped them learn how to communicate
35. Nurse leaders are active listeners	You need to be a good listener too
36. Nurse leaders communicate in a non-threatening manner	Listening. Open, direct. You can understand. Understanding who you are communicating with so that you … their level, their style. I mean if you're, I tend to be very direct, but I have to know sometimes if that makes people uncomfortable. Sometimes it's not my best choice. And it's two-way. It has to be restated sometimes. And it's not just verbal. It's visual at the same time. Respecting each other's opinions. Well, by results. It's gotta' be effective. Your body language. I don't think that you can't be skilled by using a script. I think it's an intonation
Genuine Teamwork	
37. Members of the team support each other by checking others' work for accuracy	I think, interdependence that goes along is, you know, your … another member of the team could catch one of your mistakes or, you know, might see an error that you didn't catch so it improves the accuracy of the work
38. Members of the team get along well with their peers and other team members	Get along well together. Good teamwork

Statements	Supporting Evidence from the Transcripts
39. Members of the team function with unselfish desire to see the whole picture and how it affects the group	I think the ability to unselfishly see the big picture, to be able to see how actions and ideas and things affect the group, and not just yourself
40. Members of the team work together without an individual being bullied.	Everybody works together as a team…nobody feels as if he or she is being bullied into doing something
41. Members of the team work together to establish a common goal	Teamwork…working together on a common goal, an established goal
42. Members of the team work together to achieve positive patient and staff outcomes	Working together to achieve an outcome for the patient, patient satisfaction and staff satisfaction… not just only on our units but hospital-wide
True Collaboration	
43. Nurse leaders work with other disciplines in a non-threatening manner	You should collaborate in a non-threatening environment, where it is open and …there are going to be different levels of expertise in whatever goal you are working towards.
44. Nurse leaders treat others with respect	Collegial relationships among the disciplines. It should be collegial between all the staff including the physicians…you should not feel afraid when talking to certain physicians or even a colleague. Supportive, the management that supports the staff in such ways as continuing education, not holding back if someone wants to upgrade him-self and move up the ladder. Respectful. Challenging in a good way. Non-judgmental. Trusting. Sense of humor. High level of integrity. Professionalism. Communication
45. Nurse leaders are passionate when working with other disciplines to accomplish a goal	The workers being passionate because people who collaborate are very passionate about a goal or a focus they want to accomplish and they want to hone other people into that that same passion so they work together
46. Nurse leaders support all team members and make them feel equal and a part of the team	Working together…where both parties or whoever it is, everyone at the table feels, you know, that they are…equal…being on the same page…part of the time and the balance…even if there is a disagreement…supporting one another
47. Nurse leaders engage other disciplines to work together for the best outcome of the patient	True collaboration is when at least two parties are speaking and engaging with each other
48. Nurse leaders engage with other disciplines to develop policies and make decisions	It is not only the ability to provide patient care but also nurses feel they have a say in how the care is provided…umm…a say in the decision-making, policies, and so on…shared governance

Appendix F

Approval Letter from Baylor Health Care System\Baylor Scott and White Health

Approval Letter from Baylor Health Care System\Baylor Scott and White Health

Huddleston, Penny S.

Subject: RE: Permission to use the health care system name in my dissertation

-----Original Message-----
From: Luquire, Rosemary
Sent: Tuesday, August 05, 2014 10:20 AM
To: Huddleston, Penny S.
Subject: RE: Permission to use the health care system name in my dissertation

Approved

Rosemary Luquire, RN, PhD, NEA-BC, FAAN Senior Vice President & Chief Nurse Executive

North Texas
3600 Gaston Avenue | Wadley Tower | Suite 150 | Dallas, Texas 75246
214-820-4810 Office | 214-820-8840 Fax
BaylorScottandWhite.com

-----Original Message-----
From: Huddleston, Penny S.
Sent: Saturday, August 02, 2014 12:38 PM
To: Luquire, Rosemary
Subject: Permission to use the health care system name in my dissertation

Rosemary,

I would like to request written permission to use the names of Baylor Scott and White Health and Baylor Health Care System in my dissertation. A response to this email will be sufficient.
I will be conducting three phases of psychometric testing in my dissertation. The nurses from the Baylor Scott and White Health north division will serve as the sample in the first two phases of the study.
The nurses from the central division will be added as part of the sample in the third phase of the study.

I have referred to the Baylor Health Care System when including the results of the preliminary healthy work environment research studies.

Thanks,
Penny Huddleston

Appendix G

Demographic Questionnaire Tool

Demographic Questionnaire Tool

Gender
___Male
___Female

What year were you born?
_____

Race/ethnicity
___African American
___American Indian
___Asian
___Hispanic
___Native Hawaiian or Pacific Islander
___White
___Other

Initial Entry Level of Education into Practice
___Diploma
___ADN
___BSN
___MSN

Highest Level of Education
___Diploma
___ADN
___BSN
___MSN
___DNP
___PhD
___Other

Type of Nursing Unit or Department
___Cardiology Services
___Coronary Care Unit
___Day Surgery Unit
___Emergency Department
___Endoscopy Lab
___Intensive Care Unit
___Labor and Delivery Unit
___Maternal/Child Unit
___Medical Surgical Unit
___Neonatal Intensive Care Unit
___Neurology Unit
___Oncology Unit
___Orthopedic Unit
___Operating Room
___Other
___Outpatient Unit
___Pediatric Unit
___Post Anesthesia Care Unit
___Progressive Care Unit

___Psychiatric Unit
___Rehabilitation Unit
___Special Care Nursery Unit
___Telemetry Unit
___Transplant Unit

Nurse Role
___Direct Care Nurse
___Frontline Nurse Supervisor
___Frontline Nurse Manager
___Nurse Administrator
___Advanced Practice Registered Nurse
___Nurse Executive
___Other

How many years have you been at Baylor Health Care System/Baylor Scott and White Health?
_____

How many years have you been in a leadership position? (for Nurse Leaders only)
_____

How many years have you worked in your current unit or department?
_____

How long have you been a Registered Nurse?
_____

How many years have you been employed at the current acute care facility?
_____

Appendix H

Survey Cover Letters for Direct Care Nurses and Nurse Leaders

Cover Letter for Direct Care Nurses

Measuring the Direct Care Nurses' Perceptions of a

Healthy Work Environment in an Acute Care Hospital Setting

Baylor Research Institute

Baylor Health Care System/Baylor Scott and White Health System

Approved 10/20/14

I am a nurse researcher at Baylor Medical Center at Irving and a PhD candidate at the University of Texas at Arlington. I am conducting a research study on measuring the perceptions of a healthy work environment for my dissertation. I would appreciate you taking part in this project. The purposes of this research study are to asess the modified AACN Healthy Work Environment Assessment tool for Direct Care Nurses for reliability and validity and to describe the direct care nurses' perceptions of a healthy work environment at Baylor Health Care System/Baylor Scott and White Health North Division. You have been selected to be in this research because you are a direct care nurse working at one of the Baylor Health Care System/Baylor Scott and White Health acute care facilities in the north division.

I am asking you to complete a short survey that asks several statements about your perceptions of your current work environment. This should only take about 20 minutes to complete it. If you choose to do so, please click on the link in the email to complete the survey. The information you provide will remain anonymous. The results of this study will be used to determine the validity and reliability of the tool.

There are minimal risks and benefits to you for being in this study. You have the option to not complete the survey at any time and not be in the study. By filling out the attached survey and submitting it, you are saying that you are willing to be in the study.

If you have any questions about this project, please contact Penny Huddleston at 972-579-8172. If you have any questions about your rights as a research subject, please contact Lawrence Schiller at 214-820-2687. Thank you for interest in this study. I hope you will take a few minutes to complete this survey. Without the help of people like you, this important research would not be able to be conducted.

Thank you,

Penny Huddleston

Cover Letter for Nurse Leaders

Measuring the Nurse Leaders' Perceptions of a

Healthy Work Environment in an Acute Care Hospital Setting

Baylor Research Institute

Baylor Health Care System/Baylor Scott and White Health System

Approved 10/20/14

I am a nurse researcher at Baylor Medical Center at Irving and a PhD candidate at the University of Texas at Arlington. I am conducting a research study on measuring the perceptions of a healthy work environment for my dissertation. I would appreciate you taking part in this project. The purposes of this research study are to assess the new Healthy Work Environment Assessment tool for Nurse Leaders for validity and reliability and to describe the nurse leaders' perceptions of a healthy work environment at Baylor Health Care System/Baylor Scott and White Health North Division. You have been selected to be in this research because you are a nurse leader working at one of the Baylor Health Care System/Baylor Scott and White Health acute care facilities in the north division.

I am asking you to complete a short survey that asks several statements about your perceptions of your current work environment. This should only take about 20 minutes to complete it. If you choose to do so, please click on the link in the email to complete the survey. The information you provide will remain anonymous. The results of this study will be used to determine the validity and reliability of the tool.

There are minimal risks and benefits to you for being in this study. You have the option to not complete the survey at any time and not be in the study. By filling out the attached survey and submitting it, you are saying that you are willing to be in the study.

If you have any questions about this project, please contact Penny Huddleston at 972-579-8172. If you have any questions about your rights as a research subject, please contact Lawrence Schiller at 214-820-2687. Thank you for interest in this study. I hope you will take a few minutes to complete this survey. Without the help of people like you, this important research would not be able to be conducted.

Thank you,

Penny Huddleston

Appendix I

HWES for Direct Care Nurses (Version 1 and Version 2)

HWES for Direct Care Nurses (Version 1)

A Likert scale will be used to determine how relevant the statements are in the work environment. Subjects will score each statement as follows: 1-not relevant, 2-somewhat relevant, 3-quite relevant, and 4-very relevant.

Appropriate Staffing

1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit.
2. A staffing matrix is used to determine staffing for a shift.
3. Assignments are made based on the patient's acuity level.
4. Patient safety is taken into consideration when making patient assignments.
5. Nursing supervisor ensure there is the right mix of nurses and other staff for optimal patient outcomes.
6. Ancillary staff is provided at a level that allows nurses and other staff to spend their time on the priorities and requirements of patient and family care.

Authentic Leadership

7. Direct care nurses are honest in their interactions with their peers.
8. Direct care nurses have a voice in the organization.
9. Direct care nurses strive to meet patient and nursing outcomes.
10. Direct care nurses are focused on patient centered care.
11. Direct care nurses are role models in the organization.
12. Direct care nurses strive to grow professionally.
13. Nurse leaders lead with integrity in their interactions with the staff.
14. Nurse leaders are transparent to communicate positive changes in the organization.
15. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally.

Effective Decision-making

16. Direct care nurses are empowered to make decisions within the organization.
17. Direct care nurses use critical thinking skills to make decisions about patient care.
18. Decisions are made to benefit the patient.
19. Direct care nurses include all key stakeholders when making a decision.
20. Direct care nurses make decisions with a goal and outcome in mind.
21. Direct care nurses use a step-by-step process to make a decision.

Meaningful Recognition

22. Direct care nurses are recognized for a job well done.
23. Direct care nurses speak up and let their peers and bosses know when an employee has done a good job.
24. Recognition is given to direct care nurses in a timely fashion.
25. Recognition is individualized (public or private) to how the direct care nurse likes to receive it.
26. There are opportunities for professional advancement as a form of recognition in the organization.
27. The formal reward and recognition systems work to make direct care nurses feel valued.

Physical and Psychological Safety

28. Patient safety is a primary focus for the organization.
29. Employee safety is a primary focus for the organization.
30. Staff is not retaliated against when reporting errors.
31. There is zero tolerance for lateral violence in the organization.
32. The organization provides physical and psychological safety for patients, families, and staff.
33. Direct care nurses have the necessary resources and equipment to do their jobs.

Skilled Communication

34. Direct care nurses and physicians have clear communication between each other.
35. Clear communication is where the receiver understands a message from the sender as it was intended.
36. Messages are communicated in an objective and unbiased manner.
37. Direct care nurses take into account a person's non-verbal communication or body language when trying to communicate a message.
38. When communicating to a patient, the direct care nurse determines the patient's understanding of the message.
39. When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message.

Genuine Teamwork

40. Members of the team support each other by checking others work for accuracy.
41. Members of the team get along well with their peers and other team members.
42. Members of the team function with unselfish desire to see the whole picture and how it affects the group.
43. Members of the team work together without an individual being bullied.
44. Members of the team work together to establish a common goal.
45. Members of the team work together to achieve positive patient and staff outcomes.

True Collaboration

46. Direct care nurses work with other disciplines in a non-threatening manner.
47. Direct care nurses treat other disciplines with respect.
48. The direct care nurses are passionate when working with other disciplines to accomplish a goal.
49. Direct care nurses support all team members and make them feel equal and a part of the team.
50. Direct care nurses engage other disciplines to work together for the best outcome of the patient.
51. Direct care nurses engage with other disciplines to develop policies and make decisions.

HWES for Direct Care Nurses (Version 2)

A Likert scale will be used to measure the extent of agreement to which you agree with the statements seen in work environment. Subjects will score each statement as follows: 1-strongly disagree, 2-disagree, 3-agree, and 4-strongly agree.

Appropriate Staffing

1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit.
2. Staff assignments are made based on a staffing matrix.
3. Staff assignments are made by the charge nurse based on the patient's acuity level.
4. Patient safety is taken into consideration when making patient assignments.
5. Nurse supervisors ensure the right skill mix of nurses and other staff when making assignments.
6. Nursing staff is provided at a level that affords nurses the ability to meet the needs of their patients.

Authentic Leadership

7. Direct care nurses speak up to make changes within the organization.
8. Direct care nurses are role models in the organization.
9. Direct care nurses strive to grow professionally.
10. Nurse leaders lead with integrity in their interactions with the staff.
11. Nurse leaders are transparent to communicate positive changes in the organization.
12. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally.

Effective Decision-making

13. Direct care nurses are empowered to make effective decisions within the organization.
14. Direct care nurses use critical thinking skills to make decisions about patient care.
15. Decisions are made to benefit the patient.
16. Direct care nurses include all key stakeholders when making a decision.
17. Direct care nurses make decisions with a goal and outcome in mind.
18. Direct care nurses use a step-by-step process to make a decision.

Meaningful Recognition

19. Direct care nurses are recognized in the organization for a job well done.
20. Direct care nurses speak up and let their peers and bosses know when an employee has done a good job.
21. Recognition is given to direct care nurses by their nurse leaders in a meaningful manner.
22. Recognition is individualized to how a direct care nurse likes to receive it.
23. The reward and recognition program is meaningful and makes direct care nurses feel valued in the organization.

Physical and Psychological Safety

24. Patient safety is a primary focus for the organization.
25. Employee safety is a primary focus for the organization.
26. Direct care nurses feel safe in the organization by not being retaliated against when reporting errors.
27. There is zero tolerance for lateral violence in the organization.
28. The organization provides physical and psychological safety for patients, families, and staff.
29. Direct care nurses have the necessary resources and equipment to provide safe patient care.

Skilled Communication

30. Direct care nurses and physicians have clear communication between each other.
31. Clear communication is where the receiver understands a message from the sender as it was intended.
32. Messages are communicated in an objective and unbiased manner.
33. Direct care nurses take into account a person's non-verbal communication or body language when trying to communicate a message.
34. When communicating to a patient, the direct care nurse determines the patient's understanding of the message.
35. When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message.

Genuine Teamwork

36. Members of the team support each other by checking others work for accuracy.
37. Members of the team get along well with their peers and other team members.
38. Members of the team function with unselfish desire to see the whole picture and how it affects the group.
39. Members of the team work together without an individual being bullied.
40. Members of the team work together to establish a common goal.
41. Members of the team work together to achieve positive patient and staff outcomes.

True Collaboration

42. Direct care nurses collaborate with other disciplines in a non-threatening manner.
43. Direct care nurses collaborate respectfully with other disciplines.
44. Direct care nurses collaborate with other disciplines to accomplish goals within the organization.
45. Direct care nurses collaborate with other team members and make them feel equal and a part of the team.
46. Direct care nurses collaborate with other disciplines to work together for the best outcomes for the patients.
47. Direct care nurses collaborate with other disciplines to develop policies and procedures for patient care.

Appendix J

HWES for Nurse Leaders (Version 1and Version 2)

HWES for Nurse Leaders (Version 1)

A Likert scale will be used to determine how relevant the statements are in the work environment. Subjects will score each statement as follows: 1-not relevant, 2-somewhat relevant, 3-quite relevant, and 4-very relevant.

Appropriate Staffing

1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit.
2. A staffing matrix is used to determine staffing for a shift.
3. Assignments are made based on the patient's acuity level.
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients.
5. Nurse leaders ensure input from direct care nurses to develop a staffing plan for each nursing unit.
6. Nurse leaders are held accountable for meeting the productivity targets set by the organization.

Authentic Leadership

7. Nurse leaders lead with integrity in their interactions with the staff.
8. Nurse leaders are transparent to communicate positive changes in the organization.
9. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally.
10. Nurse leaders have a voice in the organization.
11. Nurse leaders strive to meet patient and nursing outcomes.
12. Nurse leaders are focused on patient centered care.

Effective Decision-making

13. Nurse leaders are empowered to make decisions within the organization.
14. Nurse leaders use critical thinking skills to make decisions for the organization.
15. Nurse leaders make decisions that benefit the group rather than just one individual.
16. Nurse leaders determine the facts and remain objective when making a decision.
17. Nurse leader involves key stakeholders when making a decision.
18. The nurse leaders consider the mission of the organization when making a decision.

Meaningful Recognition

19. Nurse leaders are recognized for a job well done.
20. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job.
21. Recognition is given to nurse leaders in a timely fashion.
22. Recognition is individualized (public or private) as to how the nurse leader likes to receive it.
23. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization.
24. The formal reward and recognition systems work to make nurse leaders feel valued.

Physical and Psychological Safety

25. Patient safety is a primary focus for the organization.
26. Employee safety is a primary focus for the organization.
27. Nurse leaders are not retaliated against when reporting errors.
28. There is zero tolerance for lateral violence in the organization.
29. The organization provides physical and psychological safety for patients, families, and staff.
30. Nurse leaders have the necessary resources and equipment to do their jobs.

Skilled Communication

31. Nurse leaders communicate in a respectful manner with other people in the organization.
32. Clear communication is where the receiver understands a message from the sender as it was intended.
33. Messages are communicated in an objective and unbiased manner.
34. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message.
35. Nurse leaders are active listeners.
36. Nurse leaders communicate in a non-threatening manner.

Genuine Teamwork

37. Members of the team support each other by checking others work for accuracy.
38. Members of the team get along well with their peers and other team members.
39. Members of the team function with unselfish desire to see the whole picture and how it affects the group.
40. Members of the team work together without an individual being bullied.
41. Members of the team work together to establish a common goal.
42. Members of the team work together to achieve positive patient and staff outcomes.

True Collaboration

43. Nurse leaders work with other disciplines in a non-threatening manner.
44. Nurse leaders treat others with respect.
45. Nurse leaders are passionate when working with other disciplines to accomplish a goal.
46. Nurse leaders support all team members and make them feel equal and a part of the team.
47. Nurse leaders engage other disciplines to work together for the best outcome of the patient.
48. Nurse leaders engage with other disciplines to develop policies and make decisions.

HWES for Nurse Leaders (Version 2)

A Likert scale will be used to measure the extent of agreement to which you agree with the statements seen in work environment. Subjects will score each statement as follows: 1-strongly disagree, 2-disagree, 3-agree, and 4-strongly agree.

Appropriate Staffing

1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit.
2. A staffing matrix is used to determine staffing for a shift.
3. Assignments are made based on the patient's acuity level.
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients.
5. Nurse leaders receive input from direct care nurses to develop a staffing plan for each nursing unit.
6. Nurse leaders are accountable for staffing the units to meet the productivity targets set by the organization.

Authentic Leadership

7. Nurse leaders lead with integrity in their interactions with the staff.
8. Nurse leaders lead by being transparent and communicating changes within the organization.
9. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally.
10. Nurse leaders lead by having a voice within the organization.
11. Nurse leaders lead changes in the organization to improve patient and nurse outcomes.
12. Nurse leaders focus of patient centered care to lead changes in the organization.

Effective Decision-making

13. Nurse leaders are empowered to make effective decisions within the organization.
14. Nurse leaders use critical thinking skills to make effective decisions for the organization.
15. Nurse leaders make effective decisions that benefit the group rather than just one individual.
16. Nurse leaders determine the facts and remain objective when making effective decisions.
17. Nurse leader involves key stakeholders when making effective decisions.
18. The nurse leaders consider the mission of the organization when making effective decisions.

Meaningful Recognition

19. Nurse leaders are recognized for a job well done.
20. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job.
21. Recognition is given to nurse leaders in a timely fashion.
22. Recognition is individualized to how the nurse leader likes to receive it.
23. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization.
24. The reward and recognition program is meaningful and makes nurse leaders feel valued in the organization.

Physical and Psychological Safety

25. Patient safety is a primary focus for the organization.
26. Employee safety is a primary focus for the organization.
27. Nurse leaders feel safe by not being retaliated against when reporting errors.
28. There is zero tolerance for lateral violence in the organization.
29. The organization provides physical and psychological safety for patients, families, and staff.
30. Nurse leaders have the necessary resources and equipment to do their jobs safely.

Skilled Communication

31. Nurse leaders communicate in a respectful manner with other people in the organization.
32. Clear communication is where the receiver understands a message from the sender as it was intended.
33. Messages are communicated in an objective and unbiased manner.
34. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message.
35. Nurse leaders are active listeners.
36. Nurse leaders communicate in a non-threatening manner.

Genuine Teamwork

37. Members of the team treat other team members with compassion and respect.
38. Members of the team function with unselfish desire to see the whole picture and how it affects the group and organization.
39. Members of the team work together without an individual feeling bullied.
40. Members of the team work together to establish common goals for the organization.
41. Members of the team work together to achieve the best patient and staff outcomes.

True Collaboration

42. Nurse leaders collaborate with other disciplines in a non-threatening manner.
43. Nurse leaders collaborate respectfully with other disciplines.
44. Nurse leaders collaborate with other disciplines to accomplish goals within the organization.
45. Nurse leaders collaborate with other team members and make them feel equal and a part of the team.
46. Nurse leaders collaborate with other disciplines to work together for the best outcome of the patient and staff.
47. Nurse leaders collaborate with other disciplines to develop policies and make decisions regarding patient care.

Appendix K

Approval Letters for Permission to Modify the AACN HWEAT

Approval Letters for Permission to Modify the HWEAT

From: Patty Uy <patty.uy@aacn.org>
Date: Wednesday, September 4, 2013 5:02 PM
To: "pennyhu@sbcglobal.net" <pennyhu@sbcglobal.net>
Cc: "bethulrich@aol.com" <bethulrich@aol.com>, David Maxfield <dmaxfield@vitalsmarts.com>
Subject: AACN HWE Assessment Tool

Hi Penny,

Beth Ulrich forwarded your email message to me here at AACN. You have AACN's permission to make changes to the AACN Healthy Work Environment Assessment Tool questions, provided you use language stating that your version is "adapted from the AACN Healthy Work Environment Assessment Tool".

Do you need a separate document on letterhead giving that approval?

You might wish to also contact the creator of the survey, David Maxfield, V.P. of Research at VitalSmarts. I'm cc'ing David on this response. He conducted all of the initial validity and reliability testing on the tool, and may be interested in the results of your project.

Please feel free to contact me if you have any questions.

Best regards,

Patty

Patty Uy

Project Manager

American Association of Critical-Care Nurses

A Community of Exceptional Nurses

101 Columbia, Aliso Viejo, CA 92656

800-394-5995 x-376 Toll Free

949.448-7303 Direct

patty.uy@aacn.org

From: David Maxfield <dmaxfield@vitalsmarts.com>
Date: September 4, 2013, 6:11:56 PM CDT
To: Patty Uy <patty.uy@aacn.org>, "pennyhu@sbcglobal.net" <pennyhu@sbcglobal.net>
Cc: "bethulrich@aol.com" <bethulrich@aol.com>
Subject: Re: AACN HWE Assessment Tool

Hi Penny,

You have my permission and encouragement as well. Please keep me in the loop regarding the purpose and nature of the changes—and let me know how I can help.

Thanks,

David Maxfield
Co-Author & VP of Research

VitalSmarts® *Change for Good.*

Cell: 801.318.8947
dmaxfield@vitalsmarts.com

Appendix L

HWES for Direct Care Nurses (Version 3) and HWES for Nurse Leaders (Version 3)

HWES for Direct Care Nurses (Version 3)

A Likert scale will be used to measure the extent of agreement to which you agree with the statements seen in work environment. Subjects will score each statement as follows: 1-strongly disagree, 2-disagree, 3-agree, and 4-strongly agree.

Appropriate Staffing

1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit.
2. Staff assignments are made based on a staffing matrix.
3. Staff assignments are made by the charge nurse based on the patient's acuity level.
4. Patient safety is taken into consideration when making patient assignments.
5. Nurse supervisors ensure the right skill mix of nurses and other staff when making assignments.
6. Nursing staff is provided at a level that affords nurses the ability to meet the needs of their patients.

Authentic Leadership

7. Direct care nurses speak up to make changes within the organization.
8. Direct care nurses strive to grow professionally.
9. Nurse leaders lead with integrity in their interactions with the staff.
10. Nurse leaders are transparent to communicate positive changes in the organization.

Effective Decision-making

11. Direct care nurses are empowered to make effective decisions within the organization.
12. Direct care nurses use critical thinking skills to make decisions about patient care.
13. Decisions are made to benefit the patient.
14. Direct care nurses make decisions with a goal and outcome in mind.
15. Direct care nurses use a step-by-step process to make a decision.

Meaningful Recognition

16. Direct care nurses are recognized in the organization for a job well done.
17. Direct care nurses speak up and let their peers and bosses know when an employee has done a good job.
18. Recognition is given to direct care nurses by their nurse leaders in a meaningful manner.
19. Recognition is individualized to how a direct care nurse likes to receive it.
20. The reward and recognition program is meaningful and makes direct care nurses feel valued in the organization.

Physical and Psychological Safety

21. Patient safety is a primary focus for the organization.
22. Employee safety is a primary focus for the organization.
23. There is zero tolerance for lateral violence in the organization.
24. The organization provides physical and psychological safety for patients, families, and staff.
25. Direct care nurses have the necessary resources and equipment to provide safe patient care.

Skilled Communication

26. Direct care nurses and physicians have clear communication between each other.
27. Clear communication is where the receiver understands a message from the sender as it was intended.
28. Direct care nurses take into account a person's non-verbal communication or body language when trying to communicate a message.
29. When communicating to a patient, the direct care nurse determines the patient's understanding of the message.
30. When there is a language barrier between a patient or family member, the direct care nurses use a form of translation to communicate the message.

Genuine Teamwork

31. Members of the team get along well with their peers and other team members.
32. Members of the team function with unselfish desire to see the whole picture and how it affects the group.
33. Members of the team work together without an individual being bullied.
34. Members of the team work together to establish a common goal.
35. Members of the team work together to achieve positive patient and staff outcomes.

True Collaboration

36. Direct care nurses collaborate with other disciplines to accomplish goals within the organization.
37. Direct care nurses collaborate with other disciplines in a non-threatening manner.
38. Direct care nurses collaborate with other team members and make them feel equal and a part of the team.
39. Direct care nurses collaborate with other disciplines to develop policies and procedures for patient care.

HWES for Nurse Leaders (Version 3)

A Likert scale will be used to measure the extent of agreement to which you agree with the statements seen in work environment. Subjects will score each statement as follows: 1-strongly disagree, 2-disagree, 3-agree, and 4-strongly agree.

Appropriate Staffing

1. Patient needs are matched to nurse competencies to determine appropriate staffing on each nursing unit.
2. A staffing matrix is used to determine staffing for a shift.
3. Assignments are made based on the patient's acuity level.
4. Nurse leaders ensure that there is enough staff scheduled to provide the best outcomes for the patients.
5. Nurse leaders receive input from direct care nurses to develop a staffing plan for each nursing unit.
6. Nurse leaders are accountable for staffing the units to meet the productivity targets set by the organization.

Authentic Leadership

7. Nurse leaders lead with integrity in their interactions with the staff.
8. Nurse leaders lead by being transparent and communicating changes within the organization.
9. Nurse leaders are visionaries and strive to inspire their staff to grow and develop professionally and personally.
10. Nurse leaders lead by having a voice within the organization.
11. Nurse leaders lead changes in the organization to improve patient and nurse outcomes.

Effective Decision-making

12. Nurse leaders are empowered to make effective decisions within the organization.
13. Nurse leaders use critical thinking skills to make effective decisions for the organization.
14. Nurse leaders determine the facts and remain objective when making effective decisions.
15. Nurse leader involves key stakeholders when making effective decisions.

Meaningful Recognition

16. Nurse leaders are recognized for a job well done.
17. Nurse leaders speak up and let their peers and bosses know when an employee has done a good job.
18. Recognition is given to nurse leaders in a timely fashion.
19. Recognition is individualized to how the nurse leader likes to receive it.
20. Nurse leaders have opportunities for professional advancement as a form of recognition in the organization.
21. The reward and recognition program is meaningful and makes nurse leaders feel valued in the organization.

Physical and Psychological Safety

22. Patient safety is a primary focus for the organization.
23. Nurse leaders feel safe by not being retaliated against when reporting errors.
24. There is zero tolerance for lateral violence in the organization.
25. The organization provides physical and psychological safety for patients, families, and staff.
26. Nurse leaders have the necessary resources and equipment to do their jobs safely.

Skilled Communication

27. Nurse leaders communicate in a respectful manner with other people in the organization.
28. Clear communication is where the receiver understands a message from the sender as it was intended.
29. Messages are communicated in an objective and unbiased manner.
30. Nurse leaders take into account a person's non-verbal communication or body language when trying to communicate a message.
31. Nurse leaders are active listeners.
32. Nurse leaders communicate in a non-threatening manner.

Genuine Teamwork

33. Members of the team treat other team members with compassion and respect.
34. Members of the team function with unselfish desire to see the whole picture and how it affects the group and organization.
35. Members of the team work together without an individual feeling bullied.

True Collaboration

36. Nurse leaders collaborate with other disciplines in a non-threatening manner.
37. Nurse leaders collaborate respectfully with other disciplines.
38. Nurse leaders collaborate with other team members and make them feel equal and a part of the team.
39. Nurse leaders collaborate with other disciplines to work together for the best outcome of the patient and staff.
40. Nurse leaders collaborate with other disciplines to develop policies and make decisions regarding patient care.

References

Aiken, L. H., Clarke, S. P., Sloane, D. M., Lake, E. T., & Cheney, T. (2008). Effects of hospital care environment on patient mortality and nurse outcomes. *Journal of Nursing Administration, 38*, 223-229. doi: 10.1097/01.NNA.0000312773.42352.d7

Aiken, L. H., Clarke, S. P., Sloane, D. M., Lake, E. T., Cheney, T. (2003). Effects of hospital care environment on patient mortality and nurse outcomes. *The Journal of Nursing Administration, 38*, 223-229. doi: 10.1097/NNA.0b013e3181aeb4cf

Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association, 288*, 23-30. doi: 10.1001/jama.288.16.1987

Alspach, G. (2007). Retaining experienced critical care nurses: What matters most...to you? *Critical Care Nurse, 27*, 8-20. Retrieved from http://ccn.aacnjournals.org/content/27/2/8.full.pdf+html

Alspach, G. (2009). Craft your own healthy work environment. *Critical Care Nurse, 29*, 12-21. Retrieved from http://ccn.aacnjournals.org/content/29/2/12.full.pdf+html

American Hospital Association, 2002. Commission on Workforce for Hospitals and Health Systems. *In Our hands: How hospital leaders can build a thriving workforce*. Chicago, IL: American Hospital Association.

American Nurses Association (2009). *Nursing administration: Scope and standards of practice*. Silver Spring, MD: Nursesbooks.org.

American Nurses Association (2010). *Scope and standards of practice: Nursing*. (2nd ed.) Silver Spring, MD: Nursesbooks.org.

American Nurses Credentialing Center (2008). *Magnet recognition program*. Silver Spring, MD: American Nurses Credentialing Center.

American Nurses Credentialing Center (2014). *Magnet recognition program*. Silver Spring, MD: American Nurses Credentialing Center.

American Association of Critical Care Nurses (2005). *AACN standards for establishing and sustaining healthy work environments: A journey to excellence.* Aliso Viejo, CA: American Association of Critical Care Nurses. Retrieved from http://www.aacn.org/wd/hwe/docs/hwestandards.pdf

Ashforth, B. E. (1989). The experience of powerlessness in organizations. *Organizational behavior and human decision processes*, 43, 207-242. doi: 10.1016/0749-5978(89)90051-4

Barden, C. (2002). Bold voices: Stop the abuse and disrespect. *American Association of Critical Care News, 19*, 2. Retrieved from http://www.aacn.org/wd/aacnnews/content/2002/nov-opinions.pcms?menu=practice

Baylor Scott and White Health (2013). History of Baylor Scott and White Health. Baylor Scott and White Health. Retrieved from www.mybaylor.com.

Bell, N. E., & Staw, B. M. (1989). People as sculptors versus sculptures. *Handbook of career theory.* New York: Cambridge University Press.

Black, J., Allen, D., Redfern, L., Muzio, L., Rushowick, B., Balaski, B., Round, B. (2008). Competencies in the context of entry-level registered nurse practice: A collaborative project in Canada. *International Nursing Review*, *55*, 171-178. doi:10.1111/j.1466-7657.2007.00626.x

Buerhaus, P. I., Donelan, K., Ulrich, B. T., Norman, L., Williams, M., & Dittus, R. (2005). Hospital RNs' and CNOs' perceptions of the impact of the nursing shortage on care. *Nursing Economics, 23*, 214-221. Retrieved from http://www.medscape.com/viewarticle/515430_3

Buerhaus, P. I., Needleman, J., Mattke, S., & Stewart, M. (2002). Strengthening hospital nursing. *Hospital Affairs, 21*, 123-132. doi: 10.1377/hlthaff.21.5.123

Bureau of Labor Statistics, U.S. Department of Labor (2012) *Occupational outlook handbook* (*2012-13 ed.)*. Retrieved from http://www.bls.gov/ooh/healthcare/registered-nurses.htm

Burton, L. J., & Mazerolle, S. M. (2011). Survey instrument validity part 1: Principles of survey instrument development and validation in athletic training education research. *Athletic Training Education Journal, 6*, 27-35. Retrieved from http://nataej.org/6.1/0601-027035.pdf

Bylone, M. (2008). Nurses week: Is this what they mean by meaningful recognition? *AACN Advanced Critical Care, 19*, 121-124. doi: 10.1097/01.AACN.0000318112.51814.07

Bylone, M. (2010). Appropriate staffing: More than just numbers. *AACN Advanced Critical Care, 21*, 21-23. doi: 10.1097/NCI.0b013e3181c69f67

Bylone, M. (2010). Effective decision making: Data, data, and more data! *AACN Advanced Critical Care, 21*, 130-132. doi: 10.1097/NCI.0b013e3181cf5c04

Centers for Medicare and Medicaid Services, (2014). Outcome measures. Centers for Medicare and Medicaid Services. Retrieved from http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/OutcomeMeasures.html

Chan, Z.C.Y., Tam, W.S., Lung, M.K.Y., Wong, W.Y., & Chau, C.W. (2013). A systematic literature review of nurse shortage and the intention to leave. *Journal of Nursing Management, 21*, 605-613. doi: 10.1111/j.1365-2834.2012.01437x

Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis*. Hillsdale, NJ: Lawrence Erlbaum.

DeVon, H. A., Block, M. E., Moyle-Wright, P., Ernst, D. M., Hayden, S. J., Lazzara, D. J., …Kostas-Polston, E. (2007). A psychometric toolbox for testing validity and reliability. *Journal of Nursing Scholarship, 39*, 155-164. doi: 10.1111/j.1547-5069.2007.00161.x

Disch, J. (2002). Creating healthy work environments. *Creative Nursing. 8*, 3-4.

Disch J. (2001). Creating healthy work environments for nursing practice. *The nursing profession: tomorrow and beyond.* Thousand Oaks, CA: Sage; 2001:735-749.

Donabedian, A. (2005). Evaluating the quality of medical care. *The Milbank Memorial Fund Quarterly, 44*, 166-203. doi: 10.1111/j.1468-0009.2005.00397.x

Donabedian, A. (1988). The quality of care: How can it be assessed? *Journal of the American Medical Association, 260*, 1743-1748. doi:10.1001/jama.1988.03410120089033

Donabedian, A. (1996). The effectiveness of quality assurance. *International Journal for Quality in Healthcare, 8*, 401-407. Retrieved from http://intqhc.oxfordjournals.org/content/8/4/401

Donley, S. R. (2005). Challenges for nursing in the 21st century. *Nursing Economics, 23*, 312-318. Retrieved from http://www.medscape.com/viewarticle/521379

Erenstein, C. F., & McCaffrey, R. (2007). How healthcare work environments influence nurse retention. *Holistic Nursing Practice, 21*, 303-307. doi: 10.1097/01.HNP.0000298615.25222.de

Falise, J. P. (2007). True collaboration: Interdisciplinary rounds in non-teaching hospitals-It can be done! *AACN Advanced Critical Care, 18*, 346-351. doi: 10.1097/01.AACN.0000298625.22782.b7

Faulkner, J., & Laschinger, H. (2008). The effects of structural and psychological empowerment on perceived respect in acute care nurses. *Journal of Nursing Management, 16*, 214-221. doi: 10.1111/j.1365-2834.2007.00781.x

Flynn, L. (2005). The importance of work environment: Evidence based strategies for enhancing retentions strategies. *Home Healthcare Nurse, 23*, 366-371. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15956855

Fontaine, D. K., & Gerardi, D. (2005). Healthier hospitals? *Journal of Nursing Management, 36*, 34-44. Retrieved from http://www.sjsu.edu/people/phyllis.connolly/courses/c17/s1/Fontainehealthierhosp19302612.pdf

Force, M. V. (2005). The relationship between effective nurse managers and nursing retention. *Journal of Nursing Administration, 35*, 336-341. Retrieved from http://www.medscape.com/medline/abstract/16077275

Gerardi, D., & Fontaine, D. K. (2007). True collaboration: Envisioning new ways of working together. *AACN Advanced Critical Care, 18*, 10-14. doi: 10.1097/01256961-200701000-00002

Gist, M. E. (1987). Self-efficacy: Implications for organizational behavior and human resource management. *Academy of Management Review, 12*, 183-211. doi: 10.5465/AMR.1987.4306562

Grindel, C. (2005). A healthful work environment: A call to action. *Journal of Medical-Surgical Nursing, 14*, 89-90.

Grove, S. K., Burns, N., & Gray, J. R. (2013). *The Practice of nursing research: Appraisal, synthesis, and generation of evidence* (7th ed.). St. Louis, MO: Elsevier Saunders.

Hall, L.M. (2005). Indicators of nurse staffing and quality nursing work environment. *Quality work environments: For nurse and patient safety*. Sudbury, MA: Jones & Bartlett Publishers Inc.

Hancock, H. C., & Durham, L. (2007). Critical care outreach: The need for effective decision-making in clinical practice (part 1). *Intensive and Critical Care Nursing, 23*, 15-22. doi: 10.1016/j.iccn.2006.06.003

Hancock, H. C., & Durham, L. (2007). Critical care outreach: The need for effective decision-making in clinical practice (part 2). *Intensive and Critical Care Nursing, 23*, 104-114. doi: 10.1016/j.iccn.2006.06.002

Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods, 7,* 191-2005. doi: 10.1177/1094428104263675

Heath, J., Johanson, W., & Blake, N. (2004). Healthy work environments a validation of the literature. *Journal of Nursing Administration, 34*, 524-530. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15586074

HSM Group, Ltd. (2002). Acute care hospital survey of RN vacancy and turnover rate in 2000. *Journal of Nursing Administration, 32*, 437-439. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12360112

Huddleston, P. (2014). Healthy work environment framework within an acute care setting. *Journal of Theory Construction and Testing, 18*, 50-54.

Institute of Medicine. (1999). *To err is human: Building a safer health system*. Washington, DC: The National Academies Press. Retrieved from http://iom.edu/Reports/1999/To-Err-is-Human-Building-A-Safer-Health-System.aspx

Institute of Medicine. (2003). *Keeping patients safe: Transforming the work environment for nurses.* Washington, DC: The National Academies Press. Retrieved from http://www.iom.edu/Reports/2003/Keeping-Patients-Safe-Transforming-the-Work-Environment-of-Nurses.aspx

Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health.* Washington, DC: The National Academies Press. Retrieved from http://www.thefutureofnursing.org/IOM-Report

James, J. T. (2013). A new, evidence-based estimate of patient harms associated with hospital care. *Journal of Patient Safety, 9,* 122-128. doi: 10.1097/PTS.0b013e3182948a69

Jurascheck, S. P., Zhang, X., Ranganathan, V. K., & Lin, V. (2012). United States registered nurse workforce report card and shortage forecast. *American Journal of Medical Quality*, 27, 241-249. doi: 10.1177/1062860611416634

Kanter, R. (1977). *Men and women of the corporation*. New York: Basic Books.

Kanter, R. (1993). *Men and women of the corporation* (2nd ed.). New York: Basic Books.

Kelly, D., Kutney-Lee, A., Lake, E. T., & Aiken, L. H. (2013). The critical care work environment and nurse-reported health care-associated infections. *Journal of Nursing Administration, 22,* 482-488. doi: 10.4037/ajcc2013298

Kramer, M., Maguire, P., & Brewer, B. (2011). Clinical nurses in Magnet hospitals confirm productive, healthy unit work environments. *Journal of Nursing Management, 19*, 5-17. doi: 10.1111/j.1365-2834.2010.01211.x

Kramer, M., & Schmalenberg, C. E. (2005). Best quality patient care: A historical perspective on Magnet hospitals. *Nursing Administration Quarterly, 29*, 275-287. doi: 10.1097/00006216-200507000-00013

Kramer, M., & Schmalenberg, C. (2008). Essentials of a productive nurse work environment. *Nursing Research, 57, 2-13.* doi: 10.1097/01.NNR.0000280657.04008.2a

Kramer, M., & Schmalenberg, C. (2008). Confirmation of a healthy work environment. *Critical Care Nurse, 28*, 56-63. Retrieved from http://ccn.aacnjournals.org/content/28/2/56.full.pdf+html

Kramer, M., & Schmalenberg, C. (2004). Development and evaluation of essentials of magnetism tool. *Journal of Nursing Administration, 34*, 365-378. doi: 10.1097/00005110-200407000-00010

Lake, E. T. (2002). Development of the practice environment scales of the nursing work index. *Research in Nursing and Health, 25*, 176-188. doi: 10.1002/nur.10032

Lake, E. T. (2007). The nursing practice environment: Measurement and evidence. *Medical Care Research and Review, 64*, 104s-121s. doi: 10.1177/1077558707299253

Laschinger, H. K. S., Almost, J., & Tuer-Hodes, D. (2003). Workplace empowerment and Magnet hospital characteristics: Making the link. *Journal of Nursing Administration, 33*, 410-422. doi: 10.1097/00005110-200307000-00011

Laschinger, H. K. S., Finegan, J., & Shamian, J. (2001). Promoting nurses' health: Effect of empowerment on job strain and work satisfaction. *Nursing Economics, 19*, 42-52.

Lewis, P. S., & Malecha, A. (2011). The impact of workplace incivility on the work environment, manager skill, and productivity. *Journal of Nursing Administration, 41*, 41-47. doi: 10.1097/NNA.0b013es3182002a4c

Lu, H., Barriball, K. L., Zhang, X., & While, A. E. (2012). Job satisfaction among hospital nurses revisited: A systematic review. International Journal of Nursing Studies, 49, 1017-1038. doi: 10.1016/j.ijnurstu.2011.11.009

Lucas, V., Laschinger, H. K., & Wong, C. A. (2008). The impact of emotional intelligent leadership on staff nurse empowerment: The moderating effect of span of control. *Journal of Nursing Management, 16*, 964-973. doi: 10.1111/j.1365-2834.2008.00856.x

Lynn, M.R. (1986). Determination and quantification of content validity. *Nursing Research, 35*, 382-385. doi: 10.1097/00006199-198611000-00017

Manojlovich, M., & Decicco, B. (2007). Healthy work environments, nurse-physician communication, and patients' outcomes. *American Journal of Critical Care, 16*, 536-543. Retrieved from http://ajcc.aacnjournals.org/content/16/6/536.full.pdf+html

Manojlovich, M., & Laschinger, H. K. S. (2002). The relationship of empowerment and selected personality characteristics to nursing job satisfaction. *Journal of Nursing Administration, 32*, 586-595. doi: 10.1097/00005110-200211000-00006

Maxfield, D., Grenny, J., McMillan, R., Patterson, K. & Switzler, A. (2005). Silence Kills: The Seven Crucial Conversations for Healthcare. VitalSmarts, L.C. 1-19. Retrieved from http://www.aacn.org/WD/Practice/Docs/PublicPolicy/SilenceKills.pdf

Mays, M. Z., Hrabe, D. P., & Stevens, C. J. (2011). Reliability and validity of an instrument assessing nurses' attitudes about healthy work environments in hospitals. *Journal of Nursing Administration, 11*, 18-26. doi: 10.1111/j.1365-2834.2010.01135.x

Meraviglia, M., Grobe, S. J., Tabone, S., Wainwright, M., Shelton, S., Yu, L., & Jordan, C. (2008). Nurse-friendly hospital project: Enhancing nurse retention and quality of care. *Journal of Nursing Care Quality, 23*, 305-313. doi: 10.1097/01.NCQ.0000336671.25595.14

Mullan, F. (2001). Interview: A founder of quality assessment encounters a troubled system firsthand. *Health Affairs, 20*(1), 137-141. doi: 10.1377/hlthaff.20.1.137

Munhall, P. (2012). *Nursing research: A qualitative perspective*, (5th ed). Sudbury, MA: Jones & Bartlett Learning.

Needleman, J. & Buerhaus, P. (2003). Nurse staffing and patient safety: Current knowledge and implications for action. *International Society for Quality in Health Care and Oxford University Press, 15*, 275-277. doi: 10.1093/intqhc/mzg051

Nunnally, J. & Bernstein, I. H. (1994). *Psychometric theory (3rd* ed.) New York: McGraw Hill.

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*: Thousand Oaks, CA: Sage Publications.

Pinkerton, S. (2005). AACN standards for establishing and sustaining healthy work environments. *Nursing Economics, 23*, 138-140.

Purdy, N., Spence Laschinger, H. K., Finegan, J., Kerr, M., & Olivera, F. (2010). Effects of work environments on nurse and patient outcomes. *Journal of Nursing Management*, *18*, 901-913 doi: 10.1111/j.1365-2834.2010.01172.x

Reina, M. L., Reina, D. S., & Rushton, C. H. Trust: The foundation for team collaboration and healthy work environments. *AACN Advanced Critical Care*, *18*, 103-108. doi: 10.1097/01.AACN.0000269252.94224.0b

Ritter, D. (2011). The relationship between healthy work environments and retention of nurses in a hospital setting. *Journal of Nursing Management, 19*, 27-32. doi: 10.1111/j.1365-2834.2010.01183.x

Rivers, K. (2010). News and Publications on Peter Buerhaus. Retrieved from http://www.mc.vanderbilt.edu/news/releases.php?release=1883

Schmalenberg, C., & Kramer, M. (2007). Types of intensive care units with the healthiest, most productive work environments. *American Journal of Critical Care, 16*. 458-469. Retrieved from http://ajcc.aacnjournals.org/content/16/5/458.full.pdf+html

Schmalenberg, C., & Kramer, M. (2008). Clinical units with the healthiest work environments. *Critical Care Nurse, 28*, 65-77. Retrieved from http://ccn.aacnjournals.org/content/28/3/65.full.pdf+html

Schmalenberg, C., & Kramer, M. (2008). Essentials of a productive nurse work environment. *Nursing Research, 57*, 2-13. doi: 10.1097/01.NNR.0000280657.04008.2a

Schmalenberg, C., & Kramer, M. (2009). Nurse-physician relationships in hospitals: 20,000 nurses tell their story. *Critical Care Nurse, 29*, 74-83. doi: 10.4037/ccn2009436

Shirey, M. R. (2006). Authentic leaders creating healthy work environments for nursing practice. *American Journal of Critical Care, 15*, 256-268. Retrieved from http://ajcc.aacnjournals.org/content/15/3/256.full.pdf+html

Shirey, M. R., & Fisher, M. L. (2008). Leadership agenda for change toward healthy work environments in acute and critical care. *Critical Care Nurse, 28*, 66-79. Retrieved from http://ccn.aacnjournals.org/content/28/5/66.full.pdf+html

Spector, P. E. (1986). Perceived control by employees: A meta-analysis of studies concerning autonomy and participation at work. *Human Relations, 39*, 1005-1016. Retrieved from http://www.tavinstitute.org/humanrelations/about_journal/aims.html

Spence-Laschinger, H. K., Gilbert, S., Smith, L. M. & Leslie, K. (2010). Towards a comprehensive theory of nurse/patient empowerment: Applying Kanter's empowerment theory to patient care. *Journal of Nursing Management, 18*, 4-13. doi: 10.1111/j.1365-2834.2009.01046.x

Spence-Laschinger, H. K., Wilk, P., Cho, J., & Greco, P. (2009). Empowerment, engagement, and perceived effectiveness in nursing work environments: Does it matter? *Journal of Nursing Management, 17*, 636-646. doi: 10.1111/j.1365-2834.2008.00907.x

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal, 38*, 1442-1465. doi: 10.2307/256865

Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal, 39*, 483-504. doi: 10.2307/256789

Spreitzer, G. M., De Janasz, S. C., & Quinn, R. E. (1999). Empowered to lead: The role of psychological empowerment in leadership. *Journal of Organizational Behavior 20*, 511-526. doi: 10.1002/(SICI)1099-1379(199907)20:43.0.CO;2-L

Sredl, D., & Peng, N. H. (2010). CEO-CNO relationships: Building an evidence-base of chief nursing executive replacement costs. *International Journal of Medical Sciences, 7*, 160-168. doi: 10.7150/ijms.7.160

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics.* (5th ed.) Boston, MA: Pearson Education Inc.

Texas Board of Nursing. (December 2014). Nursing statistics. Retrieved from https://www.bon.texas.gov/reports_and_data_nursing_statistics.asp

Texas Center for Nursing Workforce Studies. (September 2006). The economic impact of the nursing shortage. Retrieved from http://www.dshs.state.tx.us/chs/cnws/

Triola, N. (2006). Dialogue and discourse: Are we having the right conversations? *Critical Care Nurse, 26*, 60-66. Retrieved from http://ccn.aacnjournals.org/content/26/1/60.full.pdf+html

Twigg, D., & McCullough, K. (2014). Nurse retention: A review of strategies to create and enhance positive practice environments in clinical settings. *International Journal of Nursing Studies, 51*, 85-92. doi: 10.1016/j.ijnurstu.2013.05.015

Ulrich, B. T., Buerhaus, P. I., Donelan, K., Norman, L., & Dittus, R. (2005). How RNs view the work environment: Results of a National Survey of Registered Nurses. *Journal of Nursing Administration, 35*, 389-396. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16200006

Ulrich, B. T., Buerhaus, P. I., Donelan, K., Norman, L., & Dittus, R. (2007). Magnet status and registered nurse views of the work environment and nursing as a career. *Journal of Nursing Administration, 37*, 212-220. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19641440

Ulrich, B. T., Lavandero, R., Hart, K. A., Woods, D., Leggett, J., Friedman, D., D'Aurizio, P., & Edwards, S. J. (2009). Critical care nurses' work environments 2008: A follow-up report. *Critical Care Nurse, 29*, 93-102. doi: 10.4037/ccn2009619

Ulrich, B. T., Lavandero, R., Hart, K. A., Woods, D., Leggett, J., & Taylor, D. (2006). Critical care nurses' work environments: A baseline status report. *Critical Care Nurse, 26*, 46-57. Retrieved from http://ccn.aacnjournals.org/content/26/5/46.full.pdf+html

Ulrich, B. T., Lavandero, R., Woods, D., & Early, S. (2014). Critical care nurse work environments 2013: A status report. *Critical Care Nurse, 34*, 64-79. Retrieved from http://ccn.aacnjournals.org/content/34/4/64.full.pdf+html

Van Den Bos, J., Rustagi, K., Gray, T., Halford, M., Zeimkiewicz, E., & Shreve, J. (2011). Health affairs: At the intersection of health, health care and policy. *Health Affairs, 30*, 596-603. doi: 10.1377/hlthaff.2011.0084

Wagner, S. E. (2006). Staff retention: From satisfied to engaged. *Journal of Nursing Management, 37*, 24-29. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16518181

Walker, L., & Avant, K., (2011). *Strategies for theory construction in nursing* (4th ed., Rev.). Upper Saddle River, NJ: Pearson Prentice Hall.

Waltz, C., Strickland, O., & Lenz, E. (2010). *Measurement in nursing and health research* (4th ed.). New York: Springer Publishing Company.

West, E. A., Griffith, W. P., & Iphofen, R. (2007). A historical perspective on the nursing shortage. *MEDSURG Nursing, 16*(2), 124-130. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/17547272

Wong, C. A., Laschinger, H. K., & Cummings, G. G. (2010). Authentic leadership and nurses' voice behavior and perceptions of care quality. *Journal of Nursing Management, 18*, 889-900. doi: 10.1111/j.1365-2834.2010.01113.x

Wooten, L. P., & Carne, P. (2003). Nurses as implementers of organizational culture. *Nursing Economics, 21*, 275-279. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/14705557

Wright, D. (2005). *The ultimate guide to competency assessment in health care*. Minneapolis, MN: Creative Health Care Management, Inc.

Biographical Information

Penny Huddleston is the Magnet® coordinator, Stroke coordinator, National Database for Nursing Quality Indicators coordinator, and nurse researcher for Baylor Medical Center at Irving. Huddleston's area of expertise in critical care nursing has been caring for patients with open heart surgery, heart or lung transplant. She holds a Bachelor of Science in Nursing and a Master of Science in Nursing from the University of Texas at Arlington. She is a member of Sigma Theta Tau International Honor Society for nurses and the Golden Key International Honor Society. Huddleston's research interest is to study a healthy work environment in acute care hospital settings. She has conducted six research studies to test the psychometric properties of the American Association of Critical Care Nurses Healthy Work Environment Assessment Tool for Direct care nurses and to develop and test the psychometric properties of the Healthy Work Environment Assessment Tool for Nurse Leaders. Huddleston's future research plans are to develop interventions that may be implemented and measured to improve the health of the work environment for nurses from the bedside to the boardroom. Additionally, Huddleston would like to develop a tool to measure a healthy work environment for other healthcare workers such as patient care assistants. It is only through strong psychometrically sound tools that interventions may be developed and implemented to improve the health of the work environment throughout healthcare organizations. Huddleston's hope as a Nurse Scientist is to contribute innovative research that will result in healthy work environments in acute care hospital settings across the country.